

DRAFT STUDY MATERIAL



Paper Mache Product Artisan

(Qualification Pack: Ref. Id. HCS/Q4401)
Sector: Handicraft and Carpet Sector

(Grade XI)



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Preface

Vocational Education is a dynamic and evolving field, and ensuring that every student has access to quality learning materials is of paramount importance. The journey of the PSS Central Institute of Vocational Education (PSSCIVE) toward producing comprehensive and inclusive study material is rigorous and time-consuming, requiring thorough research, expert consultation, and publication by the National Council of Educational Research and Training (NCERT). However, the absence of finalized study material should not impede the educational progress of our students. In response to this necessity, we present the draft study material, a provisional yet comprehensive guide, designed to bridge the gap between teaching and learning, until the official version of the study material is made available by the NCERT. The draft study material provides a structured and accessible set of materials for teachers and students to utilize in the interim period. The content is aligned with the prescribed curriculum to ensure that students remain on track with their learning objectives.

The contents of the modules are curated to provide continuity in education and maintain the momentum of teaching-learning in vocational education. It encompasses essential concepts and skills aligned with the curriculum and educational standards. We extend our gratitude to the academicians, vocational educators, subject matter experts, industry experts, academic consultants, and all other people who contributed their expertise and insights to the creation of the draft study material.

Teachers are encouraged to use the draft modules of the study material as a guide and supplement their teaching with additional resources and activities that cater to their students' unique learning styles and needs. Collaboration and feedback are vital; therefore, we welcome suggestions for improvement, especially by the teachers, in improving upon the content of the study material.

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Module 1**Handicraft Industry in India****Module Overview**

This unit provides a comprehensive overview of India’s diverse and culturally significant handicraft sector. It highlights the role of traditional hand skills in producing region-specific crafts that reflect the heritage, lifestyle, and artistic sensibilities of various communities across the country. Emphasis is placed on the socio-economic importance of handicrafts, particularly in rural areas, where they serve as a primary source of livelihood and contribute to sustainable employment.

A dedicated section focuses on paper mache craft, exploring its historical roots, sustainable nature, and evolving applications in contemporary market spaces.

The unit outlines the key processes involved in paper mache production, the responsibilities of artisans, and the diversification of products into home décor, traditional festival crafts, educational tools, and fashion accessories. In addition, it addresses the opportunities available through domestic and international markets, as well as the challenges faced by artisans, including limited options of training and development, market exposure, and competition from machine-made goods.

Future potential of Indian handicrafts with an emphasis on preserving traditional practices while encouraging innovation and modern adaptation.

Learning Outcomes

After completing this module, you will be able to:

- Introduction to the handicraft industry in India
- Scope of paper Mache craft
- Diversification of paper Mache craft
- Roles and responsibilities of paper Mache products artisan

Module Structure

Session: 1 Introduction to the Handicraft Industry in India

Session: 2 Scope of Paper Mache Craft

Session: 3 Diversification of Paper Mache Craft

Session: 4 Roles and Responsibilities of Paper Mache Products Artisan

Session 1: Introduction to the Handicraft Industry in India

Handicrafts are skill-based, manual activities in which artisans create useful or decorative objects using traditional techniques, simple tools, and locally available materials. These products are largely made by hand, with minimal use of machines, allowing each piece to carry a unique identity shaped by the artisan's skill, experience, and creativity.

Unlike machine-made or mass-produced goods, handicrafts emphasize individual craftsmanship, cultural expression, and aesthetic value. The process often involves techniques passed down through generations, preserving traditional knowledge and regional styles. Variations in design, texture, and finish are natural characteristics of handicrafts, reflecting the human touch rather than mechanical uniformity.

Handicrafts play a significant role in preserving cultural heritage, as they represent the history, beliefs, and lifestyles of different communities. They also contribute meaningfully to the economy, especially in rural and semi-urban areas, by providing employment opportunities and supporting self-sustaining livelihoods for artisans. Additionally, the handicraft sector promotes the use of eco-friendly and sustainable practices by relying on natural materials and low-energy production methods.

This session explores the definition of handicrafts, their key characteristics, and their social, cultural, and economic importance, helping learners understand why handicrafts remain relevant in the modern world despite technological advancement.

Introduction to the Handicraft Industry in India

Handicrafts are objects that are primarily made by hand, often using basic tools and traditional techniques. These objects reflect the artistic skills, cultural heritage, and creativity of the artisan. Handicrafts can serve both utilitarian and decorative purposes, ranging from household objects to ornaments, jewellery, and gift articles. While some level of machinery might be used to assist in production, the essence of handicraft lies in the fact that the product is largely shaped and finished by hand.

One of the key features of a handicraft item is its artistic appeal. This is usually visible in the form of ornamentation, inlay work, design intricacies, or other creative enhancements that add beauty and uniqueness to the object. Such decoration should not be just for show, but must be a meaningful part of the product, showcasing the artisan's manual skill and design sense, and local culture.

The concept of handicraft is broad and may vary depending on culture, tradition, and local materials. It is understood that not all handmade items qualify as handicrafts; what sets them apart is the presence of substantial manual effort, cultural history, and regional artistic traits. The uniqueness of design, the creativity involved, and the originality of patterns or decoration are often used to identify genuine handcrafted items. In conclusion, handicrafts are more than just handmade products; they are expressions of culture, skill, and identity. They stand apart from mass-produced goods by their personal touch, craftsmanship, and artistic value.

India is known for its wide variety of handicrafts, which differ from region to region based on local traditions, materials, and skills. One of the most popular types is textile handicrafts, which include handwoven, hand-embroidered, or printed fabrics such as *Phulkari* from Punjab, *Chikankari* from Lucknow, *Bandhani* from Gujarat and Rajasthan, and *Kalamkari* from Andhra Pradesh. Woodwork is another traditional craft form where artisans carve or polish wooden blocks to create decorative and functional items like toys, furniture, and sculptures, as seen in Saharanpur or Channapatna.

Metal crafts are made using materials such as brass, copper, or silver. These include brass utensils from Moradabad, *Dhokra* art from tribal regions of Chhattisgarh and Odisha, and silver filigree from Cuttack. Clay and terracotta crafts involve shaping and baking clay into pots, figures, and tiles. Well-known examples include blue pottery from Jaipur and terracotta horses from Bankura in West Bengal. In northeastern states like Assam and Tripura, bamboo and cane crafts are common. Artisans weave baskets, mats, furniture, and trays from bamboo and cane, making use of local plant resources.

Paper crafts, such as those found in Kashmir, involve the use of paper pulp to create paper mache objects like vases, boxes, and ornaments. Leather crafts include handmade bags, shoes, and puppets made from processed leather, often decorated with intricate patterns as seen in Rajasthan and Andhra Pradesh. Stone crafts are popular in states like Odisha and Uttar Pradesh, where artisans carve marble, sandstone, or granite into sculptures and architectural decorations.

Jewellery and beadwork are also important handicraft forms, especially in tribal regions, where artisans use beads, shells, metal wires, or stones to create beautiful ornaments. Rajasthan is famous for lac bangles, while Jaipur is known for Meenakari work. Another decorative art is glass and mirror work, where small pieces of glass or mirrors are used in embroidery, making frames, and other home decoration objects, particularly in Gujarat and Rajasthan.

Each type of handicraft reflects the creativity and tradition of the region it comes from. Together, they form a beautiful part of India's cultural heritage and provide employment to millions of skilled artisans.



Fig. 1.1: Major handicrafts in India

Scenario of the Handicraft Industry in India

Handicrafts hold a deep and meaningful place in India's culture and tradition. They are more than just handmade objects they represent the values, beliefs, and artistic expression of communities across generations. From festivals to daily use, handcrafted items play a significant role in Indian rituals, customs, and celebrations. The large variety of arts and crafts found across the country reflects its cultural richness, with each region contributing unique styles, techniques, and materials. These traditions, passed down through families and communities, not only preserve their heritage but also give identity and pride to the local artisans.

Historically, handicrafts represented a simple, human-centered way of life. They add beauty and creativity to everyday living, whether through woven fabrics, carved wood, painted pottery, or decorative ornaments. In particular, textile crafts such as embroidery and weaving have earned global appreciation for their fine details and traditional patterns. Today, many of these art and craft forms continue to draw attention both nationally and internationally.

However, modern lifestyle and the widespread use of synthetic and plastic materials have affected the demand for traditional crafts, especially those made of natural or handmade materials. Many artisans face challenges in keeping up with changing trends, limited financial resources, and a lack of access to new technology or wider markets. This has made it difficult for them to grow and sustain their livelihoods.

To support the handicraft sector, there is a growing need to provide artisans with better training in marketing, product development, and financial management. Online platforms, exhibitions, and fair trade opportunities can help them reach wider audiences, both within India and globally. Promoting handicrafts as eco-friendly alternatives to mass-produced plastic goods can also contribute to environmental sustainability, especially in the context of rising awareness about climate change and waste reduction.

Handicrafts also play an important role in the country's economy. They contribute significantly to exports, generation of employment in rural and urban areas, and help in preserving traditional knowledge systems. Many families continue to depend on handicrafts as their main source of income. Recognizing this, efforts are being made to support the industry through government schemes, financial aid, skill development programs, and the organization of craft fairs and exhibitions.

In today's world, where sustainable practices and meaningful design are gaining importance, handicrafts offer a unique combination of utility, sustainability, and tradition. Their ability to connect people with culture, community, and the environment makes them valuable not only as products but also as a way of life. With the right support and promotion, the handicraft sector can continue to grow and inspire future generations.

Overview of History and Origin of Paper Mache Craft Around the World

Papier mâché, which means “chewed paper” in French, is a very old and beautiful art form that mixes creativity, culture, and eco-friendly practices. It has travelled all around the world over centuries. This craft started in ancient China around 200 BCE, shortly after the invention of paper. Chinese artists began using torn paper mixed with a binder to make a soft, moldable material. They used it to make many things like decorative masks, mirror cases, snuff boxes, and even light helmets for soldiers. From China, paper mache (called *Huzhi* in China) traveled to Persia and Japan. In Persia, it became a special craft called *Kar-e-Kalamdani*. Artists used it to decorate wooden objects like pen boxes, trays, book covers, and boxes with colorful patterns and designs. These objects were not just useful but also very beautiful.

In the 14th century, this craft came to Kashmir from Persia, bringing along skilled craftsmen. These artists taught their techniques to local people, who added their own styles. Over time, Kashmiri paper mache developed its own look, with bright flowers, natural designs, traditional motifs, and fine gold and silver details. In the 19th century, European traders visiting India became very interested in Kashmiri paper mache. Kashmiri shawls were already famous, and artisans began making special decorative boxes to pack them in. These boxes were so beautifully painted and detailed that they became collectibles on their own. People in Europe loved them, and they quickly became popular as gifts and home decorations. This trade helped spread the

fame of papier mâché to France and England, and that's when it became widely known.

Today, paper mache is still made in many countries. It continues to be used in decorations, contemporary art, traditional crafts, furniture, props for regional plays and festivals, and even eco-friendly products, keeping tradition alive while allowing space for creativity and change.

Activities

Activity 1: Identify and showcase the diversity of Indian handicrafts by region through a flow chart.

Materials Required:

- Old newspapers or magazines
- Chart paper or A4 drawing sheet
- Scissors
- Glue
- Pencil and ruler
- Color pens or markers
- Internet access (optional, for reference images)

Procedure:

1. Take a chart paper or A4/A3/A1 drawing sheet and divide it horizontally into 6–8 sections using a pencil and ruler.
2. Label each section with the name of a region or state (e.g., Punjab, Rajasthan, Odisha).
3. Search for images of traditional handicrafts from each region. Use old magazines or print from the internet.
4. Cut and paste the images into their respective sections.
5. Below each image, write a short note with the name of the craft (e.g., Phulkari, Dhokra) and the materials used.
6. Decorate the collage using color pens or markers for titles and borders.
7. Submit the finished collage for display or class discussion.

Check Your Progress

A. Fill in the Blanks

1. Handicrafts are primarily made by _____ using basic tools and traditional techniques.

2. The brassware craft of Moradabad is an example of _____ craft.
3. _____ is the term used for the paper-based craft that originated and developed during the Mughal period in India.
4. The decorative masks used in the Chhau dance of West Bengal are made from _____.
5. The French term "Papier Mâché" literally means _____.

B. Long Answer Questions

1. Explain the cultural and economic significance of the handicraft industry in India. Discuss how it contributes to employment, preservation of heritage, and environmental sustainability.
2. Describe the history and global development of paper mache craft. Highlight how different regions such as France, China, Mexico, and India have contributed to its evolution and artistic identity.

C. One-Word Answer Questions

1. Which city in Uttar Pradesh is known for Chikankari embroidery?
2. What is the base material used in paper mache?
3. Which state is known for lac bangles?
4. Which metal is commonly used in the Dhokra craft?
5. Name the Indian city known for silver filigree work.

Session 2: Scope of Paper Mache Craft

This session highlights the career opportunities and economic potential of paper mache craft. With low production costs, creative flexibility, and strong market demand both in India and abroad paper mache offers viable employment and self-employment options for artisans, particularly in rural areas. The session also outlines key challenges such as limited market access, low earnings, lack of branding, and competition from machine-made products. Addressing these issues through training, innovation, and support can enhance the craft's sustainability and growth.

1. Career opportunity for paper mache artisans

Paper mache is a low-cost and high-return craft. It requires very little investment as the main materials are recycled paper, adhesive, and some basic tools. Yet, the finished products can be sold at a much higher price, which makes it a profitable activity. One of the biggest advantages is its strong export potential. Countries like the USA, France, Italy, and Japan show great interest in Indian paper mache items, which helps artisans earn good income through foreign markets. Even small workshops can get export orders. This craft also allows a lot of flexibility and creativity. Artisans can easily change shapes, sizes, and designs according to customer choice or market trends, without needing big machines or new tools. Another benefit is that it can be done from home or small workspaces. Many women and youth in villages learn this skill and start their own work at low cost. It is a simple and flexible way to earn a living and express one's creativity.

Paper-mache skills open many job and business paths:

Paper-mache skills lead to numerous jobs, Career Choices and business opportunities:

1. **Artisan/Manufacturer:** Employee as a craftsman to produce goods to sell locally or to foreign exporters. An individual can be part of a cooperative or factory producing paper mache for export. Trained artisans can even move up to senior designer or supervisor positions.



Fig. 1.2: Artisan/Manufacturer

2. **Entrepreneur:** Establish your own small unit. Several artisans become entrepreneurs, establishing home-based industries or internet shops for their crafts with innovative products and effective marketing, a hobby can become a lucrative business.



Fig. 1.3: Entrepreneur

3. **Trainer/Instructor:** Skilled craftsmen may impart paper-mache lessons in schools, craft centers or vocational institutes. Official training programs indicate that once a person learns the craft, one can become an instructor in Industrial Training Institutes by joining a Craft Instructor Training Scheme.



Fig 1.4: Trainer/Instructor

4. **Designer for Handicraft Companies:** Some experts collaborate with larger handicraft businesses or designers to develop new product lines, blending paper-mache with other materials (e.g., wood or metal inlays).



Fig. 1.5: Handicraft Companies

5. **Exhibitions and Craft Fairs:** Talented craftspeople can represent their work at fairs, exhibitions, or online shopping sites, enhancing sales and popularity.



Fig. 1.6: Exhibitions and Craft Fairs

Paper mache is not only a beautiful and eco-friendly art form but also a strong source of income and self-employment. With low investment, high creative

freedom, and growing market demand both in India and abroad, it offers great scope for young artisans, especially in rural areas. Whether one chooses to work as an artisan, become an entrepreneur, teach the craft to others, or collaborate with bigger design houses, paper mache opens the door to many rewarding career opportunities. With the right skills and passion, this traditional craft can lead to a bright and successful future.

2. Challenges and limitations faced by paper mache craft

Although paper mache is a beautiful and eco-friendly craft with good earning potential, artisans often face several problems that limit its growth. These challenges affect both small and large producers.

1. **Lack of Market Exposure:** Many paper mache artisans work in villages or small towns and do not have access to bigger markets. Without proper platforms to sell their products, they depend on local buyers or middlemen, which reduces their income. They are often unaware of how to sell online or participate in exhibitions.
2. **Limited Design Innovation:** Some artisans stick to traditional designs without adapting to modern tastes. This makes it harder to attract young customers or compete with mass-produced decorative items. Lack of training in modern trends and design ideas can limit creativity and product appeal.
3. **Low Wages and Profit Margins:** Paper mache items require a lot of time and skill to make, but they often sell at low prices. Because of this, artisans earn very little, especially when raw materials, transport, and middlemen take a large share of the profits.
4. **No Branding or Packaging Support:** Most paper mache products are sold without proper branding or attractive packaging. This makes them look less professional compared to factory-made items. Lack of branding also makes it hard for artisans to stand out in the market.
6. **Limited Access to Raw Material and Tools:** While paper is easily available, good-quality materials like natural dyes, decorative paints, or safe adhesives may be hard to find in rural areas. Artisans also lack modern tools that can improve speed and quality.
7. **Lack of Skill Development and Training:** Many young artisans learn only basic skills. They do not get access to professional training that can teach them new techniques, design development, or business management. This limits their ability to grow or start successful businesses
8. **Unfair Competition from Machine-Made Product:** Handcrafted paper mache items compete with cheap machine-made products that are easily available in the market. These factory-made items are faster to produce and cheaper, making it harder for artisans to sell their handmade products.

9. **Fragility of the Products:** Paper mache items are lightweight and delicate. They can get damaged easily if not handled properly, especially during transport or storage. This discourages bulk buyers or exporters who want durable products.
10. **Seasonal Demand:** Paper mache items are often sold more during festivals, fairs, or tourist seasons. In off-season months, artisans struggle with low sales and income.

Despite these challenges, paper mache continues to survive due to the dedication and skill of artisans. With better support in terms of training, marketing, packaging, and modern design ideas, this craft can become a strong source of income for many people, especially in rural areas.

Activities

Activity: To identify possible career paths and challenges in the paper mache sector.

Materials Required:

- Chart paper or notebook
- Pen, pencil, ruler
- Colored markers

Procedure:

1. Divide the chart into two columns: “Opportunities” and “Challenges.”
2. In the “Opportunities” section, list possible jobs (e.g., Artisan, Entrepreneur, Trainer).
3. In the “Challenges” section, list limitations (e.g., Low wages, Market access).
4. Use icons or symbols for each point.
5. Share your findings with classmates in a group discussion.

Check Your Progress

A. Fill in the Blanks

1. Paper mache is a _____ cost and _____-return craft.
2. Many artisans struggle due to lack of _____ and online selling skills.
3. Lightweight and delicate nature of paper mache products leads to issues in _____.

4. Trained artisans can also become _____ in schools or craft centers.
5. _____ packaging makes paper mache more attractive for export.

B. Short Answer Questions

1. List three career options available to a trained paper mache artisan.
2. What are two main challenges faced by artisans in marketing their products?
3. How can government support help sustain the paper mache craft?

C. Long Answer Questions

1. Explain how paper mache can provide self-employment opportunities in rural areas.
2. Describe five challenges that limit the growth of paper mache craft.
3. What steps can be taken to improve branding and packaging of paper mache products?

Session 3: Diversification of Paper Mache Craft

This session focuses on the diversification of paper mache craft, highlighting how this traditional art form has expanded beyond its conventional uses to include a wide range of decorative, utility, educational, and contemporary products. In this session, some of the major and commonly practiced forms of paper mache diversification in India have been discussed, which are popular among artisans and widely accepted in the market. The session also explores how paper mache craft varies across different states and regions of India, reflecting local culture, traditions, materials, and artistic styles. By understanding these regional variations, learners gain insight into how the same craft adapts to different social and cultural contexts while maintaining its core techniques.

Overall, this session helps learners appreciate the creative flexibility, cultural richness, and economic potential of paper mache craft, encouraging them to explore new ideas while respecting traditional practices.

Diversification of Paper Mache Craft in India

1. Religious & Festival Decoration

In India, festivals and religious celebrations form an integral part of everyday life, here paper mache becomes a versatile medium for making decorative and devotional objects. Because paper mache is lightweight and easy to shape, artisans and students alike can create meaningful pieces that reflect cultural symbols and rituals. These items brighten homes, temples, and community spaces, connecting people with tradition while encouraging creativity. The cost-effectiveness of paper mache also means small-scale groups or schools can involve many participants in crafting activities, fostering a sense of shared involvement in festival preparations. For religious or festival décor, paper mache is used to craft small idols, decorative plates, lamps, and hanging ornaments that serve both functional and aesthetic roles. Artisans often begin by sketching the required form—whether a deity’s figure, a lamp design, or a festive motif—and then layering paper mache over a simple armature. After drying and smoothing, surfaces are painted with colors and adorned with glitter, beads, or small mirrors to capture light and symbolize auspiciousness. Because these items remain lightweight, they can be easily carried, mounted, or stored between festivals, and their eco-friendly nature resonates with growing awareness around sustainable celebrations.

Examples:

- Small Ganesh idols or lamp holders made of paper mache.
- Masks or decorative panels of Goddess Durga for Navratri.
- Decorative plates, lanterns, or diyas for Diwali.



Fig. 1.7: Religious & Festival Decoration

2. Home Decoration Items

Home decoration market has seen a growing interest in eco-friendly and handcrafted items. Paper mache fits well into this trend. Students and hobbyists can experiment with colors, shapes, and textures to produce decorative pieces that personalize living spaces. Given its light weight and affordability, paper mache allows crafting large or small items without heavy materials or costly tools. Moreover, using recycled paper aligns with environmental values, helping reduce waste while providing a rewarding creative activity. In the context of home decoration, paper mache can be molded into wall hangings, decorative panels, photo frames, table top accessories, and small containers. The process typically starts with a base such as a cardboard plank or simple wireframe - over which layers of paper mache are applied, smoothed, and allowed to dry. Once hardened, the surface is primed and painted; artists can incorporate textured finishes, stencils, or even attach small embellishments. The result is a unique piece that can reflect modern minimalism or traditional patterns, depending on color choices and decorative motifs. Because the final objects are light, they can be repositioned easily, making them ideal for rental homes or changing decorations seasonally.

Examples:

- Flower-shaped wall art panels in paper mache.
- Decorative bird or animal “trophies” for wall mounting.
- Trays, coasters, small jars or containers crafted from paper mache.
- Photo frames with paper mache borders or sculpted details.



Fig. 1.8: Home Decoration Items

3. Toys & Masks

Creating toys and masks from paper mache can be both fun and educational for students. Using this medium encourages hands-on learning about shapes, proportions, etc., using safe materials. Because paper mache is lighter than many plastics or ceramics and can be finished with smooth edges and non-toxic paints, it is well-suited to be used by children for making objects and performance props. For masks, attention to interior comfort (e.g., smooth edges, appropriate fit) and safe finishes is key. For toys, durability and weight balance matter: reinforcing internal structures may be necessary, but the lightweight nature ensures safer play. After painting, a sealant or varnish may be applied to protect against wear. Such projects teach students about design thinking: from ideation to prototyping to finishing.

Examples:

- Animal or cartoon character masks in paper mache for drama or festivals.
- Small dolls or figurines (e.g., simplified animal models) for play or display.
- Educational puzzle pieces (alphabet letters, shapes) made in paper mache.
- Role-play props and decorative accessories (crowns, wands) for school activities.



Fig. 1.9: Toys & Masks

4. Stationery & Gift Items

Stationery and gift items crafted from paper mache combine practicality with artistic appeal. This medium allows young makers to design functional objects like pen stands and bookmarks, as well as decorative gift boxes or photo frames. Students learn about product design, surface decoration techniques, and the importance of sustainable materials. In addition, these handcrafted items can become meaningful gifts reflecting personal creativity and care.

Examples:

- Bookmarks featuring layered paper mache shapes with painted designs.

- Gift boxes or candy boxes embellished with sculpted paper mache decorations.
- Handmade greeting cards with small paper mache elements affixed.



Fig. 1.10: Stationery & Gift Items

5. Fashion & Jewellery

Fashion accessories made of paper mache illustrate how craft materials can cross into wearable art. Students and artisans exploring jewellery design may experiment with lightweight earrings, pendants, or bracelets that showcase painting skills and knowledge of proportions. Paper mache accessories appeal to eco-conscious consumers and provide learning opportunities in protecting materials (e.g., waterproof finishes) and combining traditional art motifs with modern aesthetics. Such projects highlight how sustainable crafts can enter contemporary fashion dialogues. To create jewellery or small fashion accessories, designers begin with sketching and in doing so they keep in mind the importance of aesthetics, ergonomics, the fundamentals of design, development of products, and sustainability. We will discuss these aspects in detail in further sessions.

Examples:

- Earrings painted in intricate designs and bright hues.
- Pendants featuring traditional painting styles (e.g., Madhubani or Warli motifs) on paper mache base.
- Bracelets or rings made from paper mache.
- Decorative brooches or hair accessories made by incorporating beads and stones with paper mache.



Fig. 1.11: Fashion & Jewellery

6. Educational Models & Projects

Educational models made from paper mache offer an accessible way for students to visualize complex concepts in science, history, geography, etc. Crafting a three-dimensional representation encourages deeper understanding, as learners are able to translate abstract ideas into tangible forms. Using paper mache makes these models affordable and safe to work with. Moreover, the process of building, painting, and labeling models reinforces subject knowledge through active participation.

Building educational models begins by selecting the topic (e.g., human anatomy, plant structure, planetary system, or a historical monument) and planning the scale and details needed. These models serve as teaching aids in classrooms or science fairs, offering interactive demonstration opportunities.

Examples:

- Paper mache model of the human heart or plant anatomy, painted and labeled.
- Three-dimensional representations of planets for a solar system display.
- Small replicas of historical buildings (e.g., simplified Taj Mahal or India Gate) for history projects.
- Molecular structure models for basic chemistry lessons, showing atom connections.

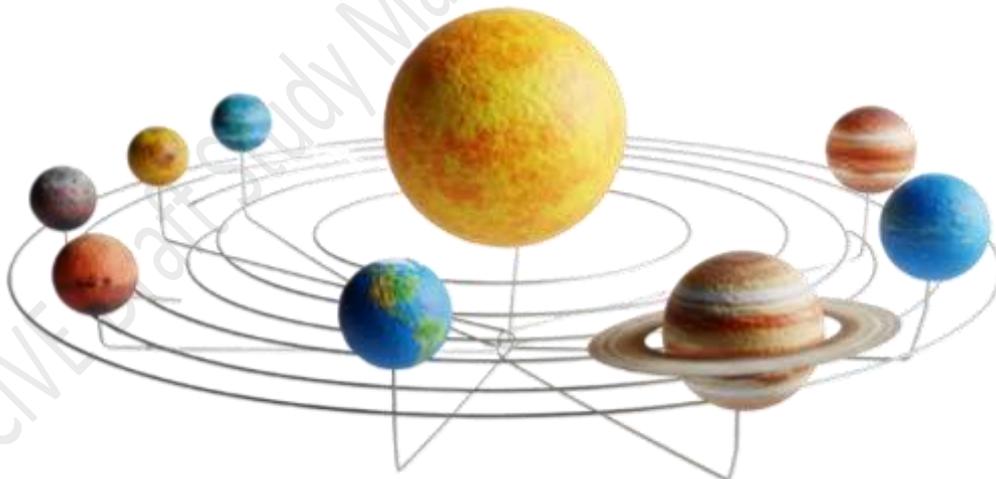


Fig. 1.12: Educational Models & Projects

7. Contemporary Art & Sculptures

Contemporary art often challenges traditional boundaries, and paper mache provides a flexible medium for innovative sculptures and installations. Students and emerging artists can explore scale, texture, and conceptual themes without the need of heavy or expensive materials. Through mixed-

media approaches, paper mache combines well with wood, metal, or textiles, allowing experimentation in form and surface. Creating such art nurtures critical thinking: artists decide how shapes, narratives, and materials communicate ideas such as social issues or environmental concerns or personal expression.

When producing contemporary art or sculptures, the first step is ideation: defining the theme, message, or thought behind the work (for example, environmental conservation or identity). Artists sketch designs and consider structural requirements. The lightweight nature of paper mache simplifies transport and installation in galleries or public spaces. Students engaging in such projects learn about project planning, material properties, and how to convey meaning visually.

Examples:

- Three-dimensional human figures or abstract faces made with paper mache and painted textures.
- Relief panels on large boards, where paper mache adds depth and tactile elements.
- Theme-based installations addressing topics such as water scarcity or climate change, using sculpted components.
- Mixed-media artworks combining paper mache with recycled materials to emphasize sustainability.



Fig. 1.13: Contemporary Art & Sculptures

8. Eco-friendly Packaging & Consumer Goods

With increasing awareness of environmental impact, many businesses and students explore sustainable packaging options. Paper mache presents an alternative to plastic or foam: it is biodegradable, often uses recycled paper, and can be molded into protective shapes. Learning to design eco-friendly packaging teaches students about product safety, material lifecycles, and consumer expectations for sustainable solutions. Such skills are valuable in entrepreneurship or design careers focused on green innovation.

Designing packaging with paper mache involves understanding the product's protection needs (e.g., cushioning for fragile items or secure enclosure for cosmetics). Students start by measuring the item to be packaged and creating a mold or form (which could be a simple box or a shaped insert). Layers of paper mache build up to the required thickness, sometimes incorporating corrugated inserts or cardboard for added strength. After drying, surfaces can be finished with water-resistant coatings or printed overlays to display branding or product information. The result is a custom, lightweight packaging solution that can protect items like electronics, handmade soaps, or delicate crafts while remaining biodegradable after use. By prototyping multiple versions, learners understand testing, iteration, and the balance between durability and eco-friendliness.

Examples:

- Paper mache boxes for chocolates or handmade soaps with custom shapes.
- Shock-absorbing inserts for mobile phones or fragile devices using layered paper mache forms.
- Cosmetic packaging shells printed or painted on paper mache bases.
- Gift packaging with paper mache interiors designed to snugly hold items and prevent damage.



Fig. 1.14: Paper mache box

9. Cultural Tourism Souvenirs

In cultural tourism, souvenirs act as tangible memories of a place, and paper mache provides a lightweight, customizable medium for crafting such items. Students and individuals learning about tourism or local crafts can design souvenirs that reflect regional art, folklore, or landmarks. Creating paper mache souvenirs supports local artisans by offering products that are affordable to produce and easy for travelers to carry home. Moreover, this practice highlights the intersection of cultural heritage and sustainable craft entrepreneurship.

To develop paper mache souvenirs, one researches local cultural motifs—such as folk dancers, animals, or iconic monuments—and sketches simplified yet recognizable forms. Because the end products are light, tourists can easily pack them, and artisans benefit from wider market reach, including shipping abroad. Students learn about market preferences, cost estimation, and cultural sensitivity when designing items that resonate with visitors while preserving authenticity.

Examples:

- Small figurines of folk dancers, animals, or local masks as tourist keepsakes.
- Photo frame borders featuring paper mache textures and painted local motifs.
- Keychains or magnets shaped as regional landmarks or cultural icons.
- Miniature models of local festivals or historic monuments in paper mache form.



Fig. 1.15: Cultural and Tourism Souvenirs

So, these are some of the prominent examples of the many ways in which Paper mache is used as a raw material to make various utilitarian and decorative objects. But remember that the uses of paper mache are not limited to these examples. Feel free to explore new and innovative ways of using paper mache into your daily life.

Paper Mache Crafts Across Different States of India

Paper mache is a traditional Indian craft practiced across various states, each showcasing its unique style, purpose, and cultural significance. From the intricate floral patterns of Kashmiri paper mache to the eco-friendly Ganesh idols of Maharashtra, this art form beautifully reflects regional heritage, creativity, and sustainability. States like Uttar Pradesh, Rajasthan, and Odisha use it for making masks, puppets, and festival decoration, while Madhya Pradesh, Bihar, and Tamil Nadu are known for their decorative items and religious figures.

This widespread craft not only preserves age-old artistic traditions but also supports local livelihoods and promotes environmentally conscious practices. Below are some of the major states that have significantly contributed to the development and preservation of paper mache craft.

Kashmir: The art of paper mache was brought to Kashmir around the 14th century by the Persian saint, along with skilled artisans from Persia. Known locally as *Kar-i-Qalamdani* or *Kar-i-Qalamdan*, this craft has become deeply embedded in Kashmiri culture. Over centuries, it has evolved into a distinctive craft form known for its fine craftsmanship, delicate floral patterns, and vibrant color palettes. Artisans typically create beautifully painted boxes, trays, vases, bowls, and ornamental items, using techniques such as *Sakhtsazi* (molding and base making), Regionally known as *Naqashi* (surface decoration), *Rang-Tarang* (color blending), and *Kalmdani* (pen-box design work).

Kashmiri paper mache is not only a symbol of cultural identity but also a popular choice among tourists and art collectors. Today, several organizations and institutions are actively working to revive and sustain this traditional craft, training young artisans and promoting it in both domestic and international markets.

- The Kashmiri process often divides artisans into *sakhtasaz* (who shape the paper pulp structure) and *naqash/naqqash* (who do the ornamentation and painting). The surface is finished with natural adhesives, smoothed, and then polished with wet stone before painting begins.
- Motifs are influenced by local flora, fauna, and Persian heritage, with every region or workshop developing its own “signature” inspired by life in the Kashmir valley.

- Artisans continue to uphold these traditional methods, with many preferring to prepare their own paints, binders, and brushes for greater control and authenticity in their work.

Kashmir's significant contribution to *Naqqashi* is thus woven through its deep-rooted traditions of using local, natural materials, and self-prepared tools, which together enable the very fine, precise, and beautiful designs that distinguish its products in the broader spectrum of Indian handicraft.



Fig. 1.16: Paper mache craft of kashmir

Uttar Pradesh: In Varanasi, one of India's oldest cultural centers, paper mache is used to create vibrant masks and puppets. These items often play a central role in religious festivals, folk theatre performances, and street processions, especially during celebrations like Ram Leela. The expressive features and bold colors of the masks reflect the region's theatrical traditions and storytelling heritage.



Fig. 1.17: Paper mache craft of uttar pradesh

Rajasthan: Rajasthan, a state celebrated for its colorful art and craft forms, also practices paper mache in regions like Jaipur. Artisans here produce traditional dolls, animal figurines, and decorative showpieces, often adorned with bright paints, gold detailing, and mirror work. These items are widely used in festival decorations and are sold in local handicraft markets as souvenirs, reflecting the rich artistic flair of the desert state.



Fig. 1.18: Paper mache craft of rajasthan

Gujarat: In the state of Gujarat traditionally the art of lippan was made using cow dung, grass straws, and clay. Here small peices of glass were added to complete the decoration. These were traditionally made on walls of homes, around doors, and windows. But with changing times today the traditional style of Lippan has shifted from traditional local materials to paper mache. Now, the craft of Lippan is done by making designs with paper mache coils and then placing finely cut pieces of glass between them.



Fig. 1.19: Paper mache craft of gujrat

West Bengal: Though not as widely practiced as in other states, paper mache has a presence in Kolkata and nearby regions. It is especially used to craft decorative masks and small sculptural pieces, often inspired by folk tales, mythology, and theatrical traditions. These creations may be seen in theatres, art exhibitions, and cultural festivals, showcasing the creative versatility of the medium.



Fig. 1.20: Paper mache craft of west bengal

Himachal Pradesh: In the scenic regions of Himachal Pradesh, particularly in the Kullu Valley, paper mache is used to make ritual masks and ceremonial objects. These items are typically worn or displayed during local fairs and religious festivals, playing a role in community celebrations and performances. The masks often represent deities, demons, or ancestral spirits, connecting art with the spiritual traditions of the region.

Madhya Pradesh: Paper mache is a renowned traditional craft of Madhya Pradesh, especially thriving in cities like Gwalior and Ujjain. Artisans skillfully use paper pulp and natural adhesives to create a wide range of decorative items, including human figures, birds, animals, and statues of deities.

Gwalior is particularly known for its intricately crafted paper mache toys, murals, and decorative handicrafts, while Ujjain stands out for its religiously inspired idols and traditional toys. These crafts not only reflect the region's artistic heritage but also support local livelihoods and preserve time-honored techniques passed down through generations.



Fig. 1.21: Paper mache craft of madhya pradesh

Orissa: In Odisha, paper mache is locally known as "*Mukha Chitra*", a vibrant and skilful art form best known for its colorful masks used in folk dance performances. Deeply influenced by the *Pattachitra* painting tradition, these masks and figurines are crafted using a blend of traditional and refined techniques.

Popular traditional items include tribal masks, animal masks, and decorative boxes. In recent times, modern products like jewellery boxes and lampshades have also gained popularity. This craft not only reflects Odisha's rich cultural heritage but also showcases the creativity and precision of its artisans.



Fig. 1.22: Paper mache craft of orissa

Tamil Nadu: One of the most distinguished forms of paper mache in Tamil Nadu is the Thirukannur paper mache, a craft that holds the prestigious Geographical Indication (GI) tag. Introduced to the region of Puducherry by

the French during the colonial period, this unique art form blends local ingenuity with European techniques.

The craft involves preparing a special paste made from coarse paper pulp, limestone, copper sulfate, and rice flour. This mixture is carefully molded into various decorative and utility items. Once shaped and dried, the creations are coated with layers of vibrant lacquer paints, giving them a glossy and colorful finish.

Thirukannur paper mache is celebrated for its durability, fine detailing, and striking appearance. Today, artisans produce a variety of items, including masks, figurines, wall hangings, and festival decorations, keeping the tradition alive while also adapting to contemporary tastes.



Fig. 1.23: Paper mache craft of tamil nadu

Bihar: Bihar’s paper mache, also known as ‘paper meshi’, is a unique and traditional craft form, particularly famous in the Madhubani district. This art involves soaking paper in water to create a pulp, which is then shaped using natural adhesives to form various decorative and artistic objects.



Fig. 1.24: Paper mache craft of bihar

The craft is deeply rooted in Bihar’s cultural heritage and often reflects the region’s folk traditions. Artisans use locally available materials and simple tools to create items such as figurines, toys, masks, and home decoration pieces. Many of these creations are also influenced by the Madhubani painting style, adding intricate designs and vibrant colors that enhance their aesthetic appeal. This eco-friendly and skill-intensive craft not only showcases the artistic talent of rural artisans but also contributes to the preservation of Bihar’s rich cultural identity.

Activities

Activity: Explore various categories of paper mache products by designing a creative concept.

Materials Required:

- A4/A3/A1 drawing sheet or chart paper
- Pencil and eraser
- Colored pens/markers
- Reference images of paper mache products (optional)

Procedure:

1. Choose any one theme (e.g., Home Decoration, Festival, Jewelry, Educational Model).
2. Sketch your own idea for a new product in that category.
3. Label the parts and mention materials needed (e.g., paper pulp, paint, varnish).
4. Write 2–3 lines describing the function and decorative features of the item.
5. Present your plan to the class.

Check Your Progress

A. Fill in the Blanks

1. Paper mache masks used in West Bengal’s Chahau dance are an example of _____ products.
2. Lightweight earrings and pendants made of paper mache fall under the _____ category.
3. Paper mache models of the solar system or human heart are useful as _____ tools.

4. In Maharashtra, _____ idols are made of paper mache to promote eco-friendly celebrations.
5. Packaging made of paper mache is _____ and protects fragile items.

B. Short Answer Questions

1. Name any four categories of diversified paper mache products.
2. Why is paper mache suitable for educational models?
3. How does paper mache promote sustainable consumer products?

C. Long Answer Questions

1. Discuss how paper mache can be used for both utility and decorative purposes with examples.
2. Describe the process of making a festival-related paper mache item.
3. Explain how fashion accessories from paper mache contribute to eco-friendly fashion trends.

Session 4: Roles and Responsibilities of Paper Mache Products Artisan

This session outlines the key roles and responsibilities of a paper mache artisan, highlighting the skills, process, and work ethics involved in the craft. It covers tasks such as preparing paper mache, forming structures, shaping, decorating, painting, and finishing the final product. Emphasizing on the importance of creativity, precision, tool maintenance, time management, and quality control. The session also addresses the artisan's role in adapting to market trends and ensuring customer satisfaction, upholding traditional techniques while being professional and careful.

Attributes of paper mache products artisan

A paper mache products artisan is a skilled craftsperson who creates products using paper pulp as raw material. This traditional art involves recycling old paper, mixing it with natural or synthetic binders, and shaping it into various objects like boxes, bowls, masks, trays, dolls, idols, and others. Paper Mache Products Artisan is skilled in creating paper mache, following a series of steps such as paper cutting, soaking, pulping, and shaping. The artisan must be hardworking and smart, combining traditional techniques with a creative mindset to develop new designs based on buyer specifications, original-ideas, or given samples.

Key qualities of a successful artisan include:

- Creativity in developing new patterns and designs
- Attentiveness and a strong focus on detail
- Patience to work through time-consuming process
- Steady hands for precise shaping and decoration
- A good level of familiarity with the craft materials and techniques

Attributes of a Paper Mache Products Artisan refer to the special qualities, skills, and personal traits that help the artisan perform the craft efficiently and produce high-quality objects. Some key attributes of paper mache products artisan can be defined as follows:

- **Creativity:** A paper mache artisan should have a creative mind to develop new designs, patterns, and shapes. Creativity helps in adding unique details and making products that stand out in the market.
- **Patience:** The process of making paper mache products is time-consuming and involves several drying and finishing stages. Patience is essential to complete each step carefully without rushing, ensuring good quality.

- **Steady Hands:** Since the decoration involves intricate painting and detailing, the artisan must have steady hands to work with precision, especially during fine brushwork and shaping.
- **Attentiveness:** Attention to detail is crucial in maintaining uniformity, symmetry, and cleanliness in the product. A small mistake can affect the final look, so artisans must stay focused throughout the process.
- **Hardworking Nature:** Making paper mache products involves physical effort cutting, soaking, pulping, moulding, and painting. The artisan should be hardworking and dedicated to handle each stage efficiently.
- **Smart Working Ability;** Apart from hard work, an artisan must know how to work smart using tools and materials wisely, saving time, and finding creative solutions to challenges during production.
- **Understanding of Buyer's Needs:** The artisan should be able to understand and follow customer requirements or sample references. This skill ensures that the final product meets client expectations in design, size, and decoration.
- **Basic Knowledge of the Craft:** The artisan should be familiar with the basic materials, tools, and techniques involved in paper mache work. A sound understanding of the process ensures better results and consistent quality.
- **Adaptability:** The artisan must be open to learning and adapting to new trends, market demands, and improved techniques to stay relevant in the craft industry.
- **Aesthetic Sense:** A good sense of color combinations, patterns, and design balance is important for creating attractive and marketable products.



Fig. 1.25: Key attributes of paper mache products artisans

These attributes help the artisan not only maintain the quality and beauty of the product but also adapt to changing market demands with innovation and skill.

Roles and Responsibilities of Paper Mache Products Artisan

Roles and responsibilities refer to the specific duties, tasks, and functions assigned to a person in their job or profession. The roles and responsibilities of a Paper mache products artisan involve managing the entire process of creating handcrafted items using paper pulp.

This includes both creative and technical tasks, from preparing raw materials to designing, shaping, and decorating the final product. The artisan plays a vital role in preserving traditional craft techniques while also meeting the demands of modern markets. Their responsibilities require attention to detail, skillful handling of materials, and a strong sense of design and quality.

Roles and Responsibilities of Paper Mache Products Artisan

1. Preparing Raw Materials

- Cutting and soaking waste paper
- Preparing paper mache using adhesives and binders

2. Creating Base Structure

- Moulding the paper mache into desired shapes
- Using clay moulds, wooden blocks, direct/indirect methods or custom tools for shaping

3. Drying and Surface Preparation

- Ensuring proper drying of products to avoid cracks or damage
- Smoothing the surface for decoration

4. Designing and Decoration

- Painting intricate designs and patterns
- Applying traditional or modern motifs based on the product type or customer demand

5. Finishing and Polishing

- Applying varnish or lacquer for shine and durability
- Final quality check to ensure finish and form

6. Maintaining Tools and Workspace

- Keeping tools clean and functional
- Ensuring a safe, organized, and eco-friendly working environment

7. Understanding Buyer Requirements

- Customizing products based on client ideas, samples, or market trends

- Suggesting innovative design options to buyers when needed

8. **Sustaining Traditional Skills**

- Preserving traditional paper mache techniques
- Passing on skills through training or apprenticeship

9. **Time Management**

- Planning and completing production stages within deadlines
- Managing multiple product orders efficiently

10. **Quality Assurance**

- Ensuring durability, neatness, and artistic value in every piece
- Checking for defects or damages before final delivery

11. **Storage**

- Maintain a stable environment near relative humidity; ensure cross-ventilation or fan-assisted airflow and keep work away from kitchens, bathrooms, or damp corners.
- Store paper, pulp, and armatures off the floor in dry shelves; keep paper in sealed, pest-safe bins and metals away from humidity to prevent rust stains.
- Inspect monthly in humid seasons for odour, soft spots, spotting, or rust transfer; add silica gel where needed and document inspection dates.
- Seal fully dried pieces to reduce ambient moisture uptake; prefer breathable, acid free wrapping and rigid boxes with supports at weak points.

The roles and responsibilities of a Paper Mache Products Artisan are not only limited to crafting decorative or utility items but also involve preserving a traditional art form through skill, patience, and creativity. From preparing raw materials to delivering finely finished products, the artisan must manage every step with care and precision.

By understanding market demands and customer preferences, the artisan ensures that each product is both meaningful and marketable. Overall, the artisan plays a vital role in keeping the cultural heritage of paper mache alive while adapting to modern-day needs.

Terminologies Related to Paper Mache Handicraft

Since "paper mache" is more widely known and pronounced in India, it is used throughout this book. Although there are regional and demographic differences in pronunciation and spelling throughout the world, "paper

mache" is used here as the general term for consistency and comprehensibility.

In the world of paper mache handicraft, terminologies often vary depending on the region, tradition, and local language. For example, the base structure made from paper mache is commonly called “*Sakhta*” in Kashmir, while in other regions it may simply be referred to as the mould or base form. Similarly, the adhesives used can range from natural rice or wheat flour paste in traditional methods to synthetic glue in modern practices. The procedure of making paper mache also differs — traditional methods involve handmade tools and sun-drying, while modern approaches may use electric mixers, moulds, and drying kilns. Additionally, paper mache is often combined with other elements like wood, cloth, wire, or beads to create more functional or decorative products.

Despite these differences, some key terms are widely recognized and commonly used across most paper mache communities. These include the essential materials, techniques, and tools that are central to the craft. A few of the major terminologies are listed below:

1. Raw Materials & Basic Components

- **Paper Waste:** Old newspapers or used paper that are the main raw material used in paper mache making.
- **Pulp:** A soft mixture prepared by soaking and grinding paper.
- **Adhesive (Glue / Starch Paste):** A binding agent mixed with pulp or used between paper layers. It holds the structure together.
- **Water:** Used to soak and soften paper for pulping.
- **Sakhta (Base Form):** The hollow or solid structure made from paper mache that gives shape to the object.

2. Key Tools

- **Scissors / Paper Cutter:** Used to cut paper into small, manageable pieces before soaking or layering.
- **Mixing Bowl / Bucket:** Container used to soak and mix the paper pulp.
- **Moulds (Clay / Wood):** Forms or shapes on which pulp is applied to create standard-sized products like bowls or masks.
- **Brushes:** Used for applying base paint, designs, and varnish in the final stages.

3. Core Processes / Techniques

- **Soaking:** Paper is kept in water for several hours or overnight to soften before pulping.

- **Pulping:** The soaked paper is mashed into a smooth pulp either by hand or tools.
- **Moulding:** The paper mache is applied over moulds or shaped by hand to form the base structure.
- **Layering:** Multiple layers of paper mache are pasted over a surface to build thickness and strength.
- **Drying:** The item is left in the sun or air to dry completely before further decoration.
- **Shaping:** The process of refining the structure and smoothing out edges to finalize the form.
- **Base Coating:** A layer of plain paint (often white) applied before detailed painting begins.
- **Painting:** Decoration using designs, patterns, and colors, often done by hand with fine brushes.
- **Varnishing:** A clear coating applied at the end to protect the paint and give a glossy finish.

4. Decoration & Finishing

- **Motif:** A repeated design element like flowers, birds, or patterns painted on the product.
- **Miniature Painting:** Fine, detailed painting done with precision—common in traditional paper mache items.
- **Floral / Geometric Design:** Common themes used in decoration—flowers for beauty, and shapes for balance.
- **Symmetry:** Balanced design arrangement, making the item look neat and attractive.
- **Lacquer / Varnish:** Used to enhance shine and protect the surface from moisture or fading.
- **Polishing:** Rubbing or smoothing the surface after varnishing to give a clean finish.

5. Types of Products

- **Utility Items:** Functional objects like boxes, trays, bowls, or containers made for everyday use.
- **Decorative Items:** Showpieces or ornaments made to beautify homes or festivals.
- **Masks / Puppets:** Traditional paper mache items used in folk performances or as cultural symbols.

6. Important Craft Concepts

- **Eco-Friendly Craft:** A sustainable craft that uses recycled materials and reduces waste.
- **Handcrafted:** Items made entirely by hand, showing skill, uniqueness, and artisanal value.
- **Traditional Craft:** A heritage-based art form passed through generations with cultural importance.
- **Aesthetic Sense:** The ability to choose colors, shapes, and designs that make the product look beautiful and appealing.

7. Other Terms

- **Sanding:** Smoothing the surface using sandpaper before painting for a clean base.
- **Primer:** A special type of base coat that helps paint stick better.
- **Packaging:** Wrapping the product safely for sale or transport.
- **Contemporary Design:** Modern and trendy patterns that may combine with traditional forms.
- **Labeling / Tagging:** Adding product name, price, or branding to finished goods.
- **Framing / Mounting:** Displaying flat paper mache artwork in a wooden or cloth frame for decoration.

8. Regionally Varied Terms

1. Pedi (Flattening Tool)

Region: Common in North India

Meaning: *Pedi* is a small, flat wooden tool used to press or smooth the surface of paper mache.

Use in Paper mache: After applying layers of paper and glue, artists use the *pedi* to flatten the surface and remove air bubbles. This helps create a clean and even texture before painting or finishing the object.

2. Imli Beej Powder (Tamarind Seed Powder)

Region: Used in Central and South India

Meaning: Powder made from tamarind seeds. It is sticky and works as a natural adhesive.

Use in Paper mache: Imli beej powder is mixed with water and boiled to create a glue-like paste. It is used to bind paper layers together in a natural and eco-friendly way.

3. Bharan (During Casting)

Region: Term used in some parts of Rajasthan and Gujarat

Meaning: The word *Bharan* means "to fill."

Use in Paper mache: During the casting process, bharan refers to filling the mould with layers of wet paper mache or strips to take the shape of the mould. Proper bharan ensures that the final object is strong and keeps its shape well.

4. Multani Mitti (Fuller's Earth)

Region: Popular across North India

Meaning: A type of natural clay used for skin and crafts.

Use in Paper mache: Multani mitti is sometimes added to paper mache paste to make it smoother and easy to spread. It can also be applied to the surface before painting to create a smooth finish.

Activities

Activity: To understand the qualities and responsibilities required of a paper mache artisan.

Materials Required:

- A3 chart paper
- Sketch pens, pencil
- Sticky notes or colored paper
- Glue

Procedure:

1. Draw a large outline of a human figure at the center of the chart.
2. Around the figure, paste/write the key attributes (e.g., Creativity, Patience, Precision).
3. Use arrows to point to skills (e.g., Moulding, Painting, Quality Check, Time Management).
4. Add a short sentence about why each skill/trait is important.
5. Display your chart or explain it in class.

Check Your Progress

A. Fill in the Blanks

1. The hollow or base structure made using paper pulp is called _____.

2. _____ and _____ are essential qualities for painting fine details on paper mache items.
3. The final touch to improve shine and durability is done using _____.
4. The artisan must understand _____ needs to customize the product accordingly.
5. _____ refers to applying colors, patterns, and designs on a paper mache item.

B. Short Answer Questions

1. What are the key personal traits of a skilled paper mache artisan?
2. Name three responsibilities an artisan must follow during the production process.
3. Why is it important to maintain tools and workspace properly?

C. Long Answer Questions

1. List and explain five key roles and responsibilities of a paper mache artisan.
2. How do personal attributes influence the quality of paper mache products?
3. Describe the entire process from pulp preparation to final finishing.

Module 2**FUNDAMENTALS OF DESIGN****Module Overview**

Design plays a central role in any form of creative work, especially in traditional crafts like paper mache. This unit introduces the basic elements and principles that form the foundation of good design. Understanding these concepts helps improve the appearance, structure, and overall impact of handcrafted products.

The unit begins by exploring the elements of design, such as line, shape, color, form, space, and texture. These are the building blocks used to create visual interest and define the look and feel of an object. It then focuses on the principles of design, which include balance, proportion, rhythm, emphasis, harmony, variety, and movement. These principles guide how the elements are arranged to create effective and appealing compositions.

By applying these design basics, paper mache products can be made more attractive, functional, and market-ready. Whether working with traditional patterns or modern styles, a clear understanding of design helps in creating work that not only looks good but also connects with its purpose and audience.

Learning Outcomes

After completing this module, you will be able to:

- Elements of design
- Principles of design

Module Structure

Session: 1 Elements of Design

Session: 2 Principles of Design

Session 1: Elements of Design

The elements of design are the fundamental components used to create any visual composition. In the context of paper mache and other handicrafts, these elements help shape the overall appearance and impact of a product. Each element serves a specific purpose and when used thoughtfully, contributes to both the aesthetic value and functional appeal of the final piece.

There are five basic elements of design namely:

Colour

Colour is one of the most powerful elements in design. It refers to the hues and tones used in a composition and carries strong psychological and emotional impact. In the context of crafts like papier mâché, understanding colour is essential for enhancing visual appeal and expressing artistic intent. To choose effective colour combinations, the colour wheel acts as a fundamental guide. It shows how colours relate to each other and helps artisans create harmony or contrast based on their design goals. Colour, refers to the hues and tones used in a design. It has a psychological and emotional impact on the viewer. To understand the colour combinations while designing, colour wheel serves as the guiding principles. Colour plays a major role in paper mache. It gives life, beauty, and emotion to the product. In fact, painting is not just decoration in paper mache—it gives the product its full identity. Artisans use the colour wheel to choose the right colour combinations. It helps create harmony or contrast depending on the product design. The colour wheel is a simple tool used to understand how colour relates to each other. It helps us choose colour combinations that look good together, which is important when designing handicrafts or any artwork.

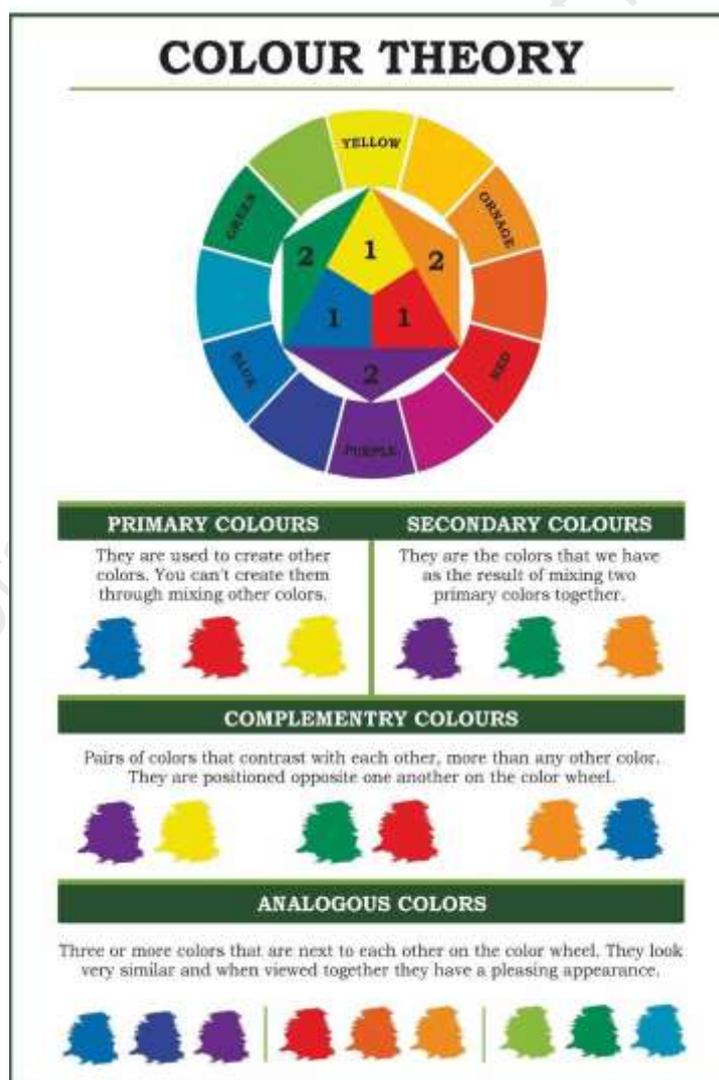


Fig. 2.1: Colour theory

- **Primary Colours:** These are the basic colours - red, blue, and yellow. You cannot create these colours by mixing other colours.
- **Secondary Colours:** When you mix two primary colours, you get secondary colours.
 - Red + Yellow = Orange
 - Yellow + blue = Green
 - Blue + Red = Purple
- **Tertiary Colours:** These are created by mixing a primary colour with a secondary colour, like yellow-green or red-orange. These colours are more complex and have names like red-orange, yellow-green, or blue-purple.
- **Complementary Colours:** Colours opposite each other on the wheel (e.g., red and green). They create a strong contrast and stand out.
- **Analogous Colours:** Colours next to each other on the wheel (e.g., yellow, yellow-green, and green). These colours blend well together and give a harmonious look.
- **Monochromatic Colours:** Variations of one colour with different tints and shades (e.g., light green, medium green, dark green). This creates a soothing, uniform design.
- **Value:** Value refers to the lightness or darkness of a colour, helping to create depth and contrast in a design.

A strong understanding of colour theory helps artisans highlight designs, express emotions, and develop their own painting style. It also makes the product attractive for both traditional and modern markets.

In paper mache craft, painting is not merely a decorative step, it is what gives the product its identity and character. A strong understanding of colour theory allows artisans to create well-balanced designs, highlight important features, and develop their own distinctive painting styles. By learning how colours work together, artists can craft pieces that reflect both traditional aesthetics and modern sensibilities, making their work more appealing to a wider audience. Mastering the use of colour not only enhances the beauty of a paper mache item but also adds depth, emotion, and a unique storytelling element to each handcrafted creation.

Line

Line as a design element is depicted by a series of connected points that go on indefinitely. One of the significant characteristics of line is that it directs the eye in a specific direction, either up and down or horizontally. Lines provide a visual impression of length, direction and movement.

Lines can be broadly categorized into two types:

1. Straight lines
2. Curved lines

1. Straight lines: Straight lines are lines that move in one clear direction without bending or curving. They give a feeling of stability, strength, boldness, and masculinity.

- Vertical
- Horizontal
- Diagonal

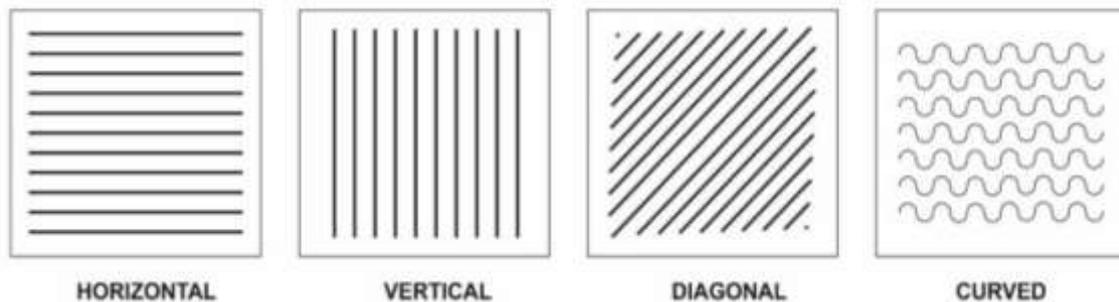


Fig. 2.2: Types of lines

- **Vertical lines:** Vertical lines are straight lines that move up and down. They create a sense of strength, dignity, masculinity, and formality. These lines naturally guide the viewer's eyes from top to bottom or bottom to top, making objects appear taller or longer. In paper mache craft, vertical lines are often seen in the painted borders of vases, on decorative masks with tall facial features, or in traditional panel designs where floral stems and motifs are arranged vertically. Using vertical lines in such artworks gives the illusion of height and adds elegance to the piece.
 - **Horizontal lines:** Horizontal lines move from left to right and guide the eye in a side-to-side direction. These lines represent calmness, stability, and balance. In paper mache, horizontal lines can be found in the design layout of flat trays, wall plaques, or boxes where patterns like stripes, borders, or repetitive horizontal motifs are used. They help create a peaceful and grounded look and make the item appear broader or more stable in appearance.
 - **Diagonal lines:** Diagonal lines are slanted lines that move at an angle and require the viewer's eye to move both vertically and horizontally. These lines add energy, movement, and dynamic appeal to a design. Short diagonal lines make the viewer quickly move across the design, creating a wider visual impression, while long, steep diagonal lines create a feeling of height and motion. In paper mache, diagonal lines can be used in painting floral vines, leaf patterns, or rays in a sun motif. They are also seen in the diagonal placement of geometric patterns on masks or plates, adding a lively and dramatic effect to the artwork.
- 2. Curved lines:** Curved lines are soft, rounded lines that move smoothly and produce a sense of movement, elegance, and softness. Curved lines in paper mache craft can make a product appear more elegant, decorative,

and artistic. They are used to give a feminine and flowing touch to the design. Curved lines are soft and flowing. They bring smoothness, and a decorative touch to the artwork. In paper mache, lines are used in painting floral patterns, borders, outlines, and detailing. They help structure the design and make it more expressive.

Shape

Shape is an element of design that refers to a flat, closed area made by lines, colors, or textures. Shapes have height and width, but no depth, so they look 2D (two-dimensional). Shapes can be geometric, like squares, circles, and triangles, or organic, like the shapes of leaves, clouds, or natural objects. Shapes help create structure in a design and make it more interesting. They are used to represent objects, ideas, or to decorate a design in a creative way.

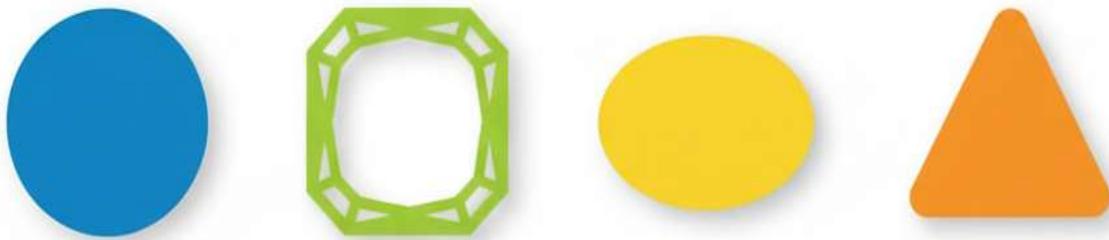


Fig. 2.3: Shapes

Form

Form is an element of design that shows the shape of an object in 3D (three dimensions) – it has length, width, and depth. Unlike flat shapes, forms look solid, like a box, ball, or cylinder. Form makes a design look more real and lifelike. It helps us understand how big or deep something is.



Fig. 2.4: Forms

Forms are the shapes or structures that objects have. In design, there are different types of forms, such as:

- **Geometric forms:** Like squares, circles, and triangles



Fig. 2.5: Geometric forms

- **Organic forms:** Shapes found in nature, like leaves, flowers, or flowing curves.



Fig. 2.6: Organic forms

- **Abstract forms:** unusual or imaginary shapes that may not look like anything real.



Fig. 2.7: Abstract forms

Space

Space is an element of design that refers to the area around, between, or within objects. It helps show distance and depth in a design. There are two types: positive space (the object itself) and negative space (the empty area around it). Using space well makes a design look clean and balanced.

Positive and Negative Space

Positive space is the space which is filled by the design elements. Negative space is the empty space or the background. Negative space is the place where the eyes find rest. Without rest, eyes may not be able to appreciate the more important aspects of the design. It allows objects to be far apart or close to each other. It can also help group the objects and create a sense of togetherness within the group.

Positive Space



Negative Space



Fig. 2.8: Positive and Negative Space

Texture

Texture is an element of design that shows how a surface feels or looks like it would feel. It can be rough, smooth, soft, or hard. We can feel real texture by touch, and we can also see visual texture in pictures or drawings. For example, a soft texture can be felt on things like cotton, wool, or a teddy bear—they feel smooth and gentle.



Rough Texture



Smooth Texture

Fig. 2.9: Texture

A hard texture is found on objects like rocks, glass, or metal—they feel solid and firm. Texture makes a design more interesting and realistic. For example, when the paper pulp is not polished or is layered unevenly, it creates a rough texture, often seen in traditional masks or raw figurines. On the other hand, when the surface is sanded and painted smoothly, like in decorative bowls or trays, it gives a smooth texture. Visual texture in paper mache is created through painting techniques—like using fine brush strokes to mimic wood grain on a photo frame or dot painting to create beaded effects on an ornament. Raised designs made with thick paint or embossed motifs also add texture visually. Texture in paper mache not only adds depth and detail but also makes the product more realistic, interesting, and artistic.

Activities

Activity: To identify and illustrate the six elements of design using examples from paper mache.

Materials Required:

- A4 sheet or chart paper
- Pencil, eraser, sketch pens
- Ruler, glue, and scissors (optional for collage)
- Printed examples (optional)

Procedure:

1. Divide the sheet into six sections labeled: Line, Shape, Form, Color, Space, Texture.
2. In each section, draw or paste an example relevant to paper mache (e.g., curved lines in floral borders, texture in rough trays).
3. Write a 1–2 line explanation about how each element is used in paper mache products.
4. Color and decorate the chart for visual appeal.
5. Present the chart in class or use it for a class display.

Check Your Progress

A. Fill in the Blanks

1. The _____ wheel helps in selecting color combinations in design.
2. _____ refers to the surface quality that can be seen or felt.
3. _____ lines create energy and movement in a design.
4. Positive space is the area _____ the object, and negative space is the area _____ it.

5. A flat, closed figure in 2D is called a _____.

B. Short Answer Questions

1. Define 'line' and mention two types used in paper mache design.
2. What is the difference between shape and form?
3. How does texture enhance the look and feel of a paper mache product?

C. Long Answer Questions

1. Explain the six elements of design with examples from paper mache.
2. How does color theory help in improving the appearance of handmade products?
3. Describe how space is used effectively in layout and decoration.

Session 2: Principles of Design

Design principles help artisans organize the elements of design in a way that the final product looks attractive, meaningful, and well-balanced. In paper mache craft, these principles guide how shapes, colours, textures, and forms should be arranged to make the product visually appealing and structurally sound. The main principles include proportion, balance, rhythm, emphasis, harmony, variety, and movement.

Proportion

Proportion is a design principle that shows the relationship between the sizes of different parts of a design. When all parts are the right size compared to each other, the design looks balanced and natural. If one part is too big or too small, it looks odd. Good proportion makes a design more attractive and pleasing to the eye.

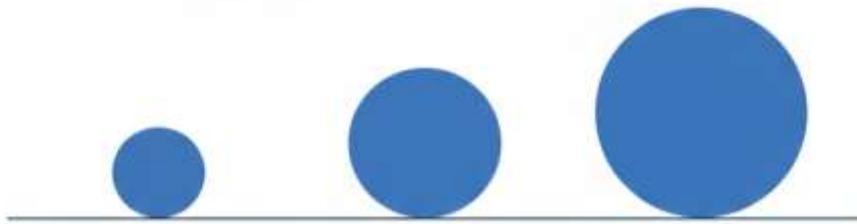


Fig. 2.10: Proportion

In paper mache, proportion plays an important role in making masks, dolls, or decorative items. For example, a paper mache mask will look better if the eyes, nose, and mouth are in correct proportion. Similarly, a decorative animal figure with a large head and tiny legs may look unrealistic unless done intentionally for artistic effect.

Balance

Balance is a principle of design that means arranging things so they look even and equal. It makes sure that no part of the design feels too heavy or too empty. It can be either symmetrical (equal distribution) or asymmetrical (unequal but balanced distribution).

Types of Balance

There would be always unlimited opportunities for achieving balance in design. Based on the distribution of visual interest in design, following are the basic types of balance:

- **Symmetrical Balance:** Symmetrical balance is achieved in design when all the design elements are equally distributed on both sides of

the central axis. This is also known as formal balance. Formal balance gives a sense of stability.



Fig. 2.11: Symmetrical Balance

- **Asymmetrical Balance:** It is also referred to as informal balance. Asymmetrical balance is achieved in design when objects arranged on either side of a centre are equal but not identical in all aspects.



Fig. 2.12: Asymmetrical Balance

- **Radial Balance:** Radial balance occurs when the design features radiate from a central point.

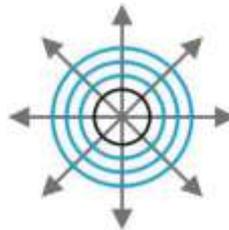


Fig. 2.13: Symmetrical Balance

Rhythm

Rhythm in design means creating a pattern or flow that guides the viewer's eyes across the design. It is made by repeating colors, shapes, lines, or spaces in a regular way. Just like rhythm in music, it adds movement and interest. Rhythm makes a design look lively and connected.

The following are some of the ways in which rhythm can be introduced in to the products:

- **Repetition:** Rhythm can be created by repeating any element of design at intervals.
- **Alternation:** It is another way of creating rhythm by using alternating elements, patterns or compositions back and forth.

- **Sequencing:** Sequence is all about creating orderly placement of design elements. The order in which one element succeeds the other is what provides the connectedness.
- **Gradation:** In the case of graded rhythm, only one of the elements is varied in an eye pleasing manner in increasing or decreasing proportions.

In paper mache products, rhythm can be created by painting similar motifs at equal distances, such as a repeated pattern of vines or dots around the border of a plate. Rhythm can be introduced through repetition (same element repeated), alternation (alternating shapes or colours), sequencing (arranging elements in a specific order), or gradation (slowly increasing or decreasing the size or intensity of an element). For instance, a border design where dots grow larger from one end to the other creates gradation-based rhythm.

Emphasis

Emphasis is the creation of a focal point in a design. It draws attention to a particular part of the product, making it stand out from the rest of the design. This can be done using bright colors, big sizes, or unique shapes.

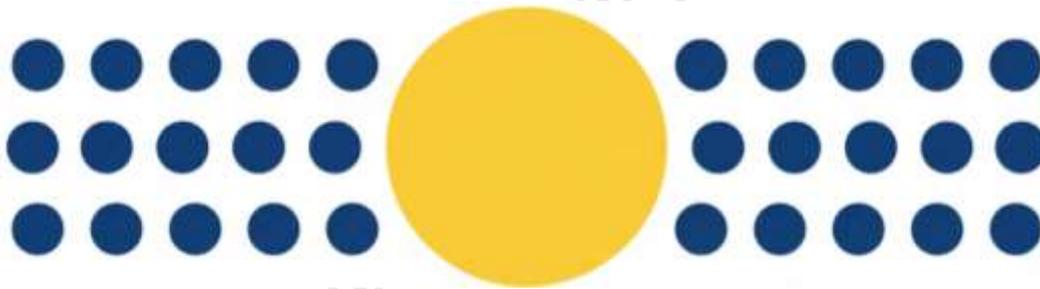


Fig. 2.14: Emphasis

In paper mache, emphasis can be created by painting a large flower in the center of a wall décor piece, using a bright colour in one area, or placing a unique shape in a central position. Techniques like contrast (placing a light shape on a dark background), location (placing a key element at the visual center), continuance (leading the viewer's eye through a line toward the focal point), and convergence (using lines that point to the center) are all ways to create emphasis. For example, in a decorative tray, painted leaves may all point towards a central rose, making it the focal area.

Techniques of creating emphasis:

- **Emphasis by Contrast:** Contrast is a simple way of creating comparisons, which would make the focal point larger, brighter, heavier, and more positive in relation to its contrasts.

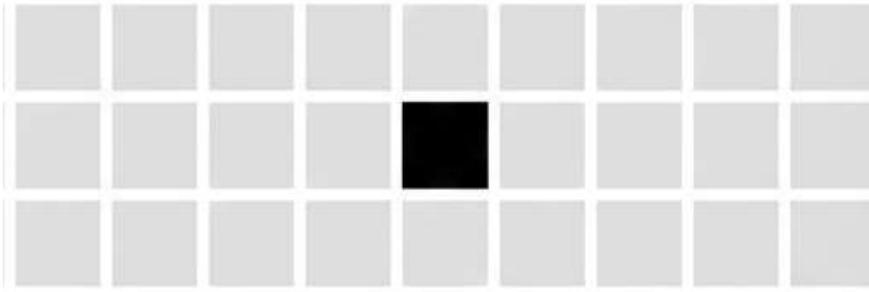


Fig. 2.15: Contrast

- **Emphasis by Location:** Attention of the eyes can also be captured and guided to create emphasis by placing the objects in the right places. The visual centre is a place that comes into the eye's focus easily.

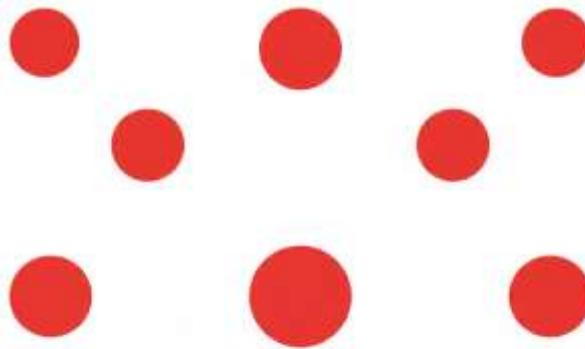


Fig. 2.16: Attention

- **Emphasis by Continuance:** Linear elements of design have the potential to draw the attention of the eye more easily. Once our eyes start moving in a linear path, they continue in the same direction till the path gets broken. Even relatively smaller objects at the end of linear paths would receive greater attention than even larger standalone objects.
- **Emphasis by Convergence:** Similar to individual lines, a group of converging lines would also add more emphasis at the implied centre. The converging lines would invariably lead the eyes to the centre and help highlight the objects placed there.

Harmony

Harmony in design means that all the parts of a design look like they belong together. It is created when colors, shapes, and sizes work well with each other. Harmony makes the design look peaceful, organized, and complete.

In paper mache craft, harmony can be seen in a design where all floral motifs are painted in matching styles and colours, and no part feels out of place. A harmonious design makes the product soothing to the eye and enjoyable to look at.

Variety

Variety adds interest to a design by introducing different elements such as colour, shape, texture, or size. In paper mache, variety can be introduced by combining matte and glossy paint finishes, mixing floral and geometric patterns, or using both small and large motifs in the same artwork. For example, a set of decorative pots with different patterns and colours on each pot keeps the viewer’s attention and creates visual excitement.



Fig. 2.17: Variety

Movement

Movement refers to the way a design leads the viewer’s eye through the composition. In paper mache products, movement can be created through flowing lines, repeating curves, or directional patterns. For example, a design where painted vines swirl around a vase leads the viewer’s eye naturally from the bottom to the top, creating a visual journey. Movement makes the design feel alive and connected.

The principles of design proportion, balance, rhythm, harmony, emphasis, hierarchy, variety, and movement are essential for creating functional, beautiful, and effective crafts. Understanding these principles allows artisans to enhance the aesthetic appeal of their creations while ensuring they are well-constructed and purposeful.



Fig. 2.18: Movement

Activities

Activity: Design a Paper Mache Plate Using Principles of Design

Materials Required:

- Round paper plate or chart circle
- Sketch pens, colors, ruler
- Pencil and eraser

Procedure:

1. Draw a symmetrical circular plate design using balance (symmetrical/asymmetrical/radial).
2. Add rhythmic patterns (e.g., repeated dots or vines).
3. Choose one area for emphasis (e.g., a central flower or motif).
4. Use harmonious color combinations and some variety in textures or shapes.
5. Submit your plate design as a model for discussion.

Check Your Progress

A. Fill in the Blanks

1. _____ is the principle that refers to visual equal distribution in a design.
2. Repetition, gradation, and sequencing are types of _____.
3. _____ is used to make one part of the design stand out.
4. When all parts of the design look like they belong together, it creates _____.
5. _____ adds excitement and contrast by mixing different shapes, colors, or patterns.

B. Short Answer Questions

1. Name and define three types of balance with examples.
2. How is rhythm created in paper mache product decoration?
3. What are the different ways to create emphasis in design?

C. Long Answer Questions

1. Explain any five principles of design with examples from paper mache craft.
2. Describe how harmony and variety work together in a balanced design.
3. How can movement and emphasis enhance the appeal of decorative items?

Module 3**Tools and Materials****Module Overview**

In any type of craft, tools and materials play a very important role. In this unit, students will learn about the basic tools and materials used in paper mache work. These include simple items like scissors, brushes, cutters, glue, paper, flour paste, and more. Students will understand how each tool is used and why proper handling is important.

The unit also teaches how to take care of tools and keep the work area clean and safe. Good habits like cleaning tools after use, storing materials properly, and organizing the workspace help in doing better work and avoiding accidents.

By the end of this unit, students will know how to use their tools and materials in a safe, clean, and effective way. These habits will help them work confidently and carefully as they continue learning paper mache craft.

Learning Outcomes

After completing this module, you will be able to:

- Tools and materials used in paper mache craft
- Safe handling and maintenance of tools and materials

Module Structure

Session: 1 Tools and Materials used in Paper Mache Craft

Session: 2 Safe Handling and Maintenance of Tools and Materials

Session 1: Tools and Materials used in Paper Mache Craft

Every craft relies on the tools and materials that bring the artisan's imagination to life. In paper mache, the selection and correct use of tools such as brushes, cutters, pliers, and simple materials like paper, glue, flour paste, and wire play a vital role in the making of masks, models, and decorative items. The tools and materials discussed in this session are commonly used in paper mache craft. However, artisans may choose different tools and materials based on their specific needs and the type of result they wish to achieve. Many artists also modify existing tools or create their own while practicing the craft, helping them work more efficiently and develop a unique style.

This session will introduce students to the basic tools and materials used in paper mache craft. They will learn how each tool functions, what materials are required at different stages, and how to use them effectively and safely. Understanding these elements is the foundation for quality and professional craftwork.

1. Tools used for making paper mache products

The tools and materials used in paper mache craft may vary depending on the process, technique, regional style, and the type of product being made. However, there are some basic tools and materials that are commonly used by most artisans. One of the main advantages of paper mache is that it does not require heavy machinery or a large workshop. Simple household tools are often enough to create beautiful and detailed paper mache items.

In this session, we will learn about some of the commonly used tools and materials required for paper mache work. Here are some of the major tools used in this craft:

| Sr. No. | Tool | | Description |
|---------|----------------------|---|--|
| 1. | Paint brushes |  | <p>Brushes are important tools in paper mache craft, used mainly for painting and detailing the surface of the product. Different types and sizes of brushes help artisans create fine lines, fill colours, and add decorative patterns. Thin brushes are used for detailed work, while thicker brushes are used to cover larger areas. A good brush allows smooth application of paint and helps in bringing out the beauty and finishing of the design.</p> |

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| 2. | Cutter |  | <p>It is used to cut cardboard or foamboard, which are heavier and difficult to cut with scissors.</p> |
| 3. | Sandpaper |  | <p>You will need this to prep your paper Mache sculpture for the final painting.</p> |
| 4. | Pallate or Colour Plate |  | <p>A colour palette is a helpful tool used by artisans to choose and organize colours for painting. It helps in selecting the right colour combinations that match the design and mood of the product. By using a colour palette, artisans can create harmony, contrast, and balance in their artwork. It guides them in mixing primary, secondary, and other shades effectively, making the final design more appealing and professional.</p> |

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| 5. | Paints |  | <p>In paper mache craft, different types of paints are used to add colour and enhance the visual appeal of the products. The most commonly used paints today include acrylic paints, dust colours, and enamel paints, which provide bright and long-lasting finishes. Traditionally, natural materials like <i>katha</i>, tree leaves, <i>haldi</i> (turmeric), <i>chuna</i> (lime), and <i>geru</i> (red ochre) were used for colouring. These natural pigments reflected the eco-friendly and cultural essence of traditional paper mache art</p> |
| 6. | Scissor |  | <p>They are used for cutting paper, cardboard, or fabric into the desired shapes and sizes. A good pair of sharp scissors helps in making clean and accurate cuts, which is important for neat work. Scissors come in different sizes, and artisans choose them based on the thickness of the material they need to cut. They make the preparation process easier and more efficient.</p> |
| 7. | Wire cutter |  | <p>Wire cutter Used for cutting wire of various diameters.</p> |

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| 8. | Cutting pliers |  | <p>Cutting pliers Used for cutting & twisting wire, opening and tightening nuts & bolts etc.</p> |
| 9. | Pedi (Flattening Tool) |  | <p>Pedi is a traditional flattening tool used in paper mache craft to smooth and level surfaces. It is mostly made of terracotta or stone and helps press the pulp evenly for a neat finish. Alternatively, a <i>belan</i> (rolling pin) can also be used to flatten the surface effectively.</p> |
| 10. | Knives |  | <p>Knives are essential tools used as one of the main instruments in paper mache craft for cutting, shaping, and detailing the material. They help artisans achieve fine edges, carve intricate designs, and remove extra layers with precision at different stages of product making. Various types of knives, such as straight-edged or curved, are used depending on the design requirements. A sharp knife ensures clean cuts and a better finish for the final product.</p> |

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| 12. | Clay Modelling Tools |  | <p>Clay modelling tools are commonly used in paper mache craft for shaping, detailing, and refining designs. These tools come in various shapes and sizes, such as pointed tips, flat edges, and rounded ends, which help artisans create fine textures, patterns, and intricate details on the surface. Made from wood, plastic, or metal, these tools are especially useful during the sculpting and finishing stages to give the paper mache product a professional and well-defined appearance.</p> |
| 13. | Hacksaw |  | <p>A hack saw is a common hand tool used for cutting hard materials such as metal, plastic, bamboo, and thin wood. It consists of a metal frame with a thin, fine-toothed blade stretched tightly between two ends and a handle for grip and control. Different types of blades can be attached to the frame depending on the material to be cut. The hack saw is mainly used for making straight and accurate cuts and is widely used in craft workshops, carpentry work, metal work, and other practical applications.</p> |

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| 14. | Stainer |  | <p>A stainer, is a multipurpose tool used at various stages in paper mache craft. It is mainly used to filter and strain different materials such as <i>gond</i> (adhesive), colours, and water to remove lumps and impurities.</p> |
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Table 1.1 : Tools used for making paper mache products

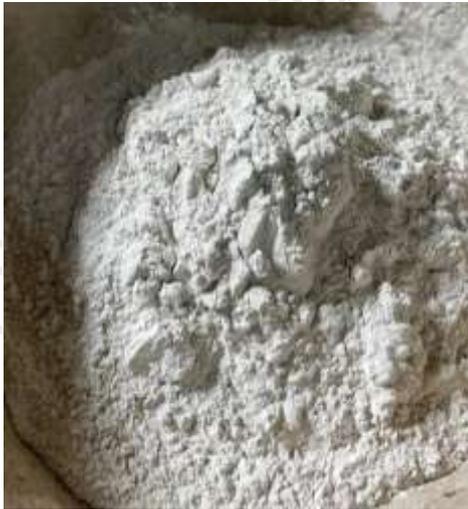
2. Material used for making paper mache products

| SN | Material | | Description |
|----|--------------|---|---|
| 1. | Paper |  | <p>Paper is the main material used in paper mache craft. It is used in various forms such as newspaper, tissue paper, brown paper, and handmade paper. The paper is torn, soaked, and either made into pulp or used in layers to shape decorative and functional items. Artisans mostly prefer recycled paper, which can be sourced from egg trays, old newspapers, leftover paper from manufacturing, or even paper powder made from cardboard. This not only supports sustainability but also helps in achieving different textures and detailing in the final product.</p> |

| | | | |
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| 2. | Wire |  | <p>Wire is used in paper mache to create strong frameworks or armatures for shaping the structure of products. It helps in making figures, animals, or decorative items where support and bending are needed. Wire gives strength, flexibility, and form to the paper mache base.</p> |
| 3. | Glue |  | <p>Glue is an essential material in paper mache craft. It is used to stick paper layers together and to mix with soaked paper to make pulp. Commonly used glues include white glue (fevicol), flour paste, or starch glue. It helps bind the materials and gives strength to the final product.</p> |
| 4. | Rice |  | <p>Rice is sometimes used in paper mache to prepare a smooth and natural adhesive paste. Boiled rice or rice flour is mixed with water to make glue, especially in traditional or eco-friendly methods. It helps in binding paper layers and gives a soft finish to the surface.</p> |

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| 5. | Wheat Flour |  | <p>Wheat flour is commonly used to make a natural adhesive paste in paper mache craft. When mixed with water and boiled, it forms a smooth and sticky glue. This flour paste is eco-friendly, affordable, and helps bind paper layers firmly in traditional paper mache techniques.</p> |
| 6. | Needle |  | <p>Needle is used in paper mache craft for adding fine details, making holes, or attaching threads and embellishments. It is especially helpful in decorating small items like ornaments or jewelry, where precision work is needed.</p> |
| 7. | Sponge |  | <p>Sponge is used in paper mache craft for smoothing surfaces, dabbing paint, or removing extra glue or water. It helps create even textures and clean finishes. Soft sponges are especially useful while handling delicate layers without damaging the design.</p> |

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| 8. | Tacky Glue |  | <p>Tacky glue is a thick, quick-drying adhesive often used in paper mache for sticking paper layers and attaching decorative elements. It is stronger than regular white glue and holds materials firmly in place. Tacky glue is useful for fine details and finishing work in modern paper mache projects.</p> |
| 9. | Card Board |  | <p>Cardboard is commonly used in paper mache craft as a strong and flat base material. It is easy to cut and shape, making it ideal for creating structures like masks, trays, frames, and sculptures. Recycled cardboard adds strength and supports the paper mache layers, while also promoting eco-friendly crafting.</p> |
| 10. | Bowls and Container |  | <p>Bowls and containers are essential tools in paper mache craft, mainly used for mixing adhesives, paper pulp, and paints. They help in keeping materials organized and prevent mess during the crafting process. Plastic or metal bowls are commonly used because they are easy to clean and reuse. Using separate containers for glue, color, and pulp ensures smooth working and saves time while crafting.</p> |

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| 11. | Varnish |  | <p>Varnish is used in paper mache craft as a protective and finishing material. It is applied after painting to give the surface a shiny look, protect the colors, and make the product more durable. Varnish also helps in making the item water-resistant to some extent. It is usually applied with a brush in a thin, even layer. Using varnish improves the overall look and life of the paper mache product.</p> |
| 12. | Chalk Powder |  | <p>Chalk powder, also known as whitening powder, is a commonly used material in paper mache craft. It is a fine white powder made from natural calcium carbonate. In paper mache work, chalk powder is mainly used as a filler material to smoothen the surface of products, enhance whiteness, and give a fine finish before painting or decoration. When mixed with glue or binder, it helps in creating a thick, smooth paste that can be easily applied on the surface of molded items. Its affordability, easy availability, and excellent covering properties make it an essential component in the paper mache process.</p> |

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| 13. | MDF |  | <p>MDF (Medium-Density Fiberboard) is a strong and smooth wooden board made from compressed wood fibers. In paper mache craft, it is often used as a base or backing material for making sturdy items like nameplates, wall hangings, decorative panels, or models. Its flat and even surface makes it easy to apply paper layers, glue, paint, or varnish, helping to create neat and long-lasting paper mache products.</p> |
|-----|------------|---|---|

Table 1.2 : Material used for making paper mache products

| SN | Machines | | Description |
|----|-------------------------|---|--|
| 1. | Hollander Beater |  | <p>The Hollander Beater is a machine used to process and refine paper fibers into a smooth pulp. It breaks down recycled paper or raw materials into a consistent and workable paste, which is essential for making high-quality paper mache products. The even pulp produced by this machine helps in achieving uniformity and strength in the final product.</p> |
| 2. | Hydra Pulper |  | <p>A Hydra Pulper is a machine used for breaking down large quantities of waste or recycled paper into pulp using water and mechanical action. It is efficient for large-scale paper mache production, ensuring quick and thorough mixing of paper fibers into a fine slurry suitable for molding and crafting.</p> |

| | | | |
|----|--------------------------------|--|--|
| 3. | Paper Squeezing Machine |  | <p>The Paper Squeezing Machine is used to remove excess water from the prepared paper pulp. This machine presses the pulp, reducing its moisture content, and makes it easier to handle and mold. By controlling the water content, the artisan can achieve better consistency and strength in the paper mache material.</p> |
| 4. | Klin Drying Machine |  | <p>In scaled or commercial settings, a kiln (drying machine) is often used to speed up and control the drying process, preventing warping and ensuring consistency.</p> |

Table 1.3 : Machines used for making paper mache products

The tools and materials used in paper mache craft can vary depending on the style, method, and type of product being made. Paper mache is a very flexible and creative craft, and every artisan may have their own unique way of working. Each stage of product development allows room for creativity and new ideas. The tools and materials listed in this session are not the only ones used—new tools or materials can always be added as creativity grows.

By the end of this session, students will have a clear understanding of various tools and materials involved in paper mache work and their specific uses. From shaping structures to finishing products, every step requires careful selection and use of tools. Recognizing the importance of each item not only improves the efficiency and quality of work but also helps in handling materials with confidence and care. This knowledge sets the stage for mastering more advanced crafting skills in future sessions.

Activities

Activity: Identify, Name, and Explain: Can you recognize your paper mache tools and explain how they are used?

Materials Required

1. Sample tools: scissors, cutter, brush, plier, needle
2. Sample materials: glue, flour, paper, wire, paint, cardboard
3. Labels or flashcards for matching exercise

Procedure

1. Observe the tools and materials provided in class (or from your kit).
2. Identify any five tools or materials and write their names.
3. Match each tool/material to its correct use or function.
4. Present your findings to your teacher or group by pointing to the item and explaining its use.
5. Record your answers in your craft notebook.

Check Your Progress

A. Fill in the Blanks

1. _____ is used to paste paper layers together in paper mache craft.
2. _____ is a cutting tool often used for shaping cardboard.
3. To bend or cut wire, _____ are commonly used.
4. _____ and _____ are the two main dry materials used in paper mache pulp.
5. A _____ is used to apply paint or varnish on the surface of a paper mache product.

B. Short Answer Questions

1. Name any three basic tools used in paper mache work.
2. What is the use of wire in paper mache models?
3. Why is it important to use good quality glue in paper mache craft?

C. Long Answer Questions

1. Explain the use and importance of any five tools and materials commonly used in paper mache craft.
2. How does proper identification and use of materials affect the final quality of a paper mache product?

Session 2: Safe Handling and Maintenance of Tools and Materials

Every successful paper mache artisan understands that craftwork doesn't end with creativity alone; it requires discipline, safety, and cleanliness. In a paper mache workshop, we use a variety of tools and materials like brushes, scissors, glue, paints, paper, and wires. If these are not handled, stored, and maintained properly, they can become damaged or even dangerous.

A clean and organized work area ensures safety, increases efficiency, and supports good hygiene and health. This session will introduce students to the essential practices of managing their work area, handling tools safely, storing materials correctly, and maintaining equipment regularly. It will also help students become more professional and responsible in their approach to craftwork.

Storing Tools and Material

In paper mache craft, various tools and materials are used at every stage of product development. These tools and materials must be stored and maintained properly to ensure safety, increase their lifespan, and keep the workspace clean and efficient. Whether it's simple items like scissors and glue or more delicate tools like brushes and cutting knives, proper care saves time and money. This session will help students understand how to store and maintain their crafting supplies in an organized and responsible way.

1. Importance of Storing Tools and Materials

Paper mache involves the use of many tools such as scissors, cutters, brushes, and materials like glue, paper, and pulp. If these are not cleaned, stored, or maintained properly, they can become unsafe or unusable. For example, glue can dry out, brushes can harden, and paper can become damp or torn.

Organized storage helps:

- Protect tools from damage or rust.
- Prevent materials like glue and paper from spoiling.
- Keep the work area clutter-free and safe.
- Save time during craft work by making items easy to find.

2. Storing Tools

- Tools like scissors, cutters, brushes, spatulas, and needles should be cleaned after every use.
- Store sharp objects carefully in a box or tool holder to avoid accidents.

- Keep brushes in an upright position after drying to maintain bristle shape.
- Do not leave metal tools wet; always wipe them dry to prevent rusting.
- Group similar tools together in labeled sections or drawers.

Storing Tools Properly

Proper maintenance of tools and materials is essential in paper mache craft to ensure quality, safety, and consistency in the final product. Some of the major tool and materials are mentioned below

- **Brushes:** Among the most commonly used tools are paintbrushes, which must be washed immediately after use with clean water or appropriate solvents, then dried flat to maintain the shape of the bristles. Brushes that are not cleaned properly tend to harden and become unusable, affecting the smooth application of glue, paint, or varnish.
- **Scissors and cutters:** Scissors and cutters are used frequently to cut paper, cardboard, or other craft materials. These tools should be cleaned regularly, stored in dry places to prevent rust, and kept sharp for clean, accurate cuts. Dull or rusted blades can damage materials and reduce the efficiency of work. Cutters must also have their blades retracted after use for safety.
- **Wire:** Wire is often used as a structural support in 3D paper mache models. It should be stored properly to avoid rusting and kept straight to allow accurate shaping.
- **Pliers:** Tools like pliers, used to bend or cut wires, need to be wiped clean and oiled occasionally at the joints to maintain smooth movement and prevent stiffness.
- **Coloring Materials:** When it comes to colouring materials such as acrylic or poster paints, they must be stored in tightly sealed containers and kept away from direct sunlight to avoid drying or fading. Periodically stirring them helps maintain their consistency.
- **Adhesives:** Adhesives like glue, flour and gond should be kept in air-tight containers to prevent them from drying out. Flour paste, if stored overnight, should be stirred well before reuse.
- **Paper and Cardboard:** Base materials like paper and cardboard should be stored flat or rolled, away from moisture and dust, to prevent curling or tearing. These materials can be sorted by type and kept in folders or paper racks for better organization.
- **Paper Pulp:** Paper pulp, which is used for molding, should be used fresh for best results. If stored, it must be sealed well and used within a short time to prevent fungal growth or bad odor. Fully drying the pulp can make it reusable later.

- **Varnish and Sealants:** Varnish and sealants used in the finishing stage, should be kept tightly closed and stored in a cool place away from flames. Brushes used to apply varnish must also be cleaned immediately after use. This ensures the finish remains smooth, protective, and long-lasting.

By maintaining all these tools and materials with care, artisans not only improve the efficiency of their work but also achieve higher-quality results. It prevents wastage, reduces costs, and supports consistency across products, making the entire craft process more professional and satisfying.

3. Handling of Tools and Materials

Safe handling of tools and materials is essential to avoid injuries, damage, and wastage during craft work. It also helps in maintaining a clean and disciplined workspace, especially when working with sharp or sticky items.

- **Sharp tools:** Sharp tools like scissors, cutters, and pliers should always be handled carefully. They must be held properly while cutting, never pointed toward oneself or others, and always kept in their proper place after use. Blades should be retracted or covered when not in use. Only one tool should be used at a time to maintain focus and avoid accidents.
- **Glue, paints and varnishes:** Glue, paints, and varnishes should be handled with care. Avoid touching glue or paint with bare hands for long periods, and always close the containers tightly after use. If using natural or flour-based paste, ensure it's clean and free from fungus. When using varnish or any strong chemical, work in a well-ventilated area and wash hands afterward.
- **Wire and metal tools:** Wire and metal tools should be checked for rust or sharp edges. Use pliers for bending wire, and wear gloves if necessary. Store all tools properly to avoid accidental cuts or damage.



Fig. 3.1: Handling of Tools

- **Paper, cardboard and pulp:** Paper, cardboard, and pulp should be kept dry and clean. Wet or spoiled materials can lead to poor-quality products and may also spread germs if not handled hygienically.



Fig. 3.2: Storage of raw material

- By following simple safety rules, like not running in the workspace, keeping tools organized, and wearing protective gear when needed, students and artisans can enjoy a safer and more productive crafting experience.

4. Cleaning and Maintenance of Tools

To ensure safe and efficient use of tools in paper mache work, regular cleaning and maintenance are essential. Proper care increases the lifespan of tools and ensures quality craftsmanship.

Cleaning the Tools

To keep tools in good condition, they must be cleaned properly after each use. Different tools require different cleaning methods. Below are the basic steps to clean common tools used in paper mache:

Tool Cleaning Checklist:

1. **Oiling:** Apply a light coat of vegetable or mineral oil to metal tools to prevent rust and moisture damage. Use a brush or cloth for application, then wipe off the excess with a clean, dry cloth.
2. **Scheduled Inspections:** Regularly check tools for damage, rust, or wear. Repair or replace damaged tools promptly to avoid accidents or poor-quality work.
3. **Avoid Soaking:** Do not leave tools submerged in water. Prolonged exposure can cause rusting or swelling, especially in metal and wooden parts.

4. **Proper Storage:** Store all tools in a clean, dry toolbox or a designated storage area. If possible, use climate-controlled storage to protect tools from humidity and dust.

Proper maintenance of tools and materials is essential in paper mache craft to ensure quality, safety, and consistency in the final product. Among the most commonly used tools are mentioned below:

1. **Paintbrushes:** Paint brushes must be washed immediately after use with clean water or appropriate solvents, then dried flat to maintain the shape of the bristles. Brushes that are not cleaned properly tend to harden and become unusable, affecting the smooth application of glue, paint, or varnish.
2. **Scissors and Cutters:** Scissors and cutters are used frequently to cut paper, cardboard, or other craft materials. These tools should be cleaned regularly, stored in dry places to prevent rust, and kept sharp for clean, accurate cuts. Dull or rusted blades can damage materials and reduce the efficiency of work. Cutters must also have their blades retracted after use for safety.
3. **Wires:** Wire is often used as a structural support in 3D paper mache models. It should be stored properly to avoid rusting and kept straight to allow accurate shaping.
4. **Pliers:** Pliers are used to bend or cut wires, need to be wiped clean and oiled occasionally at the joints to maintain smooth movement and prevent stiffness.
5. **Coloring Materials:** Coloring materials such as acrylic or poster paints, they must be stored in tightly sealed containers and kept away from direct sunlight to avoid drying or fading. Periodically stirring them helps maintain their consistency.
6. **Adhesives:** Adhesives like glue or flour paste should be kept in air-tight containers to prevent them from drying out. Flour paste, if stored overnight, should be stirred well before reuse.
7. **Paper and Cardboard:** Paper And Cardboard should be stored flat or rolled, away from moisture and dust, to prevent curling or tearing. These materials can be sorted by type and kept in folders or paper racks for better organization.
8. **Paper Pulp:** Paper pulp, which is used for molding, should be used fresh for best results. If stored, it must be sealed well and used within a short time to prevent fungal growth or bad odor. Fully drying the pulp can make it reusable later.

Here is a Mandatory Maintenance Checklist for tools and materials used in Paper Mache Craft, designed to help students or artisans keep their workspace efficient, clean, and ready for use:

| S. No. | Item/Tool/ Material | Maintenance Task | Frequency | Checked (✓/X) |
|---------------|----------------------------|--|------------------|----------------------|
| 1. | Paintbrushes | Wash after use, dry flat, store properly | After every use | |
| 2. | Scissors | Wipe clean, store dry, sharpen if needed | Weekly / As used | |
| 3. | Cutter / Utility Knife | Replace blade, retract after use, clean handle | Weekly / As used | |
| 4. | Wire | Store dry, straighten before use | As needed | |
| 5. | Pliers | Wipe clean, oil joints if tight | Monthly | |
| 6. | Glue (Fevicol, paste) | Close lid tightly, store in cool place | After every use | |
| 7. | Paints (Acrylic/Poster) | Seal lids tightly, shake occasionally | Weekly / As used | |
| 8. | Paper and Cardboard | Store flat, keep dry and dust-free | Weekly | |
| 9. | Paper Pulp | Use fresh, store airtight if needed | Daily / As used | |
| 10. | Varnish | Close tightly, keep away from heat | After every use | |
| 11. | Brushes (Varnish) | Clean after use, dry properly | After every use | |
| 12. | Tool Box / Shelf | Organize, clean, label sections | Weekly | |
| 13. | Storage Area | Check for moisture, dust, and pests | Weekly | |

Storing and maintaining tools and materials is as important as using them properly. A well-organized craft unit leads to safer, more efficient, and enjoyable work. By taking small steps like cleaning, labeling, and storing correctly, students and artisans can ensure that their tools remain in good condition, materials stay usable, and their creative work continues without interruption. Developing this habit early will also help them become more responsible and professional in their craft journey. A well-maintained workspace reflects the discipline and professionalism of the artisan. By learning how to handle tools safely, clean and store materials properly, and keep the environment hygienic, students not only reduce the risk of injury but also improve their overall productivity and craft quality. The use of eco-friendly products and proper waste management further promotes a sustainable working practice. These small but important habits help create a positive, safe, and efficient atmosphere for creative work and contribute to the long-term success of any artisan.

Activities

Activity: Clean, Organize, and Maintain: How will you clean and store your paper mache tools and materials properly?

Materials Required

1. Cleaning cloths, water, oil, soap/detergent
2. Toolbox, label stickers or marker
3. Paper mache tools and materials (brush, scissors, glue, etc.)

Procedure

1. Select any two tools from your paper mache kit (e.g., a paintbrush and cutter).
2. Clean them using appropriate methods (e.g., wash the brush, wipe and oil the cutter).
3. Check and properly store one adhesive or coloring material (e.g., glue or paint bottle).
4. Organize a small section of your work area and label tools in the toolbox.
5. Use the maintenance checklist to tick the steps completed.

Check Your Progress

A. Fill in the Blanks

1. Tools like scissors, cutters, and brushes should be _____ after every use to prevent damage and accidents.
2. Always store glue and adhesives in _____ containers.
3. Tools like cutters and scissors must be stored in _____ places to prevent accidents.
4. Wire used in 3D models should be stored properly to avoid _____.
5. Adhesives such as glue and flour paste should be stored in _____ containers to prevent them from drying out.

B. Short Answer Questions

1. Why should paintbrushes be cleaned immediately after use?
2. What are two advantages of storing paper and cardboard properly?
3. Mention one reason why proper lighting is important in a work area.

C. Long Answer Questions

1. Explain the steps involved in cleaning and maintaining tools like scissors, brushes, and wire used in paper mache craft.

- Describe in detail how maintaining a clean and organized work area can improve the safety, health, and productivity of an artisan.

Module 4

Production Process of Paper Mache Products

Module Overview

This unit guides learners through the step-by-step process of creating paper mache products, tracing the journey from raw paper to finished handcrafted artwork. Paper mache is a traditional craft with deep cultural significance in many parts of India. It involves transforming waste or recycled paper into beautiful and functional objects using natural or synthetic binding agents.

The unit is structured into three key sessions, each focusing on a distinct stage of the production process:

- Session 1: Pre-Production** – Covers the preparation of materials, including the types of paper used, the role of binding agents such as *gond/gum*, *Multani mitti* (fuller's earth), synthetic adhesive, and chalk powder, along with methods for preparing effective paper mache mixtures.
- Session 2: Production** – Introduces various hand-building and shaping techniques using paper mache, such as coil making, *potli* shaping, mold pressing, and the use of armatures to create diverse forms and designs.
- Session 3: Post-Production and Finishing** – Focuses on refining and completing the products through processes like drying, surface smoothing, coloring, varnishing, and adding decorative details.

By the end of this unit, learners will develop a comprehensive understanding of both traditional and modern practices in paper mache craftsmanship and will acquire practical skills to produce aesthetically appealing and durable paper mache items.

Learning Outcomes

After completing this module, you will be able to:

- Pre-production process
- Production process of different paper mache process
- Post-process and finishing of paper mache products

Module Structure

Session: 1 Pre-Production Process

| |
|--|
| Session: 2 Production Process of Different Paper Mache Process |
| Session: 3 Post-Process and Finishing of Paper Mache Products |

Session 1: Pre-Production Process

This session introduces learners to the process of preparing paper pulp, which forms the base for all paper mache products. Across different regions of India, a wide variety of materials are blended with paper, each carrying its traditional composition and value. The ratio of each element used in pulp preparation directly influences the texture, quality, strength, and appearance of the final product. While numerous methods and varieties of paper mache exist, this session focuses on some of the most commonly used types of paper mache. It specifically explores three key types of pulp mixtures, categorized based on the type and amount of binders used.

1. Preparation of Primary Material

The first and most important step in making paper mache products is collecting and preparing the right materials. These materials are generally divided into two types: primary materials and secondary materials. The primary material used in paper mache is fibre, which comes from various types of paper such as newspapers, cardboard, egg trays, old books and magazines, and handmade paper. Each type of paper has its unique properties. Cardboard is another good option, commonly available from old packaging boxes found at home. Egg/apple trays are especially useful because they are made from recycled paper and break down very easily in water. Handmade paper creates smooth and strong pulp as it contains cloth fibres.

However, it is more expensive and usually reserved for high-quality or special craft projects. Old books and magazines are available at homes are also a good option for raw material that can be used to make paper mache. Collecting the right type of paper material ensures better pulp quality and improves the finish and strength of the final paper mache product.

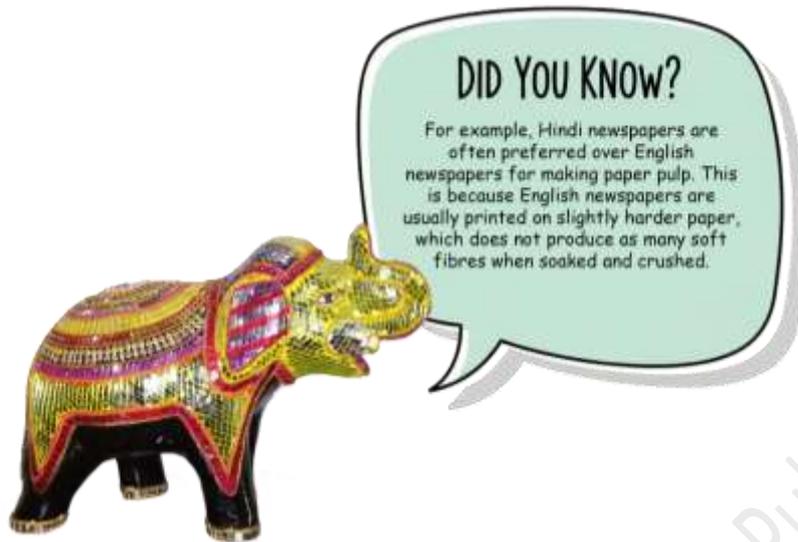


Fig. 4.1: Did you know

Turning Paper into Paper Pulp

Materials Required

- Paper (newspaper, cardboard, egg trays, handmade paper, old books and magazines, etc.)
- Large bucket or tub of water
- Rough surface (stone slab)
- Clean cotton cloth/Markin

Procedure

1. To start preparing paper pulp, take the waste paper you have chosen, such as newspaper, cardboard, egg trays, old books and magazines, handmade paper, etc. Tear them into small pieces using your hands. Tearing down your paper into smaller pieces is very important because it helps them soak faster and break down more easily into a soft paste. This step also saves time and makes sure the paper paste you create will be smoother and of better quality.



Tearing down your paper into smaller pieces is very important because it helps them soak faster and break down more easily into a soft paste. This step also saves time and makes sure the paper paste you create will be smoother and of better quality.

Fig. 4.2: preparing paper pulp

2. Once you have torn down all the paper, place these pieces into a large bucket or tub filled with clean water. Let the paper soak in water for at least two hours; this makes the paper soft and easy to work with. However, prolonged soaking beyond 15 hours may lead to microbial decomposition, resulting in foul odor and degraded fiber quality.



Fig. 4.3: Paper Soaking

3. After soaking, carefully remove the soft paper from the water. Transfer this pulp onto a rough surface, such as a stone slab. This step is necessary because the rough surface helps you break down the paper fibres better. It also makes it easier to handle the soft, wet paper without it slipping around too much.

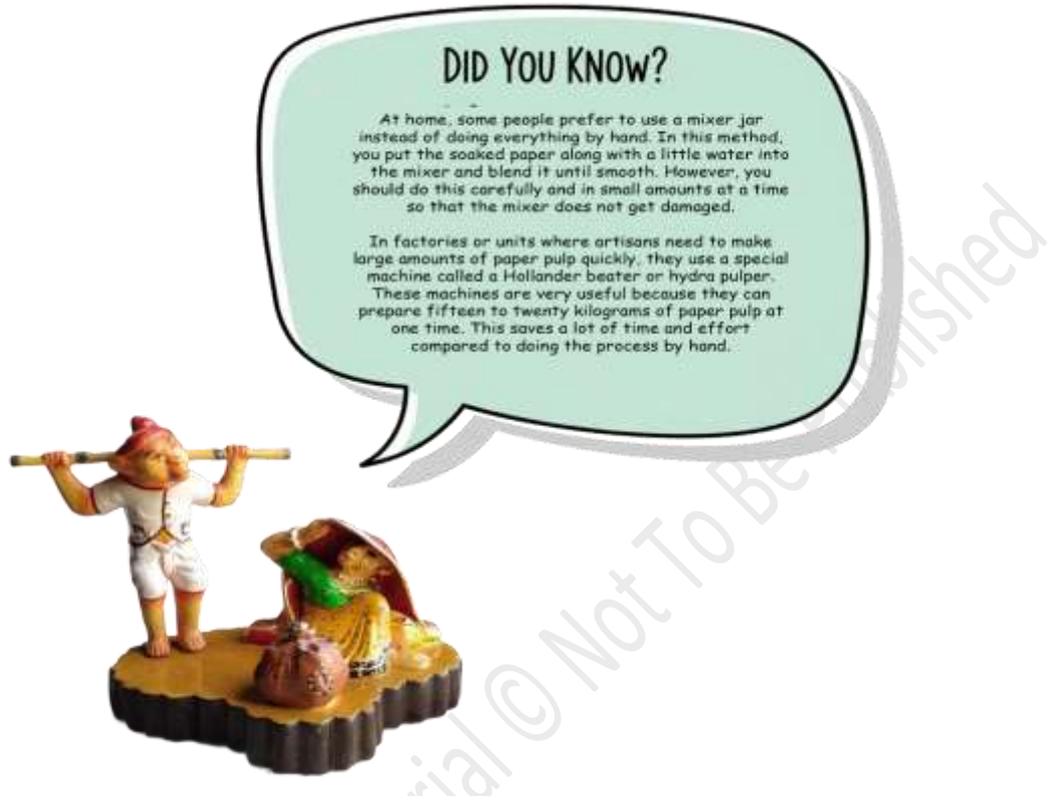


Fig. 4.4: Transfer the pulp



Fig. 4.5: break down the paper fibres

- Now, use both of your hands to firmly crush, press, and grind the soaked paper against the rough surface. By keeping both your palms



flat down, press and slowly turning into a soft, smooth paste. This step is called beating the paper. It helps separate the paper fibers and mixes them evenly, which is important for creating high-quality paper pulp. A well-beaten paste is smoother and gives a much better finish when used for paper mache work.

Fig. 4.6: Did you know

You will feel it

- While you are crushing and grinding the paper, keep checking for any hard, tough, or unsoaked pieces. Sometimes, parts of the paper might not soften completely. Remove any bits that feel hard or look different from the rest. Also, check for impurities such as plastic pieces, glossy or laminated paper, polythene, or other unwanted materials that might have been mixed in by mistake. Removing these impurities is important because they can spoil the smoothness and quality of paper pulp.



Fig. 4.7: Crushing and grinding the paper

6. Once you have turned all the paper into pulp, you need to check how wet it is. If the paste has too much water in it, press the paste tightly between your hands to squeeze out any extra water. Another good method is to put the paste into a clean cotton cloth, tie it into a bundle, traditionally known as *potli*, and hang it up somewhere safe. This allows the extra water to drip out slowly on its own.



It is important to reduce the water content because if the paste remains too wet, you will need to add more powder or binder later. This can make your final product heavier and more expensive.

Fig. 4.8: Paper pulp



Fig. 4.9: Turning Paper into Paper Pulp

Making good-quality paper pulp is the first and most important step in the craft of paper mache. The smoother and more even your paste, the stronger and better the final products will turn out. Whether you make it by hand, with a mixer, or using big machines, preparing your paper pulp carefully will make the next steps of creating different shapes and beautiful designs much easier and more successful.

Preparation of Secondary Material

The secondary material used in paper mache is called a binder. A binder helps hold the paper fibres together, making the final mix of paper mache strong and flexible. This allows you to give it different shapes without the fear of cracks and damage. Different regions of India use different kinds of binders depending on what is easily available in that area.

For example, Multani mitti (Fuller’s Earth) is commonly used as a binder in many places because it is cheap and easily available. In Madhya Pradesh, people often use *gond*, also known as gum arabic, which is a natural gum that comes from trees and is found in large amounts in that state.

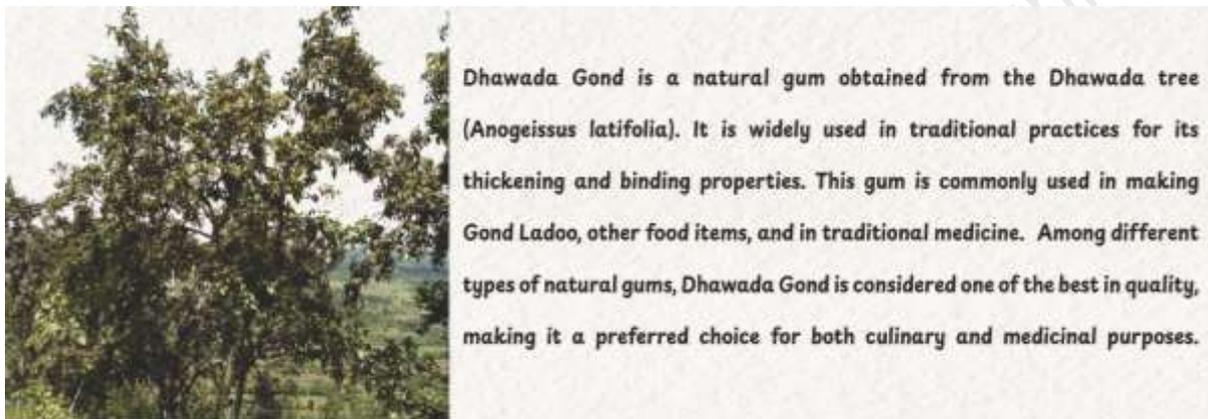


Fig. 4.10: Dhawada Gond

In other regions, different binders are used. For instance, *imli* seed (tamarind seed) powder is used in some parts of northern India. In Himachal Pradesh, people use *sabudana* (Sago) powder paste as a binder for paper mache work. In Arunachal Pradesh, the bark of the *lokta* tree (*Daphne bholua*) is used to make a paste that acts as a binder. Each binder has its benefits and gives a different finish and strength to the paper mache product. Knowing about these materials is the first step towards making strong and beautiful paper mache crafts.

In this session, we will learn about the pre-production process involved in making paper mache. We will understand how to prepare pulp, and we will also explore the different types of paper mache that can be made using various types of paper and materials. This knowledge is important because the quality of the pulp decides how strong and smooth the final paper mache product will be.

1. Preparation of *Gond* (Natural Adhesive)

Materials Required

- Gond (natural tree gum)

- Clean water (Double of the gond)
- Bowl or container

Gond (500g) + Water (1L)



Fig. 4.11: Preparation of Gond

Preparation

1. To begin, measure out the amount of *gond* you plan to use. *Gond* usually comes in the form of small crystals, grains, or hard lumps. It is a natural product collected from trees and is commonly used in many traditional crafts because of its strong sticking power.



Fig. 4.12: Gond

2. Put the measured *gond* into a clean bowl or container. Make sure the container is big enough to hold both the *gond* and the water you will add. A slightly larger bowl is always better, so you can mix the *gond* easily without spilling.



Fig. 4.13: Gond in container

3. Add clean water to the bowl containing the gond. The amount of water should be about double the amount of gond you have used. For example, if you take one cup of *gond*, pour in roughly two cups of water. This amount of water helps the *gond* to soak properly and become soft.

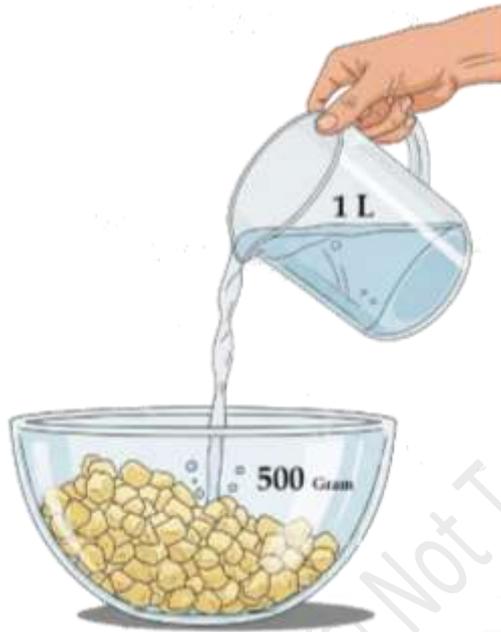


Fig. 4.14: Mixing Gond with Clean Water

4. Let the *gond* soak in the water for at least 24 hours. This soaking time is very important. It allows the hard pieces of the *gond* to absorb water and turn soft. When *gond* (gum) becomes soft, it is much easier to mix and turn into a binder for the process of making paper mache.

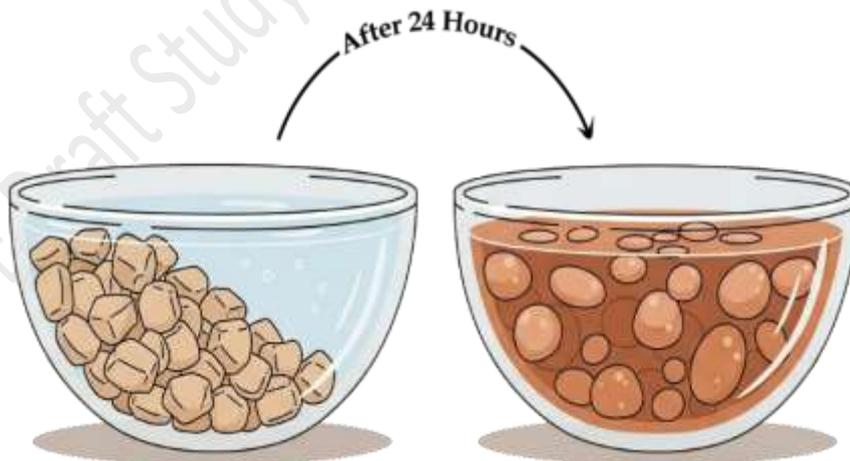
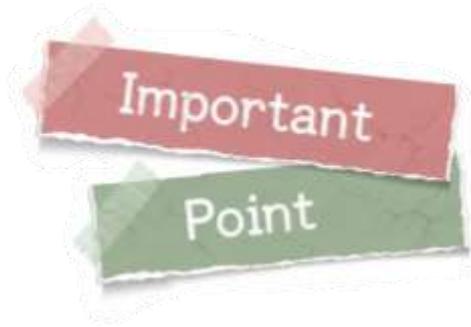


Fig. 4.15: Soaking Gond in Water

5. After 24 hours, check the *gond* mixture. You will notice that the *gond* has become swollen and soft. The water may look slightly sticky as some of the gum has started to dissolve into it. This is a good sign that it's ready for the next step.

6. Use your clean hands to mash and press the softened *gond* in the water. Keep pressing, squeezing, and mixing it until the *gond* completely breaks down into a smooth, sticky paste. This step might take some time, but it is important to keep going until there are no hard pieces left. The smoother the *gond* paste, the better it will mix with the paper pulp later. When working in larger quantities, one can use a hand blender for making the paste.



Though it is better to use hands for this process, as any machinery used for this purpose faces a problem in movement because of the sticky nature of the *gond*.

Fig. 4.16: Did you Know



Fig. 4.17: Pressing and Mixing the Softened Gond

7. Remember, while making this paste, only use water for soaking and mashing. Do not add any other liquids, powders, or chemicals. Pure water and *gond* are enough to create a good natural glue.
8. Check the final consistency of the *gond*/glue paste. It should be thick, sticky without any lumps. If you feel the paste is too thick and hard to stir, you can add a very small amount of water and mix again until it reaches a smooth, spreadable consistency. After this Pass the *gond*

through a fine sieve to remove any impurities such as tiny wood fibres, dust, or other unwanted particles.



Fig. 4.18: Final consistency of the *gond*

The *gond*/glue you have made is now ready to use. It will be mixed with paper pulp to create the base for many paper mache products. *Gond*/glue is very important because it helps hold the paper fibres together, giving strength and durability to the items you make. It is a trusted natural binder used by artisans for many years in traditional crafts and continues to be popular for making strong and beautiful paper mache craft works.



Fig. 4.19: Process of Preparation Gond

2. Preparation of *Multani Mitti* (Fuller's Earth)

Materials Required

- *Multani mitti* (Fuller's Earth)
- Clean water
- Bowl or container
- Cloth (optional, for removing extra water)

Preparation

1. Take the amount of *Multani mitti* you need and place it in a wide bowl or container. Make sure the container is large enough to allow space for the *mitti* to expand and soften during soaking.



Fig. 4.20: Soaking *Multani Mitti*

1. Now pour clean water into the bowl. Add just enough water so that the *mitti* is completely covered. There is no need to add too much water. The goal is to allow the *mitti* to absorb water slowly and evenly.
2. Let the *mitti* soak in the water for about 24 hours. It allows the hard lumps of *Multani mitti* to become soft and easy to use in the next steps. Soaking makes the *mitti* smooth and ready to mix with paper paste.

3. After 24 hours, you will notice that the *mitti* has absorbed water and become soft. Check if there is any extra water floating on the top. If yes, then carefully pour it out without disturbing the soft *mitti*. Another method is to use a clean cotton cloth to soak up and remove the extra water gently.
4. Once the water is removed, use your hands or a strong spoon to mix the *mitti* well. Keep stirring and pressing the *mitti* until it becomes a smooth paste without any lumps. The texture should feel soft and even, almost like thick cream or wet clay. This is how you know it is ready.
5. This *Multani mitti* paste can now be added to the paper paste (paper+*gond*) to make different types of paper mache dough. When added to the mixture, it helps improve the quality of the final product by making it smooth and strong.

Multani mitti is one of the most commonly used materials in the paper mache craft process. It is popular because it is easily available in most local markets, affordable in price, and blends well with paper pulp. When added to the pulp, it improves the texture, helping artisans to make smooth and detailed designs.

It also adds natural strength to the item being created, which makes the final products last longer and look more professional. Because of its useful properties, *Multani mitti* has become a trusted material among paper mache artisans across many regions.

3. Preparation of Wheat paste

Materials Required

- 1 Part Wheat Flour
- 8 Part Clean Water
- Stainless Steel/metal utensil/A saucepan or pot
- Steel Ladle/A whisk or spoon for stirring
- Stove/Induction/Heat source
- Pincer/Griper

Preparation

Wheatpaste is a simple, eco-friendly adhesive traditionally used for paper mache.

1. To make wheatpaste, begin by combining 1 part plain flour (typically wheat flour) with 4 parts cold water in a mixing bowl, stirring until smooth and lump-free.

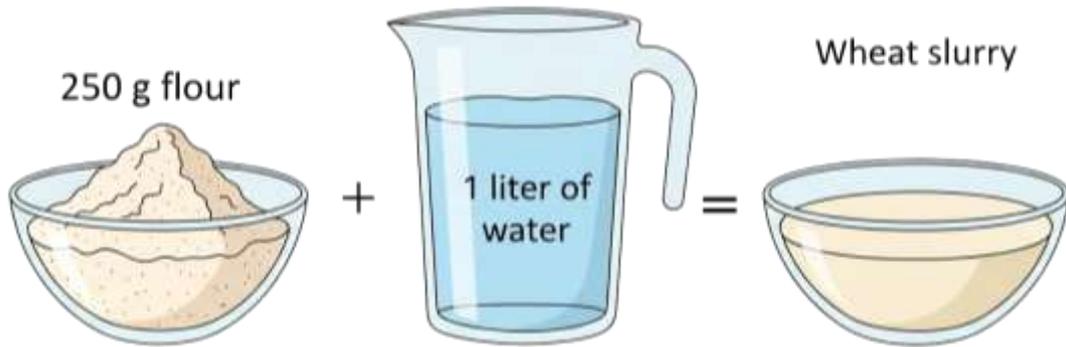


Fig. 4.21: Preparation of Wheat paste

2. In a saucepan, heat another 4 parts of water until it begins to simmer. Gradually add the flour mixture to the hot water while continuously stirring to prevent lumps.

Continue to cook and stir the mixture on low to medium heat for about 5 to 10 minutes, until it thickens to a consistency similar to glue or porridge.



Fig. 4.22: Stir the mixture of wheat paste

For added strength and longevity, especially for outdoor use, a tablespoon of sugar or a small amount of vinegar can be mixed in during the cooking process.



Fig. 4.23: Mixing sugar or vinegar for durability

3. Once thickened, remove the paste from the heat and allow it to cool before using.
Store it in an airtight container and use it within a few days, as it can spoil over time.

Preparation of Paper Mache

The preparation of paper mache does not follow one single fixed method. It may differ from region to region, and artisans often develop their own techniques over time based on experience, available materials, and the intended use of the final product. The composition of paper mache also varies according to the required strength, texture, and finish. The following methods have been classified only for easy understanding and practical learning purposes, to help students initiate the process in a clear and systematic manner.

Type - 1

Material Required

- Processed Paper/Paper Pulp – 250 grams approx.
- *Gond* (natural gum paste) – ½ litre approx.
- *Multani mitti* (Fuller's Earth) – 250 grams approx.
- Chalk powder (also called whitening powder) – 2–3 kilograms approx.
- Sieve (for filtering gond)
- Bowl or container for mixing

Procedure



Fig. 4.24: Organize everything before starting to work

1. Before starting the mixing process, it is important to clean the *gond*. Pass the *gond* through a fine sieve to remove any impurities such as tiny wood fibres, dust, or other unwanted particles. This step ensures the final pulp will be smooth and clean.



Fig. 4.25: Cleaning the gond to remove impurities

2. Measure 250 grams of paper pulp and place it into a large bowl or container. The container should be big enough to allow space for mixing all the materials without spilling.
3. Add $\frac{1}{2}$ liters of prepared *gond* to the paper pulp in the bowl. Mix them well using your hands. Knead the mixture firmly, pressing and folding it repeatedly until the two become one smooth, even mixture. This forms the base of the paper mache dough.

- Once the above-prepared mixture of gond and paper pulp is ready, gradually add the 250 g of *Multani mitti* to the mixture. Do this slowly so that the *Multani mitti* blends well and does not form lumps. Keep kneading until the mixture becomes soft and smooth, and you can no longer see separate bits of *Multani mitti*.



Fig. 4.26: Mixing of Multani mitti

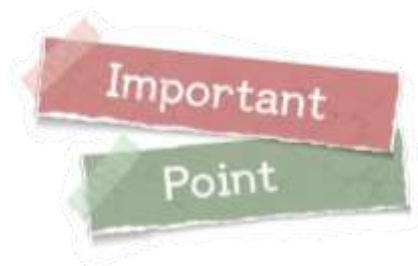
- After mixing in the *Multani mitti*, begin adding the chalk powder in small portions. Keep kneading as you add the chalk powder bit by bit. This prevents lumps and ensures that the powder spreads evenly throughout the dough. Continue mixing until the entire batch has a uniform, dough-like consistency that is smooth and easy to shape.



Fig. 4.27: Mixing of chalk powder

6. Check the consistency of the final dough. It should feel soft and pliable, but it should also be firm enough to hold its shape when moulded. Once you reach this stage, your paper mache paste is ready to use for creating different craft items.

To get an idea of the perfect consistency for the final paper mache dough, you can compare it to the colored clay or wheat dough that you get in the market and match its consistency.



In some places, artisans use methi dana paste instead of Multani mitti. Methi dana, which is known in English as fenugreek seeds, is soaked in water and then ground into a fine pulp. It works well as a natural smoothing agent and is a good substitute when Multani mitti is not available or is too costly.

Fig. 4.28: Product achieved using type-1 paper mache



Fig. 4.29: Product of paper mache

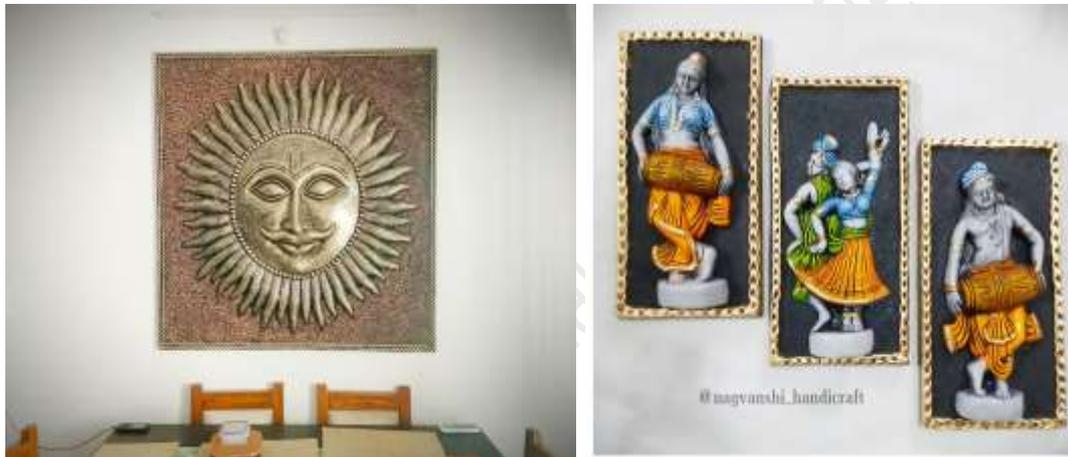


Fig. 4.30: Product achieved using type-1 paper pulp

The quantity of each material given above can be changed to an extent depending on what you are planning to make. For example, if you are making delicate and lightweight items, you might prefer a softer, smoother dough. If you are making larger or sturdier items, you might need a slightly firmer dough that holds its shape well. Skilled artisans often adjust the recipe to suit the specific craft they are working on.

This type of paper mache mixture is popular because it creates a strong yet workable dough that can be shaped into many beautiful items, from small decorative pieces to larger artistic crafts.

Why This Mixture is Special

This type of paper mache mixture is unique because it uses natural materials and binders like gond, Multani mitti, and chalk powder. It is completely eco-friendly, sustainable, and biodegradable. This makes the final product very finished, attractive, and long-lasting. Minute details may be achieved in this mixture for decorative craft purposes, realistic or hyper-realistic artworks.

Type 2

Materials Required

- Paper pulp – approx. 70% of the total mixture
- Multani mitti (Fuller's Earth) – approx. 30% of the total mixture
- Bowl or container for mixing

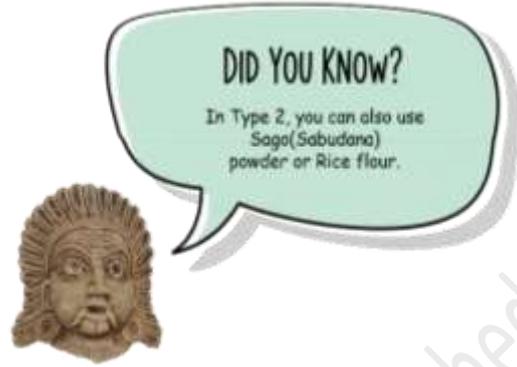


Fig. 4.31: Did you know

Procedure

1. Take the paper pulp, measure the quantity you need for your project, and put it into a big bowl or container. The bowl should be large enough so you have space to mix everything nicely without spilling.
2. Next, measure your *Multani mitti*. You should take a smaller amount of *Multani mitti* than the paper pulp. For example, if you are using 1 kilogram of paper pulp, you only need about 300 grams of *Multani mitti*.



Fig. 4.32: Mixing of Multani mitti into paper pulp

3. Add *Multani mitti* to the paper pulp little by little, not all at once. This helps you mix it evenly and stops lumps from forming.
4. Use your hands to mix everything well. Squeeze, press, and knead the mixture like you would knead dough for chapati or roti. Keep

kneading until the mixture looks smooth and even and there are no lumps. Feel it between your fingers to check if it's soft and smooth.



Fig. 4.33: Dough

5. Check the dough's feel. It should be a little loose and soft, not stiff or dry. This is important because soft dough makes it easier to shape and mould into different figures and designs. If it feels too dry, you can add just a little bit of water or more paper pulp to soften it, but be very careful not to make it too wet.

Why This Mixture is Special

This type of paper mache mixture is simple and easy to make because it only uses 2 materials. It does not need other things like chalk powder or gond, meethi dana, etc., which are used in other recipes. This makes it easier for children and beginners to work with, because there are fewer steps and fewer things to measure. It's also faster to prepare.

- **How This Mixture Feels and Works**



Fig. 4.34: Speciality of paper mache mixture

This mixture is lighter because there is more of the paper pulp than *Multani mitti*, as compared to other mixtures. More paper means it feels fluffy and soft, while *Multani mitti* gives it just enough strength to hold its shape without being too heavy. When you touch this dough, it feels soft and smooth. You can press it with your fingers and see how it changes shape easily. This makes it perfect for artists who like to sculpt things by hand instead of using molds.

For example, you can shape small balls, cones, petals, leaves, or tiny figures. Because it stays soft for a while, you can keep working on your sculpture and add fine details like eyes, patterns, or textures.

- **Retaining its Natural Color and Texture**

Another special thing about this mixture is that it has the natural color and texture of paper mache. Even after it dries, you can so sometimes see tiny fibres from the paper on the surface. This indicates that the product made is original and handmade. Some people love this natural texture because it shows that the piece is handcrafted. It adds beauty and charm, making the piece special and different from machine-made items.



Fig. 4.35: Colour and texture on paper mache

- **About the Ratio**

Usually, people use about 70% paper pulp and 30% *Multani mitti* in this mixture. This means you use more paper paste than *Multani mitti*. Think of it like making a dish: if you have seven spoons of paper pulp, you will only use about three spoons of *Multani mitti*. But this is not fixed forever. If you want something lighter and softer, like decorations that hang or small ornaments, you might use even more paper pulp. But if you want something stronger and sturdier, like a statue that should not break easily, you can add a little more *Multani mitti*.



Fig. 4.36: Ratio of paper pulp and Multani mitti

● How It Helps Artisans

Because this mixture stays soft and slightly loose, it's perfect for artisans who love sculpting with their hands. You don't have to use molds all the time. You can pinch, press, and shape the pulp into anything you imagine.

For example:

- making the trunk of Ganesha using a conical shape
- forming petals by flattening small balls
- rolling thin coils to create decorations for vases or boxes
- pressing and shaping details like ears, crowns, and jewellery

This freedom makes the art more creative and lets each artist add their own style and ideas.



Fig. 4.37: Some techniques of sculpting

Tips for Best Results

- Always knead the mixture well so there are no lumps.
- Don't make it too wet, or it might become too sticky and hard to shape.
- Work with small pieces first until you get used to how it feels.
- Let your finished sculptures dry completely in natural weather, so they stay strong.

Do not dry these artworks in direct sunlight and fan.

By following these steps and tips, you'll be able to create beautiful paper mache items using type 2 process. It's easy to handle, fun to shape, and perfect for both beginners and skilled artists.



Fig. 4.38: Various shapes of paper mache

Type - 3

Materials Required

- Paper pulp– approx. 250 grams
- Adhesive such as tacky glue, or synthetic adhesive – approx. 100 grams
- Bowl or container for mixing

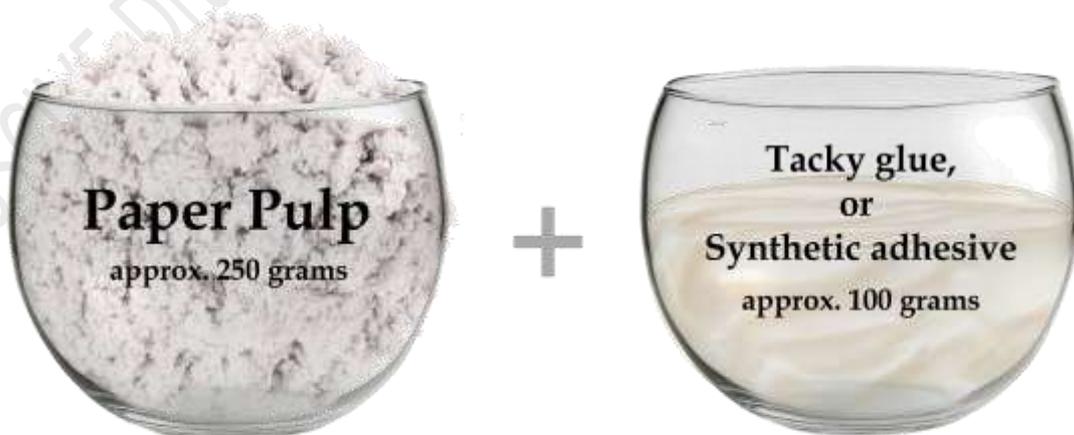


Fig. 4.39: Paper pulp and glue

Procedure

1. First, take paper pulp and place it into a bowl or container. Make sure the bowl is clean and has enough space for mixing.
2. Next, a synthetic adhesive (like Fevicol) has to be added to the paper pulp. This amount should be approximately half the weight of the paper pulp. The amount of glue to be added to the pulp will depend on the stickiness of the glue you will use. A glue with thick consistency will be used less than a thinner glue.
3. Slowly pour the glue into the bowl of paper paste. Don't pour it all at once adding it little by little helps in mixing better and avoids lumps.
4. Now, mix the paper paste and glue well using your hands. Press, fold, and knead the mixture just like you would knead dough for roti. Keep mixing until the paste and glue become one smooth dough. It should feel soft, stretchy, and even in texture. There should be no dry parts or sticky lumps.
5. Once the mixing is done, check the consistency. The dough should feel soft and very light. When you press it or shape it, it should hold its shape without breaking. This means your mixture is ready to be used for making fine and beautiful paper mache craft items.

Why This Mixture is Special

This type of paper mache mixture is unique because it does not use natural binders like Multani mitti or chalk powder. Instead, it uses synthetic adhesive, a strong synthetic glue. This makes the final product very strong and long-lasting.

Items made with this mixture do not break easily. They are more permanent and stay in good condition for a long time, even if they are transported or moved multiple times. This is a big advantage for craft products that are going to be worn, displayed, or moved around a lot.

● Perfect for Fine and Detailed Work

Because the dough is smooth and holds shape very well, it is great for making detailed designs. This mixture allows you to make tiny things like:

- Earrings
- Pendants
- Small jewellery pieces
- Hair accessories
- Decorative beads or charms

- Sculptures
- Statues



Fig. 4.40: Paper mache jewellery

Since the dough does not crack or fall apart easily, you can create small designs and fine patterns with ease. You may achieve a different texture from this paper mache.

You can use your fingers, toothpicks, or small tools to draw lines, make textures, or form shapes like flowers, leaves, or patterns on jewellery.

• Useful for Other Craft Items Too

This pulp is also very useful for making masks and other decorative objects where details matter. If you want to make a paper mache mask for a festival or school play, this mixture is light enough to wear and strong enough to last.



Fig. 4.41: Paper mache masks

The lightweight nature of this pulp makes it suitable for crafts that will be worn or hung up, where heavy items are not suitable. For example, earrings made with this pulp will not hurt your ears because they are not heavy.

• Lighter Than Other Types

Among the three types of paper mache mixtures, this one is the lightest in weight. That's because it only has paper pulp and adhesive and no heavy powders like chalk or *Multani mitti*.

This makes it very easy to handle, especially for children or for artists who want to create soft and delicate pieces. You can use it to form petals, leaves, faces, and other fine shapes that need careful and light sculpting.

- **Easy to Adjust Based on Product**

The usual ratio is around 100 grams of paper pulp to 50 grams of glue, but this can change depending on what you are making.

For example:

- If you are making small and very thin items, you might use a little more Fevicol to make it stronger.
- If you are making something larger and not too delicate, you might reduce the Fevicol slightly to make the dough softer.

Artisans learn to adjust the mixture depending on the product, but starting with this ratio, 2:1 is a good rule.



Fig. 4.42: Various products of paper mache

Type 4

Materials Required

- Paper Pulp (70% of the whole mixture)
- Wheatpaste (30% of the whole mixture)
- A bowl or container for mixing

OR

- Paper Pulp (80% of the whole mixture)
- Sares (20% of the whole mixture)
- A bowl or container for mixing

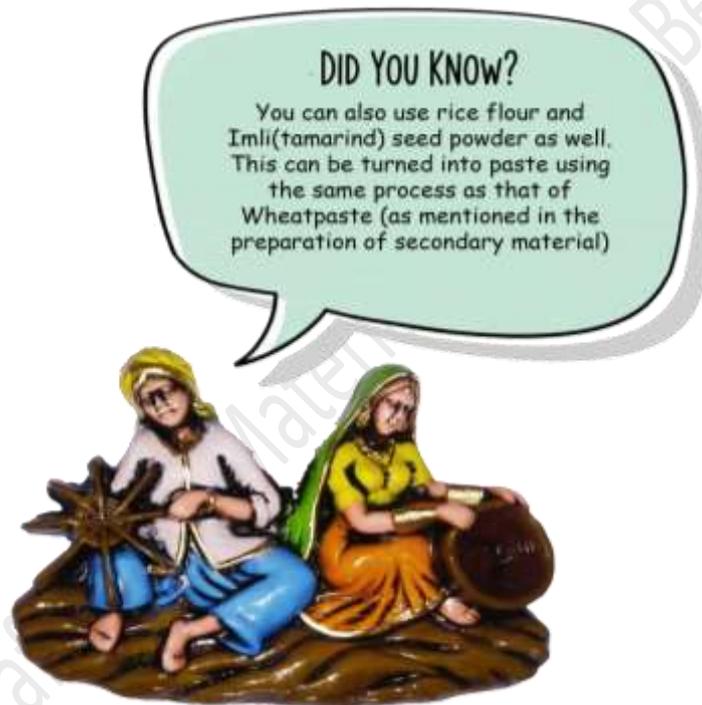


Fig. 4.43: Did you know

Procedure

(Using wheatpaste as the binder)

1. Let's consider the final amount of our dough as 200 g. So here you have to take 140g (70%) of Paper pulp. Place it on a stone slab.
2. Then take 60g (30%) of wheat paste. Add it to the paper pulp on the slab.
3. Now, by using both your hands, press the mixture forward and backward on the stone slab. Continue this movement and knead your mixture like dough till it is completely smooth.

- Once you have mixed the dough well, check its consistency. It should be soft enough to give different shapes. Make sure the dough is not too soft or too hard. If the dough is too soft, it will not take shape, and if too hard, it will break off while working.

OR

(Using *sares* as the binder)

- Let's consider the final amount of our dough as 200g. Here, you have to take 160g (80%) of paper pulp. Place this on a stone slab.
- Then take 40g (20%) of the prepared *sares* in a bowl.
- To make a dough from these two mixtures, you have to add small amounts of *sares* to the wheat paste and keep on kneading in between. This is because *sares* is an extremely sticky substance, and mixing it at once will create lumps that will be very difficult to remove.
- Once all the *sares* has been added to the pulp, knead it for a good 10 minutes so that a smooth dough is made.
- Check the dough for its consistency. If too soft, add more *sares* to it. And if it has turned too hard, add more paper pulp to it.

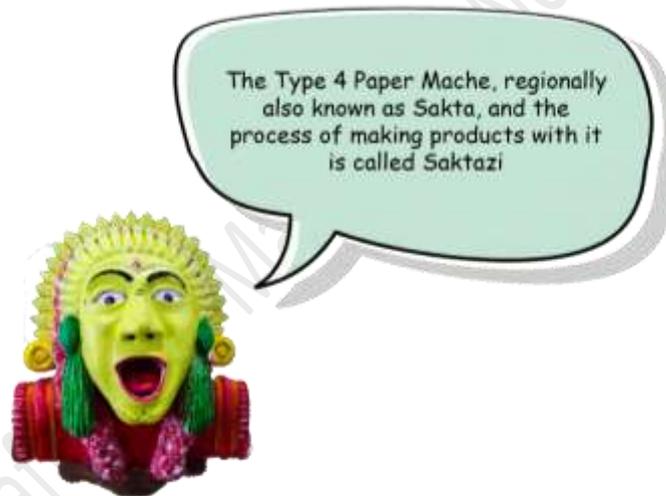


Fig. 4.44: Did you know

Some important Tips

The Type 4 Paper Mache tends to be more sticky than the others. This is because the binders used here are natural and have a high starch content. So, while using type 4 Paper Mache, one has to keep in mind a few things, such as:-

- Give it appropriate time to dry.
- Do not use too much water to smooth or finish the surface.
- In case of using a mould-cast technique, make sure to use a wooden/Plastic/aluminum mold when using this type of paper mache.

Do not use a mould made of POP/Cement here as it will not be able to absorb the moisture of the Paper mache.

- While using the mould technique, make sure to use a separator properly.

Coloring the Dough

(Can be used in all 4 types of Paper Mache)

A very interesting fact about paper mache is that color or stain can be mixed directly into the pulp while making the dough. This technique means you do not have to paint the surface later. It saves time and preserves the natural texture of paper mache, which has traditional value. Coats of paint often hide the natural paper fibers a little, so this method helps retain the authentic look of handmade paper mache products.

Different kinds of colours that can be used:-

- Pigment
- Acrylic Color
- Powdered colour (Like organic *Holi* colors)

It is important to remember that Paper mache is a sustainable craft, and therefore, we should make conscious decisions while adding different materials to it. Using organic and natural materials becomes crucial here. These materials can be added for any purpose, be it as a binder or a colorant. So, as a conscious citizen, one should make the responsible decision of using sustainable materials wherever possible.



Fig. 4.45: Various types of products of paper mache

| Pulp Type | Key Ingredients | Strengths | Best For |
|------------------|--|--------------------------------------|--|
| Type 1 | Paper Pulp + Gond + Multani Mitti + Chalk/Whiting Powder | Strong, detailed, and realistic work | Durable finished craft items |
| Type 2 | Paper Pulp + Multani Mitti | Soft, natural texture | Beginner-friendly sculptures |
| Type 3 | Paper + Synthetic Adhesive | Lightweight, precise | Jewelry, masks, and fine decorative work |
| Type 4 | Paper Pulp + Wheat Powder/Sares | Lightweight, Hard Surface | Nakkashi Work, Boxes, Decorative vases |

Activities

Activity 1: Prepare Type 1 pulp using used newspaper, water, Multani mitti (clay), gond (natural glue), and chalk powder.

Material Required

- Used paper (newspaper or notebook paper) – 200 g
- Water – for soaking and boiling
- Multani mitti – 2 tablespoons
- Gond – 2 tablespoons
- Chalk powder – 2 tablespoons
- Mixing bowl, old knife/spoon, cloth strainer, gloves

Procedure

1. Tear the paper into small pieces and soak in water for at least 12–15 hours.
2. Boil the soaked paper for 30 minutes until soft.
3. Drain excess water and blend or mash to create fine pulp.
4. Mix gond, Multani mitti, and chalk powder into the pulp thoroughly.
5. Knead the pulp till it becomes smooth and firm.
6. Store in an airtight container for later use.

Check Your Progress**A. Fill in the Blanks:**

1. The first step in paper mache production is known as _____.
2. Multani mitti is used in pulp to improve its _____ and remove odor.
3. The binding agent called _____ is extracted naturally and helps in sticking materials.
4. Paper needs to be soaked for at least _____ hours before pulping.
5. The fine powder used for smoothing and filling gaps in pulp is called _____.

B. Short Answer Questions

1. What are the main ingredients required to prepare paper mache pulp in pre-production?
2. Why should paper not be soaked for more than 15 hours?
3. What is the importance of kneading the pulp thoroughly?

C. Long Answer Questions

1. Explain the purpose and role of each ingredient in making Type 1 paper mache pulp.
2. Write the step-by-step procedure to make paper mache pulp ready for shaping.

Session 2: Production Process for Different Paper Mache

In the previous sessions, we have discussed the pre-production process of paper mache, including preparation of raw materials, tools, and basic planning required before starting product making. Building on that foundation, this unit focuses on understanding the design and development of different paper mache products, with special emphasis on the production process. In this session, the process of paper mache product development is explained by dividing it into two major categories. The first category is Sculpting, where products are shaped directly by hand. This category is further divided into two sub-categories: without armature and with armature. Through this, learners will explore various sculpting and hand-building techniques, understanding how forms are created, strengthened, and refined using different methods. The second major category introduced is Mould and Cast, which focuses on making products using moulds. This category is also divided into two sub-categories: one-piece mould and two-piece mould. These techniques help in achieving uniformity, accuracy, and repeatability in product making.

Overall, this session provides a clear understanding of different production techniques used in paper mache, enabling learners to select appropriate methods based on product type, design requirements, and production needs.

A. Sculpting

Sculpting or hand building is one of the most basic and flexible methods of making paper mache products. In this technique, the artisan uses paper pulp or paper strips and shapes the object mainly with hand and simple tools. This method allows great freedom in design and is widely used for creative and unique products.

I. Without Armature

In this method, no internal support or framework is used. The shape is formed directly using paper pulp, paper strips, or coiling techniques.

- a. 2-Dimensional Works- like Murals, Reliefs, Masks, Wall Hangings, Photo Frames, Jewellery

These works are mostly flat or slightly raised in form and are generally used for decoration and display. Examples include:

- Murals
- Reliefs

- Masks
 - Wall hangings
 - Photo frames
 - Jewellery
- b. 3-Dimensional Works- Made by forming a paper base to work on, or by coiling, etc.

These are free-standing objects created by forming a simple paper base or by using coiling and layering techniques. Examples include:

- Figurines
- Decorative bowls
- Dolls and small sculptures

Mask/Wall hanging

Papier mâché masks and wall hangings are among the most expressive and decorative forms of this craft. Made by layering paper pulp or strips with adhesive, these pieces are shaped, dried, and beautifully painted to create vibrant artworks. Whether inspired by traditional motifs or modern designs, papier mâché masks add character and storytelling, while wall hangings bring texture and charm to any space. Their lightweight nature, versatility, and eco-friendly process make them a popular choice for both home décor and artistic projects

Materials Required

(a. 2-Dimensional products)

- Type 2/3 Paper Mache (approx. 70% paper pulp + 30% binder as a secondary material)
- Flat plastic or steel bowl/molds (to use as a mold/base shape)
- Petroleum jelly or any cooking oil (as a separator)
- Cotton (optional, for texture or base)
- Imli (tamarind) seed paste (optional binder used regionally)
- Tissue paper
- White adhesive
- Modeling tools (optional)
- Reference images of facial features

- Clean water (for smoothing only, not mixing)
- Cloth for wiping hands
- Paints and brushes
- Varnish or clear sealant

Procedure

Step 1: Prepare the Base

- Take a bowl/wooden plank to be used as a mold for the mask/frame. It should be shallow and slightly curved in case of making a face or a flat plank for the hanging.
- Apply a thin layer of oil/petroleum jelly on the outside/top of the bowl/plank to act as a separator. This will help in the easy removal of paper mache later.
- If desired, to add strength or texture, place a thin layer of cotton or *Imli* seed paste over the bowl/plank before adding paper mache.

Step 2: Apply Mache Base Layer

Using **Type 1 or 2 paper mache**, apply a thin, even layer of the mixture directly over the bowl/plank.

- Press the pulp smoothly and evenly with the thumb and fingers, making sure it covers the whole mould without air gaps.
- The thickness should be enough to hold its shape, but not so thick that it becomes heavy around 0.5 to 1 cm is ideal.
- Let this base layer sit for 10–15 minutes before building features, so it settles slightly.

Step 3: Sculpt Facial Features (For the Mask)

Refer to real or stylized images of eyes, noses, mouths, etc., but remember that mask features are often exaggerated for dramatic effect.

Nose:

- Roll pulp into a rough cone shape.
- Paste the cone vertically in the center of the mask, where the nose would go.
- Use the thumb to press and shape it, widening the base, narrowing the bridge.
- Add a small ball at the tip to form a rounded nose end and blend it in smoothly.



Fig. 4.46: Sculpting of mask

Tips:

- Apply a thicker oval shape of pulp where the mouth will be.
- Use fingers to divide and curve it into the upper and lower lips.
- For exaggerated styles, increase the lip thickness and curl the edges upward or downward depending on the expression.

Eyes and Eyebrows:

- Roll two small balls of pulp for eyeballs. Place them symmetrically.
- For eyelids, flatten thin strips of pulp and shape them above and below the eyeballs.
- Eyebrows can be formed by rolling and slightly flattening two coils. Place above the eyes and shape into curves or expressive angles.

Ears:

- Flatten two medium-sized balls of pulp into oval shapes.
- Paste on either side of the mask base, close to eye level.
- Use fingers or tools to define ear curves or stylized earlobes.

Crown or Headgear (Optional):

- Use pulp to form decorative shapes like a tiara or crest above the forehead.
- Create small balls, petals, or spiral designs and arrange them along the top edge for a royal look.

Let each feature be expressive sharp angles for fierce masks, soft curves for calm or joyful ones.



Fig. 4.47: Mask of Paper mache

OR

Step 3: Making the design (for the Wall Hanging)

- Sketch on a sheet or look up images of the designs you want to make on top of your wall hanging.
- You can use a pencil to lightly draw over the base to make a rough outline of your design
- Roll up balls of paper mache and shape them in desired shapes (balls, cylinders, strings, etc.)
- You can write your name in the wall hanging, make geometric designs, make a scenery, etc.

Step 4: Smoothing and Detailing

- Once all features/elements are placed and shaped, use slightly damp fingers (dip in water and wipe) to smooth surfaces gently.
- Avoid using too much water as it may weaken the pulp.
- Use the tip of a blunt knife or modeling tool to refine lines and add subtle detailing.





Fig. 4.48: Wall hangings of paper mache

Step 5: Tissue Finish

- Apply a thin layer of tissue paper using adhesive mixed with water.
- This will help unify all the added features/elements into one seamless mask and give it a smoother finish for painting.
- Press gently so that all curves and textures remain visible. Let it dry for a while.

Step 6: Drying

- Place the entire mould in a dry, shaded place. Let the mask/hanging dry completely this may take 2–3 days, depending on the thickness and humidity.
- Do not remove the mask/hanging from the mould/plank until it is completely hard and dry.
- If cracks appear during drying, fill with soft paper mache and smooth it again.

Step 7: Demolding

- Once dry, gently lift or slide the mask/hanging off the mould/plank. The separator layer will help it come off cleanly.
- Check the edges and corners for cracks or rough patches. Sand them lightly if needed.

Step 8: Painting and Finishing

- Apply a coat of white base paint or Gesso if desired.
- Then paint the mask/hanging using bright, bold colors.
- Traditional masks often use reds, blacks, whites, yellows, and metallics. Add fine details like teeth, nostrils, pupils, or decorative dots and lines.
- Let the paint dry completely.
- Finish with a coat of varnish or clear sealant to protect the surface and give it a shine.

Final Notes and Creative Tips

- One can pierce holes on either side and attach an elastic string or ribbon to wear the mask/Put the hanging on the wall.
- Try making masks with different expressions: joy, fear, anger, devotion.
- Mix pulp colors for added depth or use metallic powders in the final coat for theatrical masks/Rustic hangings.

Creating a paper mache mask is a fun and expressive form of sculpture. Each feature gives a chance to explore proportion, form, and creativity.

Home Interior decoration/Class Project**Materials Required**

(b. 3-Dimensional product by coiling process)

- Paper Mache (Type 2)
- Sculpting tools/Blunt knife
- Cutter
- Brushes
- Sandpaper
- Water Bowl
- Damp Cloth
- Colors/Pigments

Procedure

- **Step 1:** Start of by taking a small chunk of your Paper mache, almost half the size of a tennis ball. Keep it on a flat plain surface.
- **Step 2:** Roll the sphere shaped chunk of paper mache on the surface into a pipe or cylinder shape. Roll this carefully without putting too

much pressure at once. Turn this into a thin, almost 1cm thick rope like shape.

- **Step 3:** Lets start with our lamp. Take around 12inches of the rope like shape you gave to your paper mache and place it on a flat surface by making a circle with it. Put a little pressure on it and fix it in one place.
- **Step 4:** Make a similar piece of the same length again. Place it evenly on the already laid down piece. Now by using your thumb merge the top layer with the bottom layer using light pressure. Use your other hand to support the structure from inside. Follow the same process of adding and blending till you reach your desired height for the product (approximately 18inches)
- **Step 5:** Let the Now, with the help of a pencil mark the space where you will make the openings. Take the cutter in one hand and use the other hand to support the structure. Cut out all the openings.
- **Step 6:** Once the piece has been made smooth the outer layer of the lamp with the help of your thumb or a butter Knife. Also, make the corner of the freshly cut openings smooth. This step is optional, you can also leave the product in its raw original form. Let the product rest for 4-5 days so that is dried out completely and no moisture is left in it.
- **Step 7:** Lastly, after 4-5 days you can use colours, preferably natural pigments to color parts of the lamp. And now the Lamp shade is ready. You can ask an adult for assistance with adding a bulb to it.

II. With Armature

In this method, a basic internal framework (called an armature) is used to support the shape of the product. The armature can be made of wire, cardboard, bamboo sticks, or rolled paper. Paper mache is then applied over this structure to build the final form. This method is mainly used for making larger, heavier, or more detailed three-dimensional objects.

Materials Required

- Flexible wire (such as aluminium or iron wire)
- Pliers (for cutting and bending wire)
- Waste paper (like newspaper, rough scrap paper)
- Paper tape (masking tape or brown craft tape)
- Tissue paper
- Fevicol or similar adhesive
- Prepared paper mache pulp (any type as per your project)
- Bowl of water (for cleaning hands and smoothing pulp)
- Flat surface for working

- Cloth for wiping hands

Procedure

1. Begin by taking a length of flexible wire. Fold the wire in half so that it becomes double.
2. Now twist the doubled wire together tightly. This twisting makes the wire stronger and prevents it from bending too easily.
3. After twisting, fold the wire in half again. This makes the wire four times thicker than the original single strand, giving your armature extra strength.
4. Use pliers to cut the wire to the required length. You can use different lengths for different parts of your sculpture, depending on the size of the animal or figure you want to create.
Start bending the thickened wire into the basic shape of the animal or figure you wish to sculpt. For example, if making an animal, create a bone structure or skeleton that includes the body, neck, legs, and tail. Shape the wire carefully using your hands and pliers until it resembles a simplified skeleton.
5. Once your wire skeleton is shaped, begin covering it with waste paper. Tear or crumple pieces of newspaper or rough paper and press them around the wire structure. Try to follow the shape of the animals.



Fig. 4.49: Wired used for shape

Body, building up the form gradually.

6. Secure the paper in place by wrapping it tightly with paper tape. Continue adding paper and tape until the entire wire armature is covered and has the rough shape of the animal or figure.
7. When you are happy with the basic shape, smooth the surface by sticking a layer of tissue paper over the paper-covered armature. For this, make a thin paste of Fevicol with water and use a brush to apply it, then lay the tissue paper gently over the surface.
8. Allow the tissue layer to dry slightly so it becomes firm.

9. Now, begin applying the paper mache pulp. Take small amounts of pulp and press it onto the armature, covering it fully. Use your thumb and fingers to blend the pulp evenly across the surface.



Fig. 4.50: Apply paper pulp onto armature

10. Work patiently to shape and blend all areas. Pay special attention to curves, corners, and joints to avoid cracks after drying.



Fig. 4.51: shaping the article

11. Keep dipping your fingers lightly in water if the pulp starts sticking to your hands. This makes it easier to smooth and blend the pulp.
12. Once the entire armature is covered with pulp and you're satisfied with the shape and details, let it dry completely. Drying might take several hours or even a couple of days, depending on the size and thickness of your sculpture.
13. After drying, you can refine your sculpture further by sanding any rough areas or adding more pulp to improve shapes or details.



Fig. 4.52: Refining the sculpture

Sculpting with an armature is a very important method in paper mache work, especially when you want to create figures, animals, or objects that have extended parts like legs, tails, or wings. The armature acts like the skeleton or bones inside a body. Without it, many shapes would not be able to stand or hold their form, especially if they are thin or stretched out.

The first step is strengthening your wire. Thin wire bends too easily and can collapse under the weight of paper and pulp. That's why artists double the wire and then twist it together to make it stronger. When you fold it again, the wire becomes four times thicker, which makes it strong enough to hold the shape of even larger sculptures. Pliers are important tools in this process because they help cut the wire and bend it into precise angles and curves. When making an animal figure, for example, your wire skeleton will have shapes for the spine, neck, legs, and tail. It doesn't need to be perfect or detailed at this stage it's just there to provide support and basic proportions. Covering the wire with crumpled waste paper is an essential step. If you put paper mache pulp directly onto the wire, it will not stick properly. The pulp might also slide off because there's nothing for it to hold onto. Crumpled paper fills out the body shape and gives the pulp a surface to grip. It's like putting muscle and flesh over the skeleton.

Paper tape is very useful here. Unlike plastic tape, paper tape sticks well to itself and to the paper beneath it. It also absorbs paste and pulp easily in the later steps. As you wrap the tape, press it down firmly so it hugs the contours of the armature and doesn't leave gaps or loose edges.

The layer of tissue paper helps create a smoother base before applying pulp. A rough newspaper can leave folds and bumps. Tissue paper evens out the surface so the final pulp layer looks neat and clean. Using diluted Fevicol helps the tissue paper stick firmly without tearing. Letting this layer dry slightly helps keep it in place while you're working.

Applying the pulp is where sculpting really happens. Unlike clay, you cannot keep adding water to soften paper mache pulp, because too much water will make it sag and lose shape. Instead, you rely on your fingers and thumbs to press, blend, and smooth the pulp into place. Your thumb is particularly useful for blending joins and smoothing edges because it is strong and broad. However, all your fingers are involved in pressing and shaping details.

If the pulp is not blended well, small cracks may appear after drying. These cracks can weaken the sculpture or spoil the smooth finish. That's why it's important to blend all edges, press the pulp firmly, and keep the surface smooth.

Working slowly and carefully ensures your sculpture keeps its shape. Take time to look at your work from all angles and correct any uneven parts while the pulp is still wet. Drying your sculpture completely is very important. If any part of it stays damp inside, it might become weak or grow mold. Keep your sculpture in a well-ventilated place and turn it occasionally so all sides dry evenly. After it's dry, you can refine your sculpture by sanding rough spots or adding more pulp where needed. You can then paint it, decorate it with colours, beads, or other materials to complete your piece. Sculpting with an armature allows artists to create beautiful, lightweight, and strong figures in paper mache. This method opens endless possibilities for making animals, dolls, decorative objects, and artistic sculptures. With patience and practice, artists can achieve highly detailed and lifelike creations using simple materials and careful technique. By understanding these techniques and shapes, you can sculpt almost any form you imagine using paper mache pulp from simple decorations to detailed figures. Every sculpture starts with basic shapes and grows into complex art through careful handling and creativity.

Different Techniques within Sculpting and Hand Building

a. Rolling

Paper mache can be rolled between your palms to form long, even coils. The thickness of these coils depends on how much pressure you apply while rolling. Thick rolls are stronger for structure; thin rolls are delicate for details. Unlike clay, we do not use water to smooth rolls—instead, we rely on careful kneading to make them even. Instead of rolling, the paper mache ball can be flattened gently under the palm to form discs. Pressing can also be used to make shallow textures or base forms for layered work. Always press gently to avoid tearing the pulp.



Fig. 4.53: Rolling of dough

b. Pinching and Moulding

Pinching involves gently pulling or pushing the paper mache between fingers and thumbs. This helps create thin edges, curves, or indentations. In paper mache, pinching should be done carefully to avoid breaking the fibres.



Fig. 4.54: Pinching and moulding of dough

c. Joining and Blending

Paper mache pieces are joined by gently pressing them together while both are still damp. The edges are then blended using fingers or small tools to remove visible joins. Adhesive like Fevicol is often used for stronger joints.

Shapes Created from Basic Techniques

After learning how to handle the paper mache, you can start making various shapes. Here's how basic techniques transform into specific forms:

Coils and Rolls

- **Straight Rolls:**

- Rolled between palms to create even ropes.
- Used for decorating vases, pen stands, or adding raised borders.



Fig. 4.55: Straight roll

- **Twisted Rolls:**

- Place two thin rolls side by side and twist them gently.
- Looks like vines or braids, perfect for ornamenting frames or boxes.



Fig. 4.56: Twisted roll

Flattened Shapes

- **Discs and Plates:**

- Flatten a ball to form round shapes.

- o Useful for flower bases, shield-like decorations, or layering onto flat surfaces for relief work.

- **Textured Panels:**

- o Press textured objects like mesh, combs, or cloth into the flattened pulp to create designs.
- o Ideal for backgrounds in decorative plates or wall hangings.

Cones and Petals

- **Cone Shapes:**

- o Pinch one side of the ball to form a narrow tip while leaving the other end thick.
- o Used for trunks of figures like Ganesha, animal tails, or spikes.

- **Flattened Cones (Petals):**

- o Cone shapes can be flattened and thinned out.
- o Perfect for petals of flowers, leaf forms, or ornamental designs.



Fig. 4.57: Cones and petals

Spheres and Balls

- **Solid Balls:**

- o Rolled tightly for dense shapes.
- o Used as heads, body parts, or decorative knobs.

- **Hollow Balls:**

- o For lightweight items, small balls can be shaped around a temporary core (like foil or a balloon) and removed once dry.
- o Saves material and makes pieces lighter.

Sculptural Details

- **Adding Volume:**
 - Small balls of pulp are added onto larger shapes to create details like facial features, ornaments, buttons, or 3D textures.
- **Curves and Folds:**
 - Gently moulding the pulp into curves using fingers, ideal for drapery, petals, and animal features.
- **Carving Designs:**
 - Details can be carved or etched using wooden knives, sticks, or modelling tools.

Important Tips

- Work in small sections, allowing each part to firm up slightly before adding more details.
- Use adhesive for attaching pieces firmly.

Let pieces dry thoroughly between stages to avoid deformation or cracking.

B. Mold and Cast

The mould and cast technique is used when similar shapes have to be made repeatedly with accuracy and uniformity. In this method, paper mache is placed inside or over a mould and allowed to dry in that shape.

I. Using One Piece Mold

The one-piece mould method is used to create simple, shallow shapes like bowls, plates, and masks. A single mould, made of wood, metal, or plastic, is prepared in the desired form. Paper strips or pulp are layered over it using adhesive, ensuring even coverage and removing air bubbles. Once dry, the piece is carefully removed and then smoothed, painted, and lacquered. This method is quick, easy, and ideal for producing lightweight, decorative, or functional items.

Materials Required

- Paper mache (type 1 is preferred as it is best for Cast-Mold process)
- Single Piece Mold (made of Plaster of Paris/terracotta mold, and custom mold, etc.)
- Chalk powder tied in a thin cotton cloth (for mold release to be used as a separator)
- Brush

- Bowl of water
- Soft cloth or sponge

Procedure

1. Clean the mold or object you wish to cast. Make sure there is no dust, oil, or dirt on the surface.



Fig. 4.58: One-piece mould method

2. Take some chalk powder and tie it inside a thin cotton cloth to make a *potli* (small bundle). Tap or rub this *potli* gently over the mold surface to spread an even layer of chalk powder. This prevents the paper mache from sticking to the mold and acts as a separator.



Fig. 4.59: Chalk powder used in separator



Fig. 4.60: Different moulds

3. Keep paper mache ready and near your work area.
4. Dip each paper strip into the paper mache paste. Make sure both sides of the paper are covered well with the paste.
5. Place the pasted strip onto the mold carefully. Press it down with your fingers or a brush so it sticks properly and there are no air bubbles.
6. Repeat the process, adding strip after strip until the entire mold is covered.
7. For a strong casting, apply several layers of paper mache. Let each layer dry partially before adding the next layer. You can also use paper strips of different colours for different layers to help you remember how many layers you have completed.



Fig. 4.61: Applying multiple layers

8. Check the edges and fine details of the mold. Press the paper firmly around these areas to capture the shape and design.
9. Once all layers are complete, leave the paper mache to dry completely. This might take several hours or a few days, depending on the size of the mold and the thickness of the paper mache layers.
10. When fully dry, gently separate the paper mache cast from the mould. Do this slowly to avoid tearing or damaging your cast.



Fig. 4.62: Removing the mould



Fig. 4.63: Final product displayed as a gift or souvenir

Paper mache casting is a wonderful technique used to make hollow objects such as sculptures, figures, idols, or masks. The main idea is to create a mold that holds the shape of the object you want to reproduce. This mold can be a

ready-made object like a balloon or terracotta figure, or a custom mold created by a sculptor. A good practice for skilled artisans is to learn how to make their molds because it gives them more freedom to create unique designs. If you wish to make your mold, you can start with a terracotta figure. First, clean the figure and apply a thin layer of petroleum jelly or oil so the mold material doesn't stick. Build a box around the figure if needed and pour in mold-making materials like plaster of Paris or silicone rubber. Let it dry completely, then gently remove the original figure.

Now you have a hollow mold ready for casting other materials like clay, wax, or paper mache. Using chalk powder as a release agent is a very practical way to ensure your paper mache comes off the mold smoothly. It acts as a fine barrier between the mold and the paper mache, preventing sticking and making it easy to separate the dried cast. When applying paper mache, layering is very important. More layers mean stronger objects that will last longer and not break easily. Each layer should be carefully placed and smoothed out so that the final surface is even and clean.

Drying the paper mache properly is crucial. If the inside of the layers stays wet, it can cause mold or spoil the shape of the cast. Always check that the cast is fully dry before removing it from the mold. Paper mache casting is loved by many artisans because it allows them to create lightweight yet detailed and strong objects. It's a versatile technique used for making art pieces, masks, decorations, and even practical items. It's also a sustainable craft because it uses waste paper and simple materials. With patience and careful work, beautiful and detailed creations can be made using paper mache casting techniques.

II. Using Two-Piece Molds

The two-piece mould method is used for creating complex and detailed shapes like figurines, dolls, and ornamental items. The mould consists of two interlocking parts that fit together precisely. Paper strips or pulp are layered inside the mould, covering every contour and detail. After drying, the mould parts are carefully separated, and the piece is removed, then joined, smoothed, painted, and lacquered. This method allows artisans to produce intricate, durable, and highly decorative paper mâché items.

Materials Used

- Two Pieces of Mold, generally a front and a back(can be made of plaster of paris/terracotta/Cement)
- All other materials are the same as “Using One Piece Mold.”

You can get custom-made moulds from a local vendor or through online platforms.

You can also experiment with moulds made of silicone, fiberglass, or plastic.

Procedure

The steps for making a sculpture from two pieces of mould are the same as those of a One-piece mould.

Follow steps 1-8 (of the One-piece mould) with both the front and back mould.

Below are the visual references of doing so.

- Two Piece Mold Set



Fig: 4.64: Two Piece Mold Set

- Cleaning the moulds and applying marble/chalk powder as a separator



Fig: 4.65: Cleaning the mould

- Make a *loi* and flatten it like a roti/thin slab, big enough to fit the mould. Keep the slab thick enough so that it does not break while we push it inside the mold for impression.



Fig: 4.66: Flatten the moulds

- Place the paper mache slab on both moulds separately and press them using thumbs and fingers. Use enough pressure on all parts of the mould, so that no area is left to be embossed.



Fig: 4.67: Thumb-pressed embossing on the mould surface

- Remove any extra paper mache on the outer edges of the mold and cut the extra paper mache with the help of a knife.



Fig: 4.68: Removing the extra paper mache from the edges

- Now, make a coil and paste it on the corners/borders of the slab we pressed in the mold. Make sure this coil does not touch the flat edges of the mold.



Fig: 4.69: Adding a coil around the edges

- After the coil is attached, take both molds (front and back) and join them by applying pressure.



Fig: 4.70: Joining the moulds

- Now, from the hollow/open side of the mold, use your fingers or a long sculpting tool to merge coils on both the molds into one seamless part.



Fig: 4.71: Merging the coils from both moulds

- Make another small slab and place it at the bottom of the casted work. This will pack your piece from the bottom. Use fingers or tools to fix this slab in place by merging the edges. Using a sharp tool, make a small

hole through the center of this slab. This part is important as it allows the air to circulate while the piece dries.



Fig: 4.72: Adding a small bottom slab and making an air hole

- After 4-5 hours remove we can remove the moulds. First remove the front side by moving the mould little by little. Let the mould dry for another hour.



Fig: 4.73: Removing the mould

- Take the second mould out after it dries gradually, and keep it indoors, and let it dry naturally for a day.



Fig: 4.74: Removing the second mould and letting the piece dry indoors

- Color the piece as per your wishes. And your two-piece mold paper mache product is ready.



Fig: 4.75: Colouring the piece to complete the paper mache product

Tip - During the monsoon and winter seasons, it may take up to 8-9 hours for artworks to dry and be removed from their moulds.

Tip - If you want to produce quantity products quickly, consider adding some potters' red/black clay to your prepared Type 1 Paper Mache.

Activities

Activity 1: Use a plastic bowl or mask mould to create a clean shape using Type 3 pulp with adhesive.

Material Required:

- Plastic bowl or mask form
- Prepared Type 3 pulp (paper + adhesive)
- Butter paper or oil
- Spoon
- Cloth for extra moisture removal

Procedure:

1. Oil the surface of the mould to prevent sticking.
2. Press the pulp evenly into the mould. Cover a thin but firm base layer.
3. Let it semi-dry for 12 hours, then remove gently from the mould.
4. Refine and leave for final drying.

Check Your Progress**A. Fill in the blanks**

1. The hollow wire or wooden structure used for shaping is called an _____.
2. The technique of rolling the pulp into ropes to make shapes is called _____ method.
3. Flattened clay-like pulp shapes are used for making _____.
4. Thin layers of pulp applied over a mould is also known as _____ technique.
5. Oil or plastic sheet is used to prevent pulp from _____ to the mould.

B. Short Answer Questions

1. What is the potli method in paper mache shaping?
2. Give two benefits of using a mould for shaping paper mache.
3. Mention two products that can be made using flattened pulp shapes.

C. Long Answer Questions

1. Compare coil and mould-based shaping techniques. Mention their applications, tools used, and ease of execution.
2. Describe the process of shaping a mask using a plastic mold and Type 3 pulp.

Session 3: Post-Process and Finishing of Paper Mache Products

In this session, we will discuss the last step in the production of a paper Mache product. Post-processing and finishing are the steps that define how the final product looks when it is ready to be hung on your wall or to be sold in the market.

Here we make sure that our product is ready, clean, and presentable. It involves drying, fixing cracks, smoothening the surface, painting, decorating, and finally protecting the product with a waterproof layer. Let's understand this process step by step.

Inspection and Finishing

Drying the Paper Mache Product

After the paper mache product or sculpture is completed, it must be left to dry naturally. This means keeping it in a well-ventilated place. It should be kept away from direct sunlight when the weather is too hot, and away from too much moisture if the air is very damp.

Natural drying is important because using artificial heat, like a hair dryer or heater, might make the paper mache crack or lose its shape. Depending on the thickness of the product, drying might take a day or even several days.

Another way of drying your paper mache products is to use a kiln. A kiln is an electric, oven-like machine. This machine allows you to regulate the temperature at your will, which helps you work in all weather conditions.

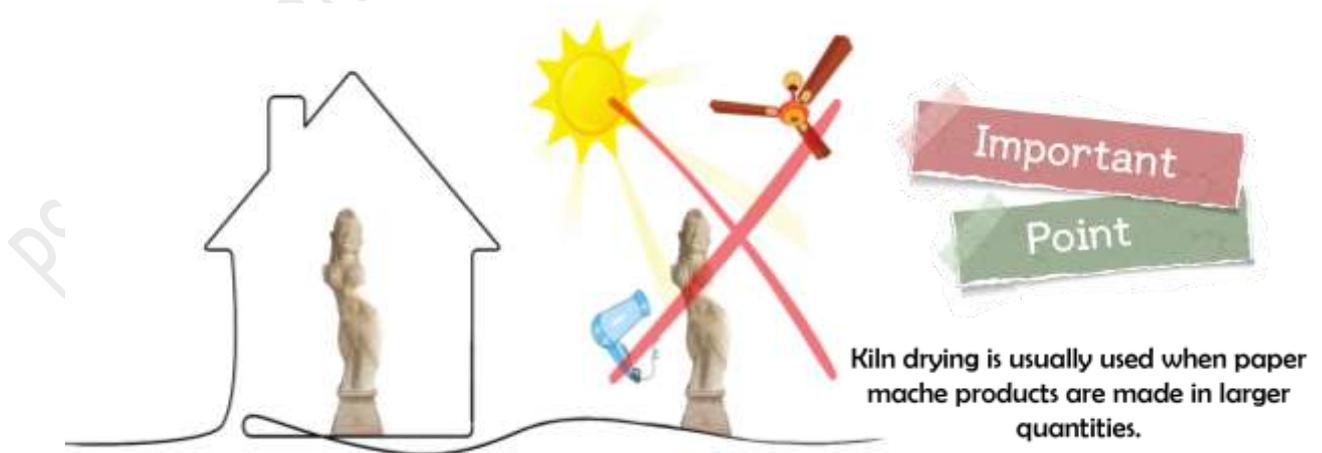


Fig. 4.76: Drying of paper mache product

Checking for Cracks or Rough Parts

Once the product is dry, check it carefully for cracks, holes, or rough areas. Cracks often happen because paper mache shrinks a little while drying. Also, sometimes there might be extra bits of paper sticking out or rough tool marks left behind. These need to be fixed to make the product look neat and professional.

Tools for Smoothing and Shaping

Several tools can help smooth the surface:

- **Sandpaper** - Sandpaper is generally used to gently rub the surface and make it smooth. It is perfect for removing small lumps, fingerprints, or unwanted brush strokes.



Fig. 4.77: Use of sand paper

- **Filer (Reti)** – Filer is useful for shaping and scraping off any big lumps or edges that should not be there.
- If your artwork is wet, you may use the knife for the cutting and removing the edges instead of filer.



Fig. 4.78: Use of filer

- **A knife** can also help to carefully cut away extra pieces or sharp edges.



Fig. 4.79: Use of knife

When you rub the surface with sandpaper, always do it gently and in a circular motion so that you don't damage the shape underneath.

Filling Cracks and Holes

If there are cracks, gaps, holes, or parts that are unfinished or broken, they must be filled. To do this, the same paper mache paste used for making the product is prepared again, but this time it is made thinner, like a creamy paste.

Here's how you prepare this filling paste:

- Take some paper mache (whichever type you used to make the product) in a bowl.
- Add water slowly, mixing it either by hand or using a small tool called a madder, until it reaches a smooth, cream-like consistency.
- Make sure there are no lumps in this paste.

This creamy paste is then used to fill cracks, cover broken edges, or smooth over any rough areas. Use your fingers, a small spatula, or a modeling tool to gently push the paste into the cracks.

However, after filling, this new paste sometimes creates a slightly raised layer on the surface. To remove this, wait for it to dry a little, then sand it again

using fine sandpaper until the surface becomes smooth and even with the rest of the piece.

For two piece mold

Colouring

Applying a Base Coat

Once the product is smooth and free of cracks, it is ready for painting. But before applying the final colors, a base coat is usually applied. This base coat serves two purposes:

1. It stops the paper mache from soaking up too much paint, which helps save paint and money.
2. It makes the surface look brighter and helps the final colors appear more vibrant.

The most common base coats are:

- **Gesso:** A white primer used by artists that makes surfaces smooth and ready for painting.
- **White plastic paint:** A cheaper alternative that works well and is widely available.

Either of these can be applied using a flat paintbrush. Make sure the layer is thin and even. Let it dry completely before moving on to coloring.



To prepare this base coat you have to prepare the color by adding equal amounts of Gesso/White Plastic Paint and water.

Fig. 4.80: Important point

Applying Colors

Painting is the most creative and joyful part of finishing a paper mache product. You can use different types of paints depending on the look you want. Let's explore some common options:

- **Acrylic Paints:** These are very popular because they dry fast, give bright colors, and stay durable over time. You can mix colors and apply them as desired.



Fig. 4.81: Decorating Paper Mache Using Acrylic Colours

- **Enamel Paints:** These paints give a shiny finish and are excellent for a beautiful layered look. For example, you can start with a black enamel base coat. Then, using a sponge, dab dark green paint over the black surface. Next, gradually mix yellow into the green, applying it layer by layer with a sponge until you reach the shade you want. This technique creates depth and a lovely color effect.



Fig. 4.82: Decorating Paper Mache Using Enamel Colours

- **Metal Dust or Metallic Paints:** For a metallic look, start with a base coat of black enamel paint. While it's still slightly wet, mix metal dust with varnish and turpentine (also called turpentine oil). Apply this mixture using a flat paintbrush. This creates a beautiful metallic shine on the product, perfect for decorative pieces.



Fig. 4.83: Decorating Paper Mache Using Metallic Colours

- **Natural Colors:** If you want to keep your work fully sustainable and eco-friendly, natural colors can be used.

These include:

- *Katha* (for brown shades)
- *Geru* (for red shades)
- *Ocher yellow* (from pili mitti)
- *Haldi* (turmeric) for yellow
- *Chuna* (lime) for white
- *Pewdi stone* mixed with *katha* for a bright lemon color

These are just some examples of natural pigments; you can also find and use various pigments in your daily surroundings.



Fig. 4.84: Natural pigments

Natural colors may be used to give the product an earthy look and are excellent for artistic expressions. However, they might fade faster than synthetic colors over time.

- **Water or Poster Colors:** These are simple and affordable, especially for smaller projects or items meant for indoor display.

Decorating with Motifs and Patterns

Many artisans decorate paper mache products with traditional Indian motifs and patterns. Some famous art styles include:

Nakkashi: Kashmir has played a profound role in the evolution and mastery of Nakkashi (also known as Naqashi), a sophisticated artistic tradition most famously seen in Kashmiri paper mache craft. This art is distinctive not only for its regional motifs, vibrant colors, and detailed craftsmanship but also for the specialized tools, techniques, and materials that artisans use.



Fig. 4.85: Nakkashi

Unique Tools and Materials Used in Kashmir

- **Natural Binders:** Artisans often prepare their own binders, using raw materials such as *imli seed (tamarind seed) powder*, Wheat flour, and rice flour, which are known for their adhesive qualities. While tamarind seed powder is widely recognized as a natural binder in various traditional crafts and industries, its specific use is noted among Kashmiri artisans for achieving the desired consistency and durability in paints and finishes.
- **Saresh:** In the paper mache process, a special surface coating is often applied to smooth and seal the object before the final painting stage. This coating is used after the form has been shaped and dried, and it helps in removing roughness, filling small gaps, and creating an even surface. It is different from the adhesive used in the initial preparation of paper pulp. The surface is usually coated in light layers, sometimes mixed with fine powder, and then gently smoothed to make it ready for decoration and finishing.

- **Pigments:** Traditional colors for Nakkashi are derived from natural minerals, plants, and sometimes even imported pigments, giving each product unique vibrancy and authenticity.
- **Brushes from Wild Cat Hair:** For the extremely fine and precise painting required in Nakkashi, artisans traditionally used brushes made from wild cat hair or single cat hair due to their non-sticky property and ability to hold and release paint smoothly, allowing for intricate detailing. Artisans often make these brushes themselves, tailoring them for the patterns or products they are crafting
- **Warli Art:** Simple human figures and nature scenes, from the Maharashtra region.



Fig. 4.86: Warli art of paper mache

- **Chitera Art:** Traditional motifs are mainly found in Madhya Pradesh.



Fig. 4.87: Chitera Art of paper mache

- **Gond Art:** Bold, colorful designs with animal and nature themes, from the Madhya Pradesh region.



Fig. 4.88: Gond Art of paper mache

- **Bhil Art:** Tribal patterns, dots, and vibrant colors, from the Madhya Pradesh region.
- **Madhubani Art:** Fine patterns and bright colors mainly from the Bihar region.
- **Pattachitra Art:** Storytelling paintings from Odisha and the West Bengal region.
- **Phad Art:** Traditional story paintings mainly from Rajasthan.
- **Lippan Art:** Decorative patterns using coils and mirrors, from the Gujarat and Rajasthan regions.



Fig. 4.89: Lippan Art of paper mache

Cone Piping- Cone work is another decorative method where the paste is shaped into thin coils using a cone or piping tool. These coils can be placed on a flat surface in beautiful patterns, borders, or designs. Small mirrors, stones, beads, and sequins are sometimes added to make the design sparkle. Add creative decorations to enhance your products. Decorate the products in creative and unique ways.

Waterproofing and Strengthening

To protect the finished paper mache product from moisture and damage, waterproofing is important. There are two main ways to do this:

- **Natural Waterproofing:** A Paste of water-soaked *methi dana* is used for waterproofing in some regions. Soak *methi dana* (fenugreek seeds) in water, grind them into a smooth paste, and apply this as a coat over the finished product. This is a sustainable and eco-friendly method also used. However, it may not protect the product completely if exposed to direct rain or heavy water contact. It's more suitable for items kept indoors where they only face occasional moisture.
- **Synthetic Waterproofing:** For products that will be kept outside or exposed to moisture, a coat of plastic paint followed by varnish is recommended. Varnish creates a hard, shiny protective layer that shields the product from fungus, water, and general wear and tear.

Proper finishing, including good waterproofing, can make paper mache products last a very long time. Depending on how well they're made and maintained, these items can remain beautiful and strong for anywhere between 10 years and 100 years.

Finishing is the step that truly brings a paper mache creation to life. It transforms a simple pulp structure into a vibrant, attractive, and lasting piece of art. Whether you keep it traditional or experiment with new colors and designs, the joy of finishing paper mache lies in seeing your creation shining in its final form.

Activities

Activity 1: Surface Finishing with Sandpaper and Primer. Smooth the surface of a dried paper mache object and apply a primer coat.

Material Required:

- Dried paper mache shape
- Sandpaper (100-150 grit)
- White paint or emulsion
- Paintbrush
- Mask and gloves

Procedure:

1. Gently sand the surface to remove bumps or patchy areas.
2. Wipe off dust with a dry cloth.
3. Apply one coat of white paint (primer) evenly.

4. Allow to dry completely before decoration.

Activity 2: Decorate your finished paper mache model with colors and protect it with varnish.

Material Required:

- Acrylic paints or poster colors
- Fine brushes
- Water bottle
- Varnish or transparent nail polish
- Palette

Procedure:

1. Paint the object creatively, using neat strokes.
2. Add detailing like dots, borders, or patterns.
3. Let dry fully, then apply a thin coat of varnish.
4. Display once dry and polish is set.

Check Your Progress

A. Fill in the Blanks:

1. The process of improving the appearance of the final product is called _____.
2. _____ is used to smooth the surface after drying.
3. Acrylic or poster paints are commonly used for _____ the objects.
4. After coloring, _____ is applied to protect the surface.
5. Items should be dried in a _____ area away from moisture.

B. Short Answer Questions

1. Why is primer (white base) paint applied before coloring?
2. What is the purpose of applying varnish after painting?
3. Name two finishing tools or materials used in post-production.

C. Long Answer Questions

1. Discuss the complete post-production process for a paper mache showpiece from drying to final decoration.
2. What are common problems during post-production in paper mache work, and how can they be avoided?

Module 5**DESIGN AND DEVELOPMENT OF
DIFFERENT PAPER MACHE
PRODUCTS****Module Overview**

In the previous unit, we explored the pre-production, production, and post-production processes of paper mache products. These sessions helped us understand the complete workflow of paper mache craft, from preparing raw materials and planning designs to shaping, finishing, and storing the final products. The knowledge gained in the earlier unit forms a strong foundation for practical application.

In this unit, learners will design and develop different paper mache products by applying the concepts and skills learned earlier through hands-on practical experience. The focus of this unit is on transforming ideas into finished products while using proper techniques, planning, and finishing methods learned during the pre-production, production, and post-production stages.

The design and development process in this unit is organized into two main categories. The first category is Sculpting, which includes product making with armature and without armature. The second category is Mould and Cast, which includes product making using one-piece mould and using two-piece mould. These categories help learners understand different ways of shaping and forming paper mache products based on design requirements.

Overall, this unit encourages learners to apply their previously gained knowledge and skills in a structured manner to create functional and decorative paper mache products, strengthening both creativity and practical understanding of the craft.

Learning Outcomes

After completing this module, you will be able to:

- Product making using sculpting technique
- Product making using mold and cast technique

Module Structure

Session: 1 Product Making using Sculpting Technique

Session: 2 Product Making using Mold and Cast Technique

Session 1: Product Making using Sculpting Technique

This session focuses on product development through sculpting, where forms are created directly using paper mache material. The sculpting process is divided into two main approaches: without armature, where products are shaped freely using paper mache, and with armature, where a supporting structure is used to provide strength, balance, and form to the product. Through these approaches, learners will explore different sculpting techniques, understanding how shapes, proportions, and surface details are developed.

By practicing direct sculpting techniques in this session, learners will apply their earlier knowledge of material preparation, shaping, drying, and finishing. This session helps in developing creative thinking, structural understanding, and practical skills, enabling learners to design and create paper mache products with confidence and precision.

Sculpting (Without Armature)

1. Nariyal Ganesh Idol

The Nariyal Ganesh Idol is a unique handcrafted piece made by combining natural coconut shell with traditional paper mâché artistry. The coconut forms the symbolic base of Lord Ganesha, while the paper mâché detailing adds fine textures, colours, and sacred motifs. This eco-friendly idol reflects purity, craftsmanship, and cultural devotion, making it perfect for décor, gifting, and festive worship.

Materials Required

- One dried coconut
- Adhesive/Glue/Binder
- Paper Mache (Type 1 mixture)
- Wooden knife or butter knife
- Clay modelling tools (optional)
- Small bowl of water
- Soft brush
- Mixing bowl
- Decorative materials (beads, stones, etc.)
- Acrylic/oil/enamel paints and paint brushes

Procedure

1. Start by cleaning the coconut well. Remove all the loose coir, which is the hairy outer layer on the surface of the coconut. This will help make the surface smoother and easier to sculpt on.



Fig. 5.1: Cleaning of coconut

2. Once cleaned, prepare a thin paste by mixing some adhesive (glue) with water in a small bowl. Use a brush to apply this mixture all over the surface of the coconut. This helps press down any remaining fine hair so they don't interfere with the sculpting process. Let the coconut dry for 10 to 15 minutes.



Fig. 5.2: Applying the thin paste of glue

3. Before applying the paper mache, always remember to brush a thin layer of adhesive on the area where you will place the paste. This will help the paper mache stick properly to the coconut.
4. To start sculpting, begin with the stomach of Ganesha. Take a large amount of paper mache and roll it into a ball. The size should look balanced in proportion to the coconut. Gently flatten one side of the ball and press that side onto the lower front part of the coconut. This becomes the belly of Ganesha.



Fig. 5.3: Start sculpting

5. Next, make the legs. Take another smaller ball of paper mache and shape it so that one end is slightly broader and the other end is narrower. This shape gives it a natural leg-like look. Place it next to the stomach on one side. Repeat the same process to make the other leg and place it on the other side. Once both legs are attached, use your fingers to smooth and shape them so they blend nicely with the body.
6. Now make a small ball and stick it above the stomach to form the base of the trunk. Shape it gently to suggest the beginning curve of the trunk.



Fig. 5.4: Process of sculpting

7. Then, make two small equal-sized balls for the feet. Stick them below the legs, and use your fingers or a wooden tool to mark small lines on them to show the toes. Let this basic structure dry for about an hour so it becomes strong enough to hold more details.



Fig. 5.5: Shaping and Attaching the Feet with Toe Details

8. To make the trunk, take a bigger piece of paper mache and roll it out. Shape it so that it is thick at the top and becomes thinner towards the end. Attach it to the center of the face, right above the base you created earlier. Gently bend it to either the left or right, depending on how you want Ganesha's trunk to look.
9. Now make the ears. Roll two medium-sized equal balls of paper mache and flatten them slightly. Place one on each side of the trunk.



Fig. 5.6: Creating and Attaching the Ears

10. For the teeth, make two very small balls and shape them into tiny cone-like pieces. Fix them under the trunk on both sides to create the tusks.
11. To create the crown, roll two small balls and shape them into dome-like or petal-like forms. Gently stack and place them on top of the head to form a layered crown. You can use a wooden knife or any clay tool to carve simple designs or patterns into the crown and ears.



Fig. 5.7: Forming and Detailing the Crown and Ears

12. Once the entire figure is complete, let it dry for at least one hour. This will make sure all parts are firmly set and ready for decoration.
13. When dry, use acrylic paints to color your idol. Choose any theme or color scheme you like. You can also add beads, sequins, stones, or other decorative items to the crown, ears, and belly to make it more festive and detailed.



Fig. 5.8: Painting and Final Decoration of the Idol

This activity is a fun way to learn about eco-friendly craft. Using a coconut as the base is creative and meaningful, and since it's natural and biodegradable, it produces very little waste. The finished idol is small and lightweight, which makes it perfect for school displays, workshops, or eco-conscious celebrations.

2. Jewellery – Necklace Making

Paper mâché jewellery is a beautiful blend of traditional craftsmanship and modern design. Each piece is handcrafted from lightweight pulp, shaped into beads or pendants, and decorated with detailed painting and lacquer work. Eco-friendly and comfortable to wear, these accessories stand out for their vibrant colours and artistic patterns. They offer a unique way to express style while celebrating handmade creativity.

Materials Required

- Paper mache (type 2 prepared earlier)
- Stainers (powder or liquid color pigments) for coloring the dough
- A large mixing bowl or container

- Water (a small amount if needed to adjust dough softness)
- Rolling surface (a smooth table or board)
- Nail/thick needle/Sharp pencil (for making holes)
- Nylon thread/plastic jewellery wire (for stringing beads)
- Small hooks and clasps (available at hobby or craft stores)
- Scissors
- A damp cloth (for wiping hands or surface while working)
- Varnish (optional, for extra shine and protection)

Procedure

1. Prepare Colored Paper mache dough

- Start by taking some ready-to-use paper mache dough in a bowl. Add a small amount of stain or color pigment to the dough.



Fig. 5.9: Adding Colour to the Paper Mache Dough

- Begin with just a little color and knead it well, like you would knead regular dough. Keep mixing until the color spreads evenly throughout.



Fig. 5.10: Mixing Colour into the Paper Mache

- o If the color looks too light, add a bit more and knead again.

This step is optional but if you color the dough now, you won't need to paint the beads later, and the natural paper texture will still show, giving your jewelry a beautiful, handmade look.

2. Check Dough Consistency

- o Before making beads, make sure the dough is just right. It should be soft and easy to shape, but firm enough to hold its form. If it feels dry or crumbly, sprinkle a little water and knead again. The dough should not feel wet, sticky, or too loose.

3. Forming Round Beads

- o Take a small piece of the dough and roll it gently between your palms to make a smooth ball. Make several beads in different sizes larger ones for the center of your necklace and smaller ones for the sides. This will help the necklace look balanced and neat.



Fig. 5.11: Making paper mache beads for the necklace

- o If any bead has cracks, lightly wet your fingers and smooth the surface before setting it aside.



Fig. 5.12: Smoothing of beads

4. Making Long Beads

- Besides making round beads, you can also make long, tube-shaped beads. Take a small amount of dough – about the size of a marble. Wrap it around a thin pencil – this will help shape the hole in the center.
- Gently roll it on a flat surface – use light pressure and roll it back and forth with your hand. This will shape the dough into a smooth, long cylinder.



Fig. 5.13: Making paper mache long beads for the necklace

- Slide it off the pencil carefully, and set it aside to dry. You can use these long beads between round ones to make cool patterns. Try out different shapes and sizes to create your unique designs

5. Piercing Holes in Beads

- Before the beads dry, you must make holes in them so they can be strung later.
- Use a nail/thick needle/tip of a sharp pencil to poke a hole through the center of each bead.
- Make sure the hole is slightly bigger than needed, because it will shrink a little as the bead dries.

If the holes are too small, the beads may close up completely after drying.



Fig. 5.14: Piercing holes in beads

6. Drying the Beads

- o Place all beads on a flat surface and let them dry completely. Drying time depends on the size of the beads and the weather. Small beads may dry in a day, while larger ones can take two to three days.
- o Turn the beads occasionally while drying so they dry evenly on all sides.

7. Sanding if Needed

- o Once dry, check each bead. If any bead has rough patches or cracks, gently sand it with fine sandpaper to smooth it out. Be careful not to break the bead.

8. Stringing the Beads

- o Take a nylon thread or plastic jewellery wire and begin stringing the beads. Start with the smaller beads on one end, gradually adding larger beads toward the center, then tapering back to smaller beads on the other side.

If you've made long beads, place them between round beads to create beautiful patterns and designs. Arrange them however desired this is where creativity can be shown.



Fig. 5.15: Stringing the Beads

1. Finishing the Necklace

- o Once all beads are strung, tie knots securely at both ends of the necklace.
- o Attach hooks and clasps for a proper fastening mechanism. These are available in any hobby or craft shop.
- o Alternatively, make the necklace long enough to slip over the head so no clasp is needed.

2. Varnish Coating

- o If you'd like extra shine and protection, apply a thin coat of varnish over the beads once the necklace is assembled. Let it dry completely before wearing. Color and design it according to your choice.



Fig. 5.16: Final products

3. Decorative Ball

Decorative paper mâché balls are charming handcrafted pieces known for their vibrant colours and intricate designs. Each ball is shaped from lightweight pulp, hand-painted with traditional motifs, and finished with a glossy lacquer shine. They are perfect for festive décor, home styling, or gifting, adding a touch of artful elegance to any space. These pieces beautifully showcase the creativity and skill of paper mâché artisans.

Materials Required

- Waste newspaper/rough paper (for crumpling into a ball)
- Masking tape/paper tape
- Thin wire (for hanging)
- Paper Mache (Type 2: approx. 70% paper pulp, 30% *Multani mitti*)
- Tissue paper
- Thin synthetic adhesive/any craft glue
- Small bowl for glue mixture
- Scissors
- Plier (for shaping and cutting wire)
- Damp cloth (for cleaning hands)
- Sandpaper (fine-grit, optional for finishing)
- Paints and varnish (optional for decoration)

Procedure

1. Forming a Base for the ball

- Take a sheet of waste newspaper and begin crumpling it firmly into a ball shape with your hands.
- Keep adding more paper around it, crumpling layer upon layer until the ball reaches the desired size. Press tightly so it stays compact and doesn't loosen.

2. Wrap the base with Tape

- Once a firm ball shape is achieved, cover it completely with masking tape/paper tape.
- The tape keeps the paper base secure and stops it from unrolling. It also creates a smoother base for the next steps.

3. Attach Hanging Wire

- Cut a piece of thin wire long enough to create a hanging loop. Around 15-20 cm is usually enough.
- Twist the wire into a small loop at one end. Leave the rest straight.
- Place the straight end of the wire firmly against the paper ball, pressing it into the surface.
- Secure the wire to the ball by wrapping more masking tape around the ball and over the wire. Wrap several times to ensure the wire stays fixed in place. The wire should now stick out from the ball, ready to use as a hanger.



Fig. 5.17: Raw structure of paper mache ball

4. Apply Tissue Paper Layer

- Mix a little adhesive with water in a bowl to make it slightly runny, like the consistency of milk.
- Tear pieces of tissue paper into manageable sizes.
- Brush a little bit of the diluted glue mixture onto the surface of the taped ball.
- Stick tissue paper pieces onto the glued surface. Smooth them down with your fingers or a soft brush so there are no air bubbles or wrinkles.
- Keep covering the ball until it is completely wrapped in tissue paper.
- Let it dry for about 30 minutes to 1 hour until it feels dry to the touch.

5. Prepare Type 2 Paper Mache

- Take the prepared paper pulp and measure out about 70% of the total amount to be used.
- Measure around 30% *Multani mitti*. For example, if using 100 grams of dough in total, use about 70 grams of paper pulp and 30 grams of *Multani mitti*.
- Mix them thoroughly in a bowl until a soft, smooth, lump-free dough is achieved. The dough should be loose enough to spread but firm enough to hold shape.

6. Apply Paper Pulp dough on the Ball base

- Take small portions of the paper mache and gently press them onto the surface of the tissue-covered ball.
- Use the thumbs and fingers to smooth the dough over the ball evenly.

- o Blend each new bit of dough into the previous layer so no lines or gaps remain. Keep working around the ball until it is completely covered in a thin, even layer of dough.
- o Ensure the wire loop remains free of dough to hang the ball later.

7. Refine the Surface

- o Check the surface for cracks, lumps, or uneven spots.
- o Smooth any rough patches using a lightly wet thumb or brush.
- o Keep working the surface gently to ensure an even finish.

8. Dry the Ball

- o Once the ball is fully covered, hang it from the wire loop or place it on a stand to dry.
- o Allow it to dry completely. This can take one to two days, depending on the weather and the thickness of the layer. Rotate it occasionally while drying so it dries evenly on all sides.

9. Smooth and Finish (Optional)

- o When fully dry, lightly sand the ball with fine-grit sandpaper for an extra-smooth finish.
- o Wipe off any dust with a clean, dry cloth.

10. Decorate the Ball (Optional)

- o Leave the ball natural to show the texture of the paper mache, or paint it in bright colors.
- o Add patterns, glitter, or decorative details as desired. For added protection and shine, finish with a coat of clear varnish once the paint is dry.



Fig. 5.18: Final decorated ball

4. Box with a Wooden Base

A box with a wooden base and paper mâché detailing combines strength with artistic elegance. The sturdy wooden structure provides durability, while the paper mâché layer is hand-painted with intricate motifs and finished with a smooth lacquer shine. This blend of materials creates a beautiful yet functional storage piece. Ideal for jewellery, keepsakes, or gifting, it showcases the finesse of traditional craftsmanship.

Materials Required

- Prepared paper pulp dough (as discussed earlier)
- Wooden box with lid (preferably plain, untreated wood)
- *Gond*/Glue (as adhesive)
- Water (in a small bowl, only for wetting hands if needed)
- Sandpaper (medium and fine)
- Craft knife/blade
- Flat spatula/old butter knife
- Paintbrush
- Cotton cloth/sponge
- Black enamel/lacquer paint (for base coat)
- Poster/acrylic paints (for design work)
- Varnish/lacquer (for final coating)

Procedure

- **Step 1 Choose and Prepare the Box:** Start by picking a plain wooden box that opens and closes properly. Check if the lid and hinges work smoothly without getting stuck. Wipe the box with a dry cloth to remove dust or oil. If the wood looks shiny or has a polished surface, gently rub it with medium sandpaper. This will help the dough stick better when you apply it.
- **Step 2 Decide What Parts to Cover:** Next, decide if you want to decorate only the outside of the box or both the outside and the inside. Usually, only the outer surface is covered with paper mache. You can also choose to leave the bottom plain. Make sure not to apply any dough where the lid touches the base or along the hinges this will help the box open and close properly later.
- **Step 3 Mark the Edges and Hinges:** Use a pencil to mark a small margin about 2–3 mm around the edges where the lid connects to the base. These areas should stay clear of dough. Also, mark the hinge area and the inside edge of the lid. You can use masking tape to cover these

no-dough zones for accuracy. Peel off the tape after you've shaped the dough.

- **Step 4 Apply Adhesive to the Box:** Using a paintbrush, apply a thin, even layer of glue (gond) to the part of the box you're working on. Do one side at a time and make sure not to get glue on the marked margins. Let the glue sit for a few minutes until it becomes slightly sticky this will help the dough stick better.
- **Step 5 Press the Dough On to the Surface:** Take small amounts of paper mache dough and gently press them onto the glued surface. Start from the center of the panel and move outward to avoid trapping air. Use your hand or a spatula to press the dough evenly. Keep the layer about 2 to 3 mm thick not too thick, or it may crack while drying.
- **Step 6 Smooth the Surface and Join the Edges:** While applying the dough, make sure the edges where the two surfaces meet are blended smoothly. Keep your fingers slightly wet to avoid sticking, but don't use too much water. Smooth out lines or fingerprints with your thumb or a damp brush, especially near corners and hinges.
- **Step 7 Let One Side Dry Before Flipping:** Before turning the box to work on the next side, let the part you just finished dry for a while so it doesn't get ruined. Place the box on a soft cloth while drying to prevent dents. Let it dry in a cool, shaded place avoid direct sunlight.
- **Step 8 Check the Lid and Clean the Edges:** When the dough is partially dry (not sticky but still soft), gently open and close the box to make sure it works smoothly. If any dough has spread into the hinge area or edge gaps, trim it using a craft knife. It's easier to fix this before the dough becomes fully hard.
- **Step 9 Let the Dough Dry Fully:** After covering the entire box with dough, let it dry completely. This could take 2 to 4 days, depending on the weather. Keep the lid open while drying so it doesn't stick shut. You can use a rolled-up cloth or paper to keep the lid slightly open and allow air inside.
- **Step 10 Smooth and Repair:** Once the box is dry, check the surface. Use fine sandpaper to smooth out any rough spots or cracks. If you find tiny gaps, fill them with a little extra dough or pulp and let that dry. Then sand again if needed. Wipe off the dust with a clean cloth.
- **Step 11 Paint the Base Color:** Now it's time to paint. Use a soft brush to apply a thin coat of black enamel or lacquer paint all over the outside of the box. Let it dry fully before adding a second coat. This black base will make your design stand out nicely.
- **Step 12 Paint the Decorative Design:** Once the base coat is dry, start painting your design. Use fine brushes and bright colors to create traditional patterns like flowers, paisleys, birds, or vines. Colors like gold, red, green, and white are commonly used. You can follow a reference or draw your own patterns. Paint slowly and neatly, especially around corners and details.

- **Step 13 Varnish and Final Touches:** After your painting is completely dry, apply a thin layer of clear varnish to protect the design and give the box a glossy finish. Let the varnish dry fully before using or gifting the box. Your handmade paper mache wooden box is now ready!



Fig. 5.19: Variety of Wooden Boxes

5. Door/Dresser/Window Knob

Paper mâché knobs for doors, dressers, and windows are charming decorative accents that combine functionality with artistry. Each knob is handcrafted, shaped, and hand-painted with intricate motifs, then finished with a smooth, glossy coat. Lightweight yet durable, they add a unique, colourful touch to furniture, reflecting the skill and creativity of traditional artisans.

Materials Required

- Paper Mache (prepared with Type 2, i.e., paper pulp + *Multani mitti*)
- A small piece of newspaper or waste paper
- Masking tape/paper tape
- Adhesive/*gond* for binding
- Nail/thick wooden skewer (for creating a hole)
- Sandpaper (medium and fine)
- Flat surface for drying
- Paints (poster or acrylic)
- Brushes
- Varnish for finishing
- Small screw or bolt (optional, for attaching knob)



Fig. 5.20: Door knob

Procedure

- **Step 1 Make the Base Shape:** Start by tearing a small piece of waste paper and crumpling it tightly into a round ball. This will form the inside core of your knob. For a regular knob, aim for a ball about 2.5 to 3 cm wide. Squeeze it firmly so it holds its shape.
- **Step 2 Wrap and Secure the Ball:** Next, wrap the paper ball with masking tape or paper tape. This helps hold the shape together and makes it easier to apply the dough later. Press the tape tightly so there are no air gaps or loose spots.
- **Step 3 Make a Hole for the Screw or Peg:** Before adding the dough, take a nail, a thick needle, or a wooden skewer and gently push it halfway into the center of the taped ball. Move it around a little to widen the hole — this is important because you'll need this hole later to attach the knob to the furniture. Take the tool out after making the hole, but keep it close — you'll use it again later to keep the hole open.
- **Step 4 Cover the Ball with Paper Pulp Dough:** Now, take a small amount of paper pulp dough and gently press it over the taped ball. Cover the whole ball evenly with a layer that's about 2–3 mm thick. Use your fingers to smooth the surface and shape it nicely. Be careful not to cover up the hole — you can re-insert the nail now and then to keep the opening clear.
- **Step 5 Shape the Knob:** While you're applying the dough, you can also decide the final shape of your knob. It doesn't have to be perfectly round — you can make it slightly oval, flat on top, or shaped like a dome. You can also flatten one side (this will be the back side that touches the drawer or door). If you want, pinch or shape the dough to make simple decorations like waves, petals, or small ridges.
- **Step 6 Smooth the Surface:** Use your fingertip (slightly wet) or a smooth tool to even out the surface. Try to remove any cracks or

fingerprints. Keep checking that the hole stays open by gently pushing the nail back in as needed.

- **Step 7 Let It Dry Completely:** Place the knob on a flat surface with the flat side facing down. Let it dry in a cool, airy place for 1 to 2 days. If the weather is humid, it might take a bit longer. Check the hole now and then, and re-insert the nail to keep it from closing up.
- **Step 8 Sand and Fix Any Bumps:** Once the knob is fully dry and hard, gently sand it using medium and then fine sandpaper until it feels smooth all over. If you find small cracks or holes, fill them with a bit of leftover dough, let it dry, and sand again.
- **Step 9 Paint the Knob:** Before painting, apply a thin base coat of white paint or gesso to seal the surface. Let it dry fully. Then paint the knob using the colors and designs you like. Use fine brushes for neat patterns or details.
- **Step 10 Apply Varnish for Protection:** When the paint is completely dry, apply a clear varnish over the knob. This adds shine and protects it from moisture and damage. Let the varnish dry completely.
- **Step 11 Attach the Knob to Furniture:** To use your knob, you can either screw a small bolt into the hole at the back or glue a strong wooden peg into the hole, depending on how you want to attach it. Now your handmade paper mache knob is ready to be used on a drawer, cupboard, or any furniture piece!

Creative Design Ideas

Here's where one can get artistic! Try these styles for the paper mache knobs:

- **Floral Knob:** Shape petals on the surface of the knob using the dough. Paint them in bright colors like red, yellow, or pink, with golden outlines.
- **Geometric Patterns:** Keep the knob perfectly round and paint it with stripes, chevrons, or triangles for a modern look.
- **Paisley or Kashmiri Design:** Inspired by Kashmiri artistry, paint tiny paisleys or floral vines on a black or dark-colored base, highlighted with gold.
- **Textured Knob:** Before the dough dries completely, press textured fabric, mesh, or netting gently into the surface. Once dry, paint over the textures to highlight them.
- **Animal Themes:** For a playful touch, shape small ears or a snout on the knob to turn it into a cute animal face (like a bear, cat, or elephant).
- **Metallic Finish:** Paint the knob entirely in metallic gold, silver, or copper for an elegant look. Add small stone or mirror embellishments for extra sparkle.

- **Rustic Style:** Leave the paper mache surface slightly textured and paint it in earthy shades like brown, ochre, or moss green.
- **Gradient Color:** Blend two or three colors into each other around the knob for an ombre or gradient effect.

6. Gond Art Mural

A Gond Art mural is a vibrant folk artwork created by the Gond tribal community of central India. It is known for its bold colours, flowing lines, and detailed patterns made of dots, dashes, and curves. Nature is the main theme, with animals, birds, trees, and forests shown as living, spiritual elements. Each figure is filled with rhythmic patterns that give a sense of movement and life. Gond murals often tell stories, myths, and beliefs passed down through generations.

Materials Required

- MDF board or sturdy wooden panel (size as desired)
- Paper Mache (prepared earlier, e.g., Type 2)
- Pencil and eraser
- Ruler (optional for borders)
- Adhesive or gond glue for sticking dough
- Small bowl of clean water (only for smoothing—not for mixing into dough)
- Wooden modeling tools, butter knife, ice cream sticks, toothpicks
- Sandpaper (medium and fine)
- Acrylic paints (bright colors like red, yellow, green, blue, orange, black, white)
- Thin paintbrushes (especially fine liner brushes for details)
- Clear varnish or sealant
- Soft cloth

Procedure

- **Step 1 Prepare the MDF Board:** Start by cleaning the surface of the MDF board with a dry cloth. If the surface feels too smooth, lightly sand it with medium sandpaper so the dough sticks better. Wipe away dust afterward.
- **Step 2 Sketch the Gond Design:** Using a pencil, lightly draw the Gond art design on the board. Gond art often features animals, trees, birds, or folk stories surrounded by intricate patterns and lines. Plan the design so that it fits the chosen board size and leaves space for detailing around figures.

- Draw the main figures first (e.g., a deer, peacock, or tree).
- Plan where you'll place patterns like dots, stripes, and waves that fill in empty spaces around figures.
- **Step 3 Prepare the Paper Pulp dough:** Take the paper pulp dough and knead it lightly so it's soft and smooth. If it feels dry, wet the fingers lightly to soften it (but don't add water into the dough).
- **Step 4 Apply Background Color (Optional at This Stage):** Some artists prefer painting the background first (e.g. deep yellow or ochre) so they don't have to paint around delicate raised shapes later. Let it dry completely before proceeding.
- **Step 5 Start Building Relief Elements:** Work in small sections for better control.
 - **For Outlines of Figures:** Roll the dough into thin, even coils. Carefully place these coils along the pencil outlines of animals, trees, or motifs. Press gently so they stick. This creates raised borders that define the main shapes.
 - **For Filling Larger Areas:** Fill inside the outlined shapes with flattened pieces of dough. Press them gently into the board so the surface remains even.
 - **For Textured Details:** Use the modeling tools or toothpicks to create textures. For example:
 - Carve parallel lines to create fur or feather effects.
 - Dot patterns into leaves or animal bodies.
 - Press wave-like textures into tree trunks.
- **Step 6 Work on Fine Patterns:** Gond art's beauty lies in its intricate inner patterns. These can be sculpted in relief rather than simply painted.
 - Roll very thin coils of dough to form inner lines or stripes.
 - Press tiny balls of dough onto the surface to create raised dots.
 - Use toothpicks to carefully press patterns into the dough, creating wave lines, crisscrosses, or tiny indents.

Take the time in this step to ensure fine details are consistent and neat.

- **Step 7 Smooth and Blend:** Once all shapes and patterns are in place, gently smooth edges and surfaces using the thumb or modeling tools. Blending helps avoid cracks and makes the relief look clean and professional.
- **Step 8 Let the Relief Dry Completely:** Allow the board to dry in a well-ventilated place away from direct sunlight. Depending on thickness, drying may take 1–3 days. Inspect the work during drying. If small cracks appear, fill them with fresh dough and smooth them out again.

- **Step 9 Sand the Surface:** Once fully dry, lightly sand the relief with fine sandpaper. This removes any rough spots or sharp edges. Be gentle so as not to break delicate details.
- **Step 10 Paint the Background (If Not Done Earlier):** If one hasn't painted the background yet, carefully paint around the relief elements using a brush. Gond art often uses vibrant backgrounds like red, yellow, or green. Let it dry completely.
- **Step 11 Paint the Gond Art Design:** Now the magic begins! Gond art is colorful and highly detailed. Use fine brushes to paint the relief shapes and patterns:
 - Choose bright colors typical of Gond art—reds, oranges, greens, yellows, and blues.
 - Paint the raised outlines a contrasting color to make them stand out.
 - Fill each section with delicate dots, stripes, waves, or fishbone patterns using a thin brush.
 - Alternate colors for patterns within animals, leaves, and other elements.

Work slowly and carefully to keep the detailing sharp.

- **Step 12 Add Finishing Touches:** Once all paint is dry, inspect the work. Touch up any missed spots or refine lines that need clearer edges.



Fig. 5.21: Gond art mural

- **Step 13 Apply Varnish:** Finally, apply a thin coat of clear varnish over the entire board. This seals the colors, adds a gentle shine, and protects the relief from dust and moisture. Let it dry completely before handling.

Tips

- Gond reliefs look stunning with large central animals surrounded by intricate smaller motifs and textures.

- Use vibrant contrasting colors to make patterns pop.
- Try combining painted dots and raised dots for extra texture.
- Keep the shapes well defined—clean outlines are a hallmark of Gond art.
- For large boards, divide the surface into smaller sections and complete one area at a time for precision.

7. Fridge Magnet

A fridge magnet is a small decorative or functional item designed to attach easily to the metal surface of a refrigerator or any magnetic board. It is commonly used to hold notes, photographs, reminders, or shopping lists in place. Fridge magnets come in many shapes, sizes, and themes, such as cultural motifs, animals, symbols, or handcrafted designs. When made using materials like paper mache, they become lightweight, eco-friendly, and artistic.

Materials Required

- Type 2 paper mache(as prepared earlier) – approx. 100 to 150 grams (depends on design size)
- Clean water (small bowl for moistening fingers and tools)
- Rolling pin or flat board for flattening pulp
- Knife or sculpting tools for shaping details
- Sandpaper (medium and fine)
- Small brush for finishing touches
- Adhesive or strong adhesive
- Acrylic paints in chosen colors
- White plastic paint or white gesso (for base coat)
- Clear varnish (for finishing)
- Magnet disc – 1 inch diameter, 2–3 mm thick (available in hobby stores)
- Hot glue gun and glue stick (for fixing the magnet disc)
- Small cotton cloth for cleaning surfaces
- Pencil and paper for sketching designs (optional)

Procedure

- **Step 1 Plan and Sketch The Design:** Think of what kind of fridge magnet you would want to make, like a flower, bird, cartoon, fruit, small monument, or an abstract shape. Keep the size between 2 inches to 3

inches in width and height so it's light and practical for sticking on a fridge.

Lightly sketch the design on paper if needed. This helps guide the sculpting.

- **Step 2 Prepare Paper Pulp:** Use Variety 2 paper pulp prepared earlier. Take about a handful of pulp (100–150 grams). Place it on a flat surface and knead it briefly to make it pliable.

If the pulp feels too dry, lightly dip the fingers in clean water and knead again until smooth. The pulp should feel soft but hold its shape without cracking.

- **Step 3 Form the Base Shape:** Roll the pulp into a ball first, then flatten it gently using a rolling pin or pressing with the palm on a flat board.

Flatten it to about **4–5 mm thickness** for sturdiness. Keep the size close to the intended final size (2 to 3 inches).

Cut the flattened pulp into the chosen shape using a small knife or sculpting tool. Smooth the edges with slightly damp fingers.

- **Step 4 Add Raised Details:** Take small portions of pulp to sculpt details like petals, eyes, leaves, text letters, or other 3D elements.
 - Roll tiny balls or coils for details.
 - Press these gently onto the base shape using the thumb and fingers.
 - Always blend the edges into the background so the pieces don't detach after drying.
 - For very fine details, use sculpting tools or the back of a small paintbrush.

Apply gentle pressure, as excessive force can crack the base or disturb the shape.

- **Step 5 Smooth and Refine:** Inspect the piece for lumps or rough areas. Moisten the thumb slightly and gently smooth the surface.

Ensure edges are neat and the back side is flat. The magnet disc will adhere best to a flat back surface.

- **Step 6 Dry the Paper Mache Shape:** Place the sculpted piece on a flat plastic or wooden board. Leave it to dry in a well-ventilated area, away from direct sunlight.

Drying time may vary between 8 to 24 hours depending on humidity and thickness. The piece must be completely hard before moving to the next step.

- **Step 7 Sand and Refine Surface:** Once dry, gently sand the surface with medium sandpaper first, then fine sandpaper for smoothness. This removes fingerprints, small lumps, and sharp edges.

Wipe away dust with a soft cloth.

- **Step 8 Apply Base Coat:** Paint a coat of white plastic paint or white gesso over the entire piece. This base coat:
 - Seals the surface
 - Prevents paint from soaking in unevenly
 - Helps colors appear brighter

Allow the base coat to dry completely before painting colors.

- **Step 9 Paint the Design:** Use acrylic paints to paint the magnet in desired colors. Use thin brushes for details and broader brushes for larger areas.

Apply two coats for bright, even color. Let the first coat dry before applying the second.

- **Step 10 Apply Varnish:** Once the paint is fully dry, apply a thin layer of clear varnish to protect the colors and give a subtle shine.

Let the varnish dry completely. This also makes the surface easier to wipe clean later.

- **Step 11 Attach the Magnet Disc:** Turn the paper mache piece over. Mark the center point of the back.

Plug in the hot glue gun and let it heat up.

Squeeze a small amount of hot glue onto the back center of the piece. Quickly press the magnet disc onto the glue.

Hold it in place for 10–15 seconds until the glue sets. Ensure the magnet is flush with the back surface so it sits flat against the fridge. If preferred, strong adhesive can be used instead of hot glue, but drying time will be longer (several hours).

- **Step 12 Final Check and Finishing:** Check that the magnet disc is secure. Gently try sticking it to a metal surface to test its hold.

Examine the front surface and touch up any paint if needed. The fridge magnet is now ready!

This handmade paper mache fridge magnet can now be used as a charming souvenir, gift, or decorative piece for the refrigerator. It's light, durable, and fully customizable in design and color.

Sculpting (With Armature)

1. Pen Stand

(Using an Old Matki or Paper Pipe Roll as Armature)

A pen stand made using an old matki or paper pipe roll as an armature is a creative and eco-friendly stationery holder. The matki or paper roll acts as a strong base that gives the pen stand its shape and support. Paper mache is applied over the armature to smooth the surface and build decorative details. Once dry, the pen stand is painted with acrylic colours and can be decorated with patterns, motifs, or textures. This type of pen stand is lightweight, durable, and ideal for

holding pens, pencils, brushes, or art tools. It promotes reuse of waste materials while combining utility with handmade craft aesthetics.

Materials Required

- Old plastic matki or small ice-cream packaging container – approx. 4 inches in diameter and 4 inches in height
- Type 2 paper mache(as prepared earlier) – approx. 200–250 grams
- Clean water (for moistening fingers if needed)
- Adhesive or strong adhesive
- Small rolling pin or smooth surface for rolling coils
- Sculpting tools or a knife for cutting and shaping details
- Black enamel paint – approx. 50 ml
- Golden acrylic paint – small quantity
- Sponge piece (small, soft)
- Small paintbrush
- Sandpaper (medium and fine)
- Clean cloth for wiping surfaces
- A newspaper or a plastic sheet to protect the work surface

Procedure

- **Step 1 Clean and Prepare the Matki Armature:** Take any old matki or ice-cream container. It should be about 4 inches in diameter and 4 inches in height, perfect for holding pens.

Wash it thoroughly with water and mild soap to remove any grease, labels, or dirt.



Fig. 5.22: Prepare the matki armature

Dry it completely with a cloth. A clean surface helps adhesive stick better.

- **Step 2 Prepare the Paper Pulp:** Take 200 to 250 grams of Variety 2 paper pulp prepared earlier. Knead it lightly to make it soft and smooth. If the pulp feels dry, lightly dampen the hands with water and knead again. The pulp should be pliable but not too wet.
- **Step 3 Make Coils for Decoration:** Take a small portion of pulp and roll it gently on the work surface into a long, thin coil. Aim for a thickness of **3 to 4 mm**. Coils should be even in size for a neat abstract pattern. One can roll several coils of different lengths, depending on the design.
- **Step 4 Shape Abstract Patterns:** Start shaping the coils into abstract forms:
 - Spirals
 - Zig-zags
 - Waves
 - Swirls

Lay them out on the table first to visualize the design before attaching them.

- **Step 5 Attach Coils to the *Matki*:** Apply a thin layer of Adhesive onto the surface of the *matki* where desired to place the coils. Carefully press the paper pulp coils onto the *matki*'s surface. Use gentle pressure so the coils stick but do not flatten. Keep the abstract pattern random and artistic, covering all around the entire *matki*'s outer surface. Leave about half an inch gap from the *matki*'s bottom edge for a neat base finish. Blend the ends of each coil slightly into the surface using the fingers to avoid loose ends that might peel off later.



Fig. 5.23: Decorate the matki

- **Step 6 Smooth and Refine Surface:** Inspect the entire design.
 - Press gently on any loose coils to secure them.
 - Smooth joins and edges with the damp fingers.

Ensure no coils extend too far beyond the matki's curve, as this might cause them to break later.

- **Step 7 Dry the Paper Mache Design:** Place the matki in a well-ventilated area. Allow it to dry for at least **12 to 24 hours** until completely hard. Avoid direct sunlight, as it can cause cracking.
- **Step 8 Sand the Surface:** Once dry, gently sand the surface with medium sandpaper to remove any rough edges or bumps. Follow with fine sandpaper for a smooth, refined finish. Wipe the dust off using a clean cloth.
- **Step 9 Apply Black Enamel Paint:** Using a small paintbrush, apply a coat of black enamel paint over the entire outer surface of the matki. Cover the paper pulp coils and the exposed plastic areas. Let the paint dry for about 6 to 8 hours, or as per the instructions on the enamel paint container.
- **Step 10 Create Golden Dap Effect:** Dip a small piece of sponge into golden acrylic paint.
 - Dab off excess paint onto a scrap of paper or cloth.
 - Gently tap the sponge over the black enamel-painted surface.

This technique highlights the raised coils and abstract patterns, creating a beautiful golden shimmer against the black background.

Keep dabbing lightly to avoid thick patches of gold. Build color slowly for a subtle effect.

- **Step 11 Dry and Inspect:** Allow the painted matki to dry for several hours until the golden highlights are set. Check for any areas that may need extra paint touch-ups.
- **Step 12 Final Check and Cleaning:** Inspect the entire pen stand for loose coils or rough spots. If any coil seems loose, reattach it with Adhesive and repaint the area. Once finished, clean the inside of the matki to ensure it's smooth and free of dust so pens can be placed inside safely.

The paper mache pen stand is now ready! It's sturdy, lightweight, and beautifully decorated with an abstract pattern. The golden dabbing over black enamel paint makes it look elegant and artistic.

This upcycled pen stand also makes a lovely handmade gift or a unique addition to the workspace.



Fig. : 5.24: Various type of pen stand

2. Vase

A vase is a decorative container used to hold flowers, dried arrangements, or as a standalone décor piece. When made using paper mache or handcrafted techniques, it becomes lightweight yet sturdy in form. The base structure can be created using bottles, pots, or moulds, over which layers of paper mache are applied to achieve the desired shape and smooth finish. After drying, the vase is painted with acrylic colours and may be decorated with patterns, textures, or traditional motifs. Such vases add an artistic and eco-friendly touch to interiors and are ideal for home décor, exhibitions, or gifting purposes.

Materials Required

- PVC pipe – approx. 4 inches in diameter and 10–12 inches in height (one can adjust height as desired)
- MDF circle for base – approx. 6 inches in diameter and 12 mm in thickness
- Type 2 paper mache (as prepared earlier) – approx. 800 grams to 1 kilogram, depending on design thickness
- Adhesive or strong adhesive
- Water in a small bowl for moistening fingers
- Rolling pin or flat wooden board (for flattening pulp)
- Knife or cutter
- Sandpaper (medium and fine)
- Soft cloth for wiping

- Acrylic or enamel paints in bright colors
- White plastic paint or white gesso (for base coating)
- Clear varnish for finishing
- Small sculpting tools (optional for shaping petals and details)
- Brushes (thin and medium)
- Clean cotton cloth or potli for handling pulp
- Metal file (reti) for smoothing edges

Procedure

- **Step 1 Prepare the Pipe and MDF Base:** Take the PVC pipe, which will become the body of the vase. Check that the edges are smooth and not sharp. Sand the cut edges lightly if needed. Take the MDF circle. Ensure it is clean and dust-free. Spread a generous layer of Adhesive on the bottom edge of the PVC pipe and position it in the center of the MDF circle. Press firmly to bond. Allow the adhesive to set for at least an hour, or place a weight gently on top to hold it in place. A solid bond is crucial because this becomes the strong base of the vase.



Fig. 5.25: Prepare the pipe

- **Step 2 Prepare Coils of Paper Mache:** Take a handful of prepared Variety 2 paper pulp. Place it on a flat surface. Use the palms to roll it into long, even coils about 6–8 mm thick. Coils can vary in length—prepare both long and shorter coils for design variety. If desired, vines with texture, gently twist two coils together. This gives the vine a beautiful, rope-like effect.

- **Step 3 Apply Coils to the Vase:** Start at the bottom of the vase. Apply a thin line of Adhesive where one plans to attach the coil. Press the coil gently onto the pipe. Work slowly upward, winding the coil around the pipe in a spiral motion.
 - Keep pressing the coil with damp fingers to make sure it adheres smoothly.
 - Avoid too much water, as it will weaken the pulp. A lightly wet finger is sufficient.



Fig. 5.26: Apply coils to the vase

Create swirls, curves, and free shapes to form an organic vine pattern. Press and blend the edges gently into the pipe's surface so the coil looks seamlessly attached.

- **Step 4 Make Petals and Rose Decorations**

To create petals:

- Take a small piece of pulp and flatten it into a thin oval or teardrop shape using the fingers or a rolling pin. Each petal should be about 2–3 cm long and 1–1.5 cm wide.
- Slightly curve one end for a natural petal look.

To create a rose:

- Roll a small coil of pulp about 5 inches long and 4 mm thick.
- Start rolling the coil into a tight spiral, keeping the bottom tighter than the top so it resembles a blooming rose.

- As one roll, slightly fan out the upper edge to create petal-like openings.



Fig. 5.27: Making Petals and a Rose on a Pipe

Once shaped, apply Adhesive to the back of each petal or rose. Place them gently along the vine design on the vase. Hold each piece for a few seconds to ensure it sticks firmly.

- **Step 5 Fill Gaps and Smooth:** Check the entire vase for any gaps between the coils, petals, or base surface. Fill small gaps with small bits of pulp and smooth them in with the thumb. Use damp fingers to gently blend the pulp so there are no harsh edges where petals and vines meet the vase body.



Fig. 5.28: Detailing of Petals and roses

- **Step 6 Dry the Vase Completely:** Leave the vase to dry in a well-ventilated, shaded place for at least 24–48 hours. Drying times vary depending on humidity and the thickness of the designs. Ensure it's fully dry and hard before proceeding to painting.



Fig. 5.29: Drying of vase

- **Step 7 Sand and Smooth:** Once dry, lightly sand the entire vase with medium and then fine sandpaper. Focus on removing any rough spots, excess pulp bits, or fingerprints. Wipe off the dust with a soft cloth.
- **Step 8 Apply White Base Coat:** Apply a coat of white plastic paint or white gesso over the entire vase, including the MDF base. This gives a smooth surface and makes bright colors stand out better. Let it dry thoroughly.
- **Step 9 Painting the Vase:** Choose bright acrylic or enamel paints. Start painting the vines, roses, and petals in vibrant colors like reds, greens, yellows, or any combination that appeals to you.
 - Use thin brushes for details on petals and vines.
 - Paint the background of the vase in a contrasting color for extra visual impact.

Apply at least two coats for rich color coverage, letting each coat dry completely.
- **Step 10 Apply Varnish for Finishing:** Once the paint is dry, apply a thin layer of clear varnish with a soft brush. This protects the colors and gives the vase a beautiful shine. Let it dry thoroughly before

handling. This process will give a sturdy, beautifully decorated paper mache vase with intricate vine and floral details a perfect piece for home décor or as a special handmade gift.



Fig. 5.30: Variations of vase

Let's Have FUN

Here, you can also get Terracotta pots of various shapes and sizes from a local vendor and use Paper mache to decorate them.

All you have to do is get some synthetic adhesive. Then, you can make different shapes and decorative elements such as flowers, leaves, balls, etc., and you can also make some small and long strings to make different designs from them, as shown in the image above.

Once you have made your designs, add some glue to the terracotta pot and start sticking them on. Let this dry for a few hours, and then you are all ready to color!



Once you have made your designs, add some glue to the terracotta pot and start sticking them on. Let this dry for a few hours, and then you are all ready to color!



Fig. 5.31: Fun Activity

Check Your Progress

A. Fill in the Blanks

1. In sculpting **with armature**, a supporting structure is used to provide _____, balance, and form to the product.
2. The Nariyal Ganesh Idol uses a _____ as the base structure for sculpting.
3. Before applying paper mache, a thin layer of _____ should be brushed on the surface for better adhesion.
4. In jewellery making, holes are pierced in the beads _____ they dry completely.
5. Decorative paper mâché balls are finished with paint and _____ to give shine and protection.

B. Short Answer Questions

1. What is meant by sculpting **without armature** in paper mache craft?
2. Why is it important to maintain proper dough consistency while making paper mache beads?
3. State any two advantages of using paper mache for making decorative or utility products.

C. Long Answer Questions

1. Describe the step-by-step procedure for making a Nariyal Ganesh Idol using paper mache without armature.
2. Explain the complete process of making a paper mache decorative ball or vase using armature, highlighting material preparation, surface detailing, drying, painting, and finishing.

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Session 2: Product Making using Mold and Cast Technique

This session focuses on creating paper mache products using moulds, which helps in achieving accuracy, uniformity, and consistency in shape and size. The mould and cast technique is divided into two main types: one-piece mould and two-piece mould. Learners will understand how different types of moulds are selected and used based on the complexity, size, and design of the product.

Through this session, learners will apply their earlier knowledge of material preparation, layering, drying, and finishing while working with moulds. This method is especially useful for producing repeated designs and standardized products. Overall, this session helps learners develop technical skills, efficiency, and control in product making, while expanding their understanding of different production techniques in paper mache craft.

Mold and Cast (Using One Piece Mold)

1. Colorful Bowl

Materials Required

- Plastic or steel bowl (used as a mold)
- Cooking oil, Vaseline, or petroleum jelly (as a separator)
- Paper Mache (prepared earlier, any Type preferred)
- Non-toxic powder pigments or fabric colors, or liquid acrylic colors (for coloring the pulp)
- Separate bowls or containers for mixing colors into the pulp
- Spoon or small spatula for mixing colors
- Clean water in a small bowl (only for wetting fingers and smoothing)
- Cloth for wiping hands
- Wooden modeling tools, plastic knife, or butter knife (optional for shaping)
- Sandpaper (medium and fine)
- Clear varnish or sealant
- Plastic sheet or newspaper for workspace protection

Procedure

- **Step 1 Prepare the Mold:** Choose a plastic or steel bowl in the size and shape one wants for the final bowl. Wash it and dry it completely. To

prevent the paper pulp from sticking, apply a thin layer of oil, Vaseline, or petroleum jelly over the entire inner surface of the bowl. Use the fingers or a soft cloth to spread it evenly. This acts as a separator and ensures the paper mache bowl can easily be removed once it's dry.

- **Step 2 Color The Paper Pulp:** Divide the prepared paper pulp into four separate portions (or more, depending on how many colors are desired). Place each portion into a separate bowl or container.
 - Add the chosen pigment or color to each portion of pulp. Mix thoroughly using a spoon or your fingers until the color spreads evenly throughout the pulp. The pulp should look like colored dough.
 - If using different colors, wash the hands well between handling each colored pulp so the colors do not mix accidentally.
- **Step 3: Start Applying the Pulp into the Mold**

This is direct sculpting—means applying the pulp straight into the mold without layering strips of paper.

- Take small amounts of the first colored pulp and press it gently into reas of the mold.
- Add the second color in other areas, overlapping slightly if desired to create interesting patterns or marbled effects.
- Continue adding different colors, pressing the pulp firmly to ensure there are no gaps or air pockets.
- Many beautiful effects can be created:
 - Striped pattern: Place each color in bands around the bowl.
 - Patchwork style: Apply small sections of different colors next to each her like a mosaic.
 - Swirled or marbled look: Blend two colors slightly where they meet for soft color transitions.



Fig. 5.32: Applying the pulp

- **Step 4 Build the Bowl Wall Thickness:** Keep pressing the pulp around the mold until it reaches the desired thickness. A good thickness for strength is around 5–8 mm. Thicker walls make the bowl sturdier but increase drying time.
- **Step 5 Smooth the Surface:** Dip the fingers lightly into clean water and gently smooth the inner surface of the pulp. This creates a neat, even finish. Be careful not to soak the pulp too much, as this can weaken it.



Fig. 5.32: Smooth the surface

- **Step 6 Dry the Bowl Completely:** Place the mold in a well-ventilated area away from direct sunlight. Allow the pulp to dry fully. Depending on the thickness and weather, drying might take 2–4 days. Check during drying to ensure no cracks are forming. If small cracks appear, patch them with fresh colored pulp and smooth them again.
- **Step 7 Remove the Bowl from the Mold:** Once completely dry, gently separate the paper mache bowl from the mold. The oil layer should help it release easily. Run a thin knife carefully around the edges if needed, but avoid forcing it out quickly to prevent damage.



Fig. 5.33: Remove the bowl from the mold

- **Step 8 Refine the Bowl:** Check the edges and surface:
- Trim any uneven parts with scissors or a craft knife.
- Sand the surface lightly with fine sandpaper for a smoother finish, especially the rim of the bowl.



Fig. 5.34: Finishing the process with careful trimming and light sanding

Step 9 Add Exterior Decorations (Optional): If one wish to create a raised design on the outside of the bowl:

- Apply small coils, dots, or patterns of colored pulp onto the outer surface.
- Smooth them and blend gently with the fingers.
- Let these additional decorations dry completely.
- **Step 10 Seal and Protect:** To protect the colorful bowl and enhance its shine:
 - Apply a coat of clear varnish or sealant over the entire bowl, inside and outside.
 - Let it dry completely.

This step makes the bowl water-resistant and preserves the brightness of the colors.



Fig. 5.35: Final product

Creative Tips

- Try making male and female molds for complex bowls. A male mold is a solid shape to press pulp over the outside of, while a female mold is a hollow cavity to press pulp inside of. Both methods work for bowls.
- Add tiny rolled balls or coils of pulp as decorative elements inside or outside the bowl for texture.
- Metallic pigments like gold or copper give a stunning touch to the colored pulp.
- Mix small amounts of two colors into one piece of pulp to create marble effects.

Creating a colorful paper mache bowl using colored pulp is a beautiful way to combine sculpture with color artistry. This technique ensures that the color goes all the way through the pulp rather than being only on the surface, giving a unique and richly textured look to the finished piece.



Fig. 5.36: Variation of bowl

2. Tray

This tray is created using coloured dough or paper pulp, shaped directly by hand for a natural and handcrafted look. A mould is used as a base to achieve a uniform form and balanced depth. The surface is carefully smoothed and refined while sculpting to enhance both strength and finish. Once dry, the tray becomes sturdy and ready for decorative or functional use.

Materials Required

- Flat plastic or steel tray (to use as mold)
- Cooking oil, Vaseline, or petroleum jelly (as a separator)
- Paper Mache(prepared earlier; any soft Type)
- Pigments or non-toxic color stains (to color the pulp)
- Small bowls or containers (to mix separate colors)
- Water bowl (for smoothing hands only)
- Wooden modeling tools or a butter knife (optional)
- Cloth for wiping hands
- Plastic sheet or newspaper (to cover the work surface)
- Fine sandpaper
- Clear varnish or acrylic sealant
- Optional: small coils or balls of pulp for decoration

Procedure

- **Step 1: Prepare The Mold:** Choose a plastic or steel tray in the size and shape desired for the paper mache tray. It should have a smooth base and low sides (optional).
 - Apply a thin, even layer of oil, Vaseline, or petroleum jelly on the inside surface of the tray mold using the fingers or a cloth. This works as a separator and ensures that the paper pulp doesn't stick to the mold.
- **Step 2 Color the Pulp:** Divide the prepared paper pulp into 3–4 portions depending on how many colors are desired.
 - In separate bowls, add the chosen pigments, fabric colors, or poster colors to each portion of pulp.
 - Mix thoroughly with the hands or a spoon until each batch of pulp is evenly colored.
 - Wash your hands thoroughly between each color to avoid mixing and keep the colors clean.
- **Step 3 Apply Colored Pulp to the Tray Mold:** Now, begin pressing the colored pulp directly into the mold. This is direct sculpting, not layering.
 - Start with one color and press it gently but firmly into a part of the tray mold—either a corner or center, depending on the design desired.
 - Add the second color next to it, and so on, until the entire surface is filled with colored pulp.

- Press down firmly and smooth each section with the thumb as one goes.

Some creative ways to apply color:

- Gradient effect: Light to dark shades across the tray.
- Marble effect: Gently blend two colors at the edges where they meet.
- Block pattern: Clear separation of each color in geometric sections.
- **Step 4 Shape the Tray and Build Thickness:** Continue pressing the pulp until reaching the desired thickness—around **5–8 mm** is good for strength.
 - One can extend the pulp slightly up the sides of the mold if desired a tray with a rim or border.
 - Make sure all sections of the tray are even in thickness. Use the fingers and palms to flatten and level the surface.
- **Step 5 Smooth the Surface:** Wet the fingers lightly in clean water and gently smooth the entire surface of the pulp.
 - Be careful not to add too much water—only enough to help flatten the pulp and eliminate cracks or bumps.
 - Smooth out any lines between colors while still keeping the design visible.
- **Step 6 Let the Tray Dry Completely:** Place the mold in a dry, well-ventilated area. Avoid direct sun.
 - Drying may take 2–4 days, depending on weather and thickness.
 - Do not remove the tray from the mold until it is fully dry and feels hard.
 - If small cracks appear while drying, fill them with a matching color of pulp and smooth again.
- **Step 7 Demold the Tray:** Gently remove the dried paper mache tray from the mold. If one used enough separator (oil or Vaseline), it should come off easily.
 - If needed, use a butter knife to loosen the edges gently.
 - Be careful not to force it or bend it while removing.
- **Step 8 Finish and Refine:** Once out of the mold, check the edges and surface.
 - Use fine sandpaper to smooth any rough edges.
 - If needed, lightly sand the base and sides to give a polished look.
 - One can also add raised designs on the surface with colored pulp—like borders, motifs, or dots. Let these dry again before sealing.

- **Step 9 Seal the Tray:** Use a soft brush to apply a thin coat of clear varnish or acrylic sealant.
 - This will protect the tray, enhance the colors, and add a soft sheen.
 - Let the varnish dry completely before using the tray.



Fig. 5.37: Tray

Creative Notes (Graphic)

- One can make matching sets of bowls and trays using similar colors and patterns.
- Use metallic pigments or iridescent colors for festive trays.
- One can even write or draw into the pulp before drying to create engraved text or designs.

This colorful paper mache tray is not only functional but also a vibrant decorative piece. Using colored pulp gives it a textured, natural finish that cannot be achieved with painting after drying. Each tray becomes unique depending on the choice of color, shape, and design. Let me know if you'd like to try adding motifs like Warli, Gond, or decorative knobs to the tray surface!

3. Name Plates/ Wall Hanging

Name plates and wall hangings made with paper mâché are lightweight yet sturdy decorative pieces. They are shaped using moulds or freehand techniques to achieve the desired form and texture. After drying, the surface is smoothed and painted with colours or designs of choice. These pieces are finished with protective coating, making them suitable for indoor display and long-lasting use.

Materials Required

- MDF board (thickness 6–8 mm) or thick cardboard for base – approx. 16 inches x 5 inches (size can be adjusted as desired)
- Prepared paper mache (as discussed earlier in Preparation of type 1 Paper Mache)

- Ruler and pencil
- Craft knife or saw (for cutting MDF)
- Sandpaper (medium and fine)
- Hooks or hanging clips (small screw-in eye hooks, D-rings, or sawtooth hangers)
- Screws and screwdriver
- Moulds for letters (optional)
- Small spatula, butter knife, or modeling tools
- Paper or masking tape
- Paintbrushes and a sponge
- Acrylic or enamel paints (colors as desired)
- Black enamel or white gesso for base coat
- Clear varnish for protection
- Drill machine (optional, for neat hook holes)
- Adhesive or strong adhesive
- Measuring tape or scale
- Wet cloth for wiping excess dough

Procedure

- **Step 1 Prepare the Base Board:** Choose a strong and smooth base material. MDF is the best for durability, but thick cardboard can also be used for lighter plates. For a standard name plate, cut the base to about 12 inches wide and 5 inches high. Use a ruler to measure accurately, and mark the cutting lines with a pencil. Cut the board using a craft knife (for cardboard) or a small saw (for MDF). Sand the edges of MDF to remove splinters and ensure smoothness. Wipe the board clean to remove any dust.
- **Step 2 Decide on Hanging Method:** Decide how one plans to hang the name plate. For wall hanging, small screw-in hooks or D-rings are best.
 - If using screw-in eye hooks, drill two small holes at the top left and right corners, about 1 inch inward from the edges.
 - Screw in the hooks firmly.
 - If using D-rings or sawtooth hangers, screw them to the back of the board as per their size.

Make sure the hooks are aligned so the plate hangs straight.

- **Step 3 Cover the Base with Paper Tape:** Wrap the front and sides of the MDF or cardboard base with paper or masking tape. This helps

paper pulp dough grip the surface better and prevents warping from moisture.

- **Step 4 Apply a Thin Base Layer of Dough:** Roll out paper pulp dough to approximately 2–3 mm thick. Spread it evenly over the front surface of the board using the fingers or a spatula. Blend the dough smoothly into the edges to create an even base.

Keep this layer thin and even to avoid cracking later.

- **Step 5 Create Borders and Decorations (Optional):** If desired, borders or raised decorative patterns, roll thin coils of dough or press dough into molds with designs. Attach these to the edges or corners of the base. Use the thumb or a modeling tool to press them into place and smooth the joins. One can also create small flowers, vines, or motifs separately and stick them onto the plate.
- **Step 6: Prepare Letters for the Name**

Option A: Using Molds

- Take small portions of dough and press firmly into silicone or plastic alphabet molds.
- Level the back of each letter with a flat knife or spatula.
- Carefully remove the letters from the mold and let them firm up for a few minutes if they are too soft.



Fig. 5.38: Mould

Option B: Sculpting by Hand

- Roll thin ropes of dough between the palms for each letter stroke.
- Shape each letter directly on the work surface.
- For curved letters like S, O, or C, gently bend the ropes into shape.
- For letters with straight edges, use a ruler or flat knife to press the sides neatly.

Letters should be around 1 to 1.5 inches high for a plate of 5 inches high. For smaller plates, adjust the letter size proportionally.

- **Step 7 Place the Letters on the Plate:** Carefully position each letter on the base plate. Lightly press them into the thin base layer so they adhere well. Use a wet cloth to wipe the fingers occasionally to avoid fingerprints.

Check that the letters are spaced evenly and aligned horizontally. One can lightly mark a pencil guideline on the dough base to help with alignment.

- **Step 8 Add Further Details if Desired:** Add flourishes, motifs, or borders around the name for extra decoration. This could include scrolls, small leaves, flowers, or dots of dough. Blend all joins smoothly with the fingers or a small tool.
- **Step 9 Drying the Name Plate:** Place the name plate in a well-ventilated, shaded place. Avoid direct sunlight to prevent cracks. Drying may take 2–3 days, depending on thickness and humidity. Check periodically for small cracks. If any appear, fill them with a soft paste of leftover dough mixed with a drop of water.
- **Step 10 Sanding and Smoothing:** Once fully dry, sand the entire surface gently with medium and then fine sandpaper to remove lumps, fingerprints, or sharp edges. Wipe clean with a dry cloth.
- **Step 11 Apply Base Coat:** Apply one or two coats of black enamel or white gesso as a base paint. Let each coat dry thoroughly before applying the next. A sponge can be used for an even finish.
- **Step 12 Painting the Name Plate:** Use acrylic or enamel paints to color the name, borders, and decorative elements.
 - For elegant looks, use gold, silver, or bronze metallic paints for letters and designs.
 - For vibrant designs, choose bright, contrasting colors.

Thin brushes work well for small details around letters.

- **Step 13 Varnishing:** Once all painting is dry, apply a clear varnish with a soft brush to protect the colors and give a beautiful shine. Allow to dry fully before handling.
- **Step 14 Final Assembly:** If not already attached, screw the hooks into the plate. Check that the plate hangs straight and securely. For heavy plates, use strong wall plugs when fixing them to the wall.

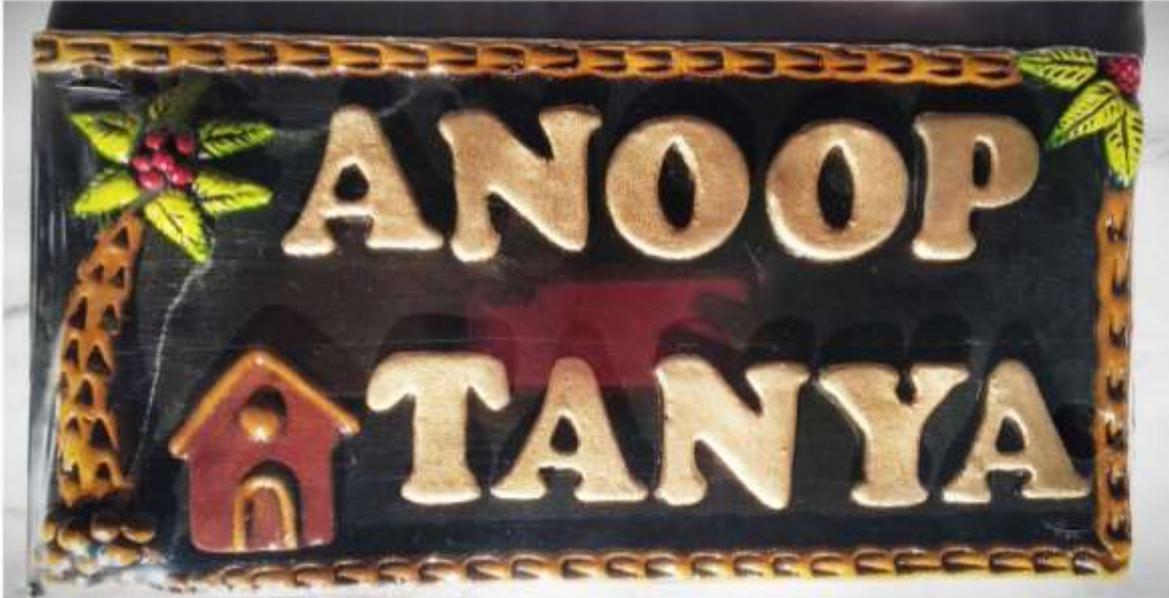


Fig. 5.39: Name Plate

This completes the paper mache name plate. Each plate can be uniquely designed, making it a personalized piece of art perfect for home entrances, room doors, or gifts.

Mold and Cast (Using Two Piece Mold)

1. Bird

This bird is created using a mould to achieve a well-defined and balanced shape. Paper mâché is carefully pressed into the mould to capture fine details. After drying, the piece is removed, smoothed, and finished with colours to enhance its appearance.

Material Required

- Two Pieces of Mold, generally a front and a back (can be made of Plaster of Paris/terracotta/cement)
- All other materials are the same as “Using One Piece Mold”



Fig. 5.40: Birds

Procedure

- **Step 1:** To make a bird with paper mache, you have to follow the same process that we have followed for any two-piece mold product.
- **Step 2:** You have to follow the two-piece mold-cast technique for the whole body of the bird. We only have to add the legs as an outside attachment.
- **Step 3:** To attach the legs, you have to take a piece of metal(iron) wire around 3mm in thickness. Cut the wire to a length that is proportionate to the size of the bird you made.
- Next, you have to bend the wire to make the knee joint. You can follow that as shown in the image.
- **Step 4:** You have to follow this step as soon as you take the bird out of the mold, and it has not been left out to dry. Otherwise, making a hole with the wire will not be possible, and it may break the bird.
- Make dots with a pencil to estimate where you want to attach the legs.
- **Step 5:** Apply a little glue to the wire and push it through the wet paper mache bird at the points where you made the dots earlier.
- **Step 6:** Now, you can use some paper mache to make a smooth cone-like shape at the point where the legs are attached to the body. This will help in showing a slow transformation from the body to the legs.
- Use your fingers or tools to smooth the surface.
- **Step 7:** Leave the product to dry for 4-5 hours. Once dried, you can use sandpaper to finish the whole bird and clean it off with a damp cloth. Now your bird is ready to be painted, decorated, and then displayed!

Check Your Progress**A. Fill in the Blanks**

1. A thin layer of oil or Vaseline is applied on the mould to act as a _____.
2. The ideal thickness of a paper mache bowl or tray wall is around _____ mm.
3. Coloured pulp is applied directly into the mould using the _____ technique.
4. Before removing the product from the mould, it must be _____ completely.
5. Clear varnish is applied to make the product _____ and to protect the colours.

B. Short Answer Questions

1. What is the purpose of using oil or petroleum jelly on a mould?
2. Why should hands be washed between mixing different coloured pulps?
3. What is the function of sandpaper in paper mache products?

C. Long Answer Questions

1. Describe the step-by-step process of making a colourful paper mache bowl using a one-piece mold. Include preparation, coloring, drying, and finishing steps.
2. Explain the two-piece mold and cast technique with reference to making a paper mache bird. Mention how the legs are attached and finished.

Module 6**HEALTH, HAZARDS AND SAFETY MEASURES AT THE WORKPLACE****Module Overview**

Maintaining health and safety in the workplace is essential in any traditional craft, including paper mache, which involves sharp tools, chemicals, adhesives, and prolonged working hours. These factors, if unmanaged, can lead to serious health issues, injuries, or productivity loss. Many paper mache artisans are semi-skilled and may work in informal units, increasing the need for strict safety measures. When workplace hazards are effectively managed, artisans feel secure, resulting in better output and overall well-being.

Learning Outcomes

After completing this module, you will be able to:

- Potential hazards at the workplace
- Health, safety and security at workplace
- Environmental safety, emergency preparedness, and workplace signage

Module Structure

Session: 1 Potential Hazards at the Workplace

Session: 2 Health, Safety and Security at Workplace

Session: 3 Environmental Safety, Emergency Preparedness, and Workplace Signage

Session 1: Potential Hazards at the Workplace

In a paper mache craft unit, artisans face various workplace hazards that can affect their health, safety, and productivity. These hazards can arise from the use of sharp tools, chemical substances, poor working posture, and even the general workspace environment. Understanding these hazards is essential to maintaining a safe and secure workplace.



Fig. 6.1: Types of Hazards

Types of Potential Hazards at the Workplace

1. **Mechanical hazards:** Mechanical hazards are common in paper mache units due to the frequent use of sharp tools such as scissors, cutters, and knives. These tools can cause injuries like cuts, punctures, or abrasions, especially during carving, shaping, or trimming of paper mache products. Improper tool handling or using damaged tools can increase the risk. To reduce mechanical hazards, it is important to use tools carefully, wear protective gloves, and store tools safely when not in use.
2. **Biological hazards:** Biological hazards can arise from the use of wet paper pulp, flour paste, or natural adhesives that are left exposed or stored for too long. These materials can attract mould or fungal growth, especially in humid environments, leading to respiratory issues, skin rashes, or eye irritation. Artisans must take precautions such as wearing gloves and masks, keeping the workspace dry and ventilated, and properly discarding spoiled materials.
3. **Chemical hazards:** Chemical hazards are present in the form of paints, glues, varnishes, and solvents used for finishing paper mache items. These substances may contain harmful chemicals or volatile organic compounds (VOCs) that can irritate the eyes, skin, or respiratory system. Prolonged exposure may lead to serious health issues. To minimize these risks, artisans should use low-VOC products wherever

possible, ensure proper ventilation, and wear safety equipment like masks, gloves, and goggles.

4. **Ergonomic hazards:** Ergonomic hazards occur due to poor posture and repetitive tasks. Paper mache work often involves long hours of sitting, bending forward, or using the same hand movements, which can lead to discomfort, back pain, neck strain, or joint issues. These problems can be addressed by using ergonomic furniture, maintaining a proper sitting posture, taking regular breaks, and performing light stretching exercises.
5. **Fact:** Professional artisans suggest creating a dedicated workspace to maintain better posture and ensure a smooth working flow. Traditionally, in some regions, artisans refer to this workspace as “*Thia*” — a specific place arranged for comfort and efficiency. Having such a setup supports ergonomic posture, reduces physical strain, and helps in organizing tools and materials for improved productivity in paper mache work.
6. **Electrical hazards:** Electrical hazards can arise from faulty electric equipment used in the workshop, such as cutter, grinder, glue guns, lights, fans, drill, air compressor. Exposed wires, wet surfaces near electric points, or overuse of extension cords can lead to shocks, burns, or short circuits. Artisans should regularly inspect electric tools, avoid spilling water near sockets, and follow safe usage practices to prevent electrical accidents.
7. **Physical hazards:** Physical hazards refer to risks from the physical environment, such as slips, trips, and falls. These may occur due to wet glue on the floor, scattered tools, poorly arranged materials, or inadequate lighting. Injuries may range from minor bruises to serious fractures. To avoid such hazards, the work area must be kept clean and organized, with tools stored properly and the floor kept dry.
8. **Psychological hazards:** Psychological hazards are often overlooked but play a crucial role in an artisan’s overall well-being. Stress from long working hours, low wages, lack of appreciation, or an unstructured work environment can lead to fatigue, loss of motivation, or mental health issues. Encouraging open communication, providing adequate breaks, and creating a respectful, supportive atmosphere can help reduce these hazards.

By understanding and addressing these different types of hazards, a paper mache craft unit can ensure the safety and health of its artisans while maintaining a productive and positive work environment.

2. Keeping work area free from hazards

Maintaining a hazard-free work area is essential in any paper mache craft unit to ensure the safety, efficiency, and well-being of the artisans. A clean, organized, and well-monitored workspace not only prevents accidents but also creates a more productive and focused environment.

1. **Personal Protective Equipment (PPE):** One of the first steps to achieving this is the proper use of Personal Protective Equipment (PPE). Items such as gloves, masks, aprons, and safety goggles act as the first line of defence against mechanical, chemical, and biological hazards. All workers should be trained in how and when to use PPE effectively. It should be in a fit form and tight.
2. **Identify and evaluate potential dangers:** It is equally important to identify and evaluate potential dangers in the workspace. Regular assessments help in recognizing risky practices, faulty tools, or unsafe conditions before they result in harm.
3. **Report any Hazardous Conditions:** Workers should be encouraged to report any hazardous conditions they notice, such as loose wires, water spills, mouldy materials, or broken tools, so that corrective actions can be taken promptly.
4. **Safe Work Practices:** Following safe work practices can significantly reduce the chance of injuries. These include handling tools properly, storing chemicals safely, avoiding overloading power sockets, and using step stools or ladders instead of makeshift platforms.
5. **Educate Workers about Workplace Safety:** Employers must also educate workers about workplace safety through training sessions, demonstrations, or posters displaying safety rules. This ensures that every artisan, regardless of experience level, understands the risks and the precautions needed.
6. **Housekeeping:** Good housekeeping is another crucial factor. A tidy workspace—free from clutter, with tools and materials stored in their proper places—reduces the risk of slips, trips, and falls. Clean floors, dry surfaces, and proper lighting are necessary to maintain a safe and efficient environment.
7. **Signage:** Additionally, safety-related signage should be displayed clearly to remind artisans of best practices and to create a culture of safety awareness.
8. **Conduct Equipment Inspections:** Regular equipment inspections are vital to ensure that tools and machines are functioning properly. Damaged or worn-out tools should be repaired or replaced immediately. Another helpful habit is encouraging workers to take
9. **Take Stretch Breaks:** Stretch Breaks throughout the day, which helps reduce physical strain, improve posture, and increase alertness.
10. **Full use of Daylight:** The higher and bigger the window, the more of day light can be accessed. It is important to paint the walls in lighter shades which not just give a sense of space to a room, but the workstation would look illuminated. In a store we should have be very careful with the light as prolonged exposure to light can cause degradation of fabric color/shade.

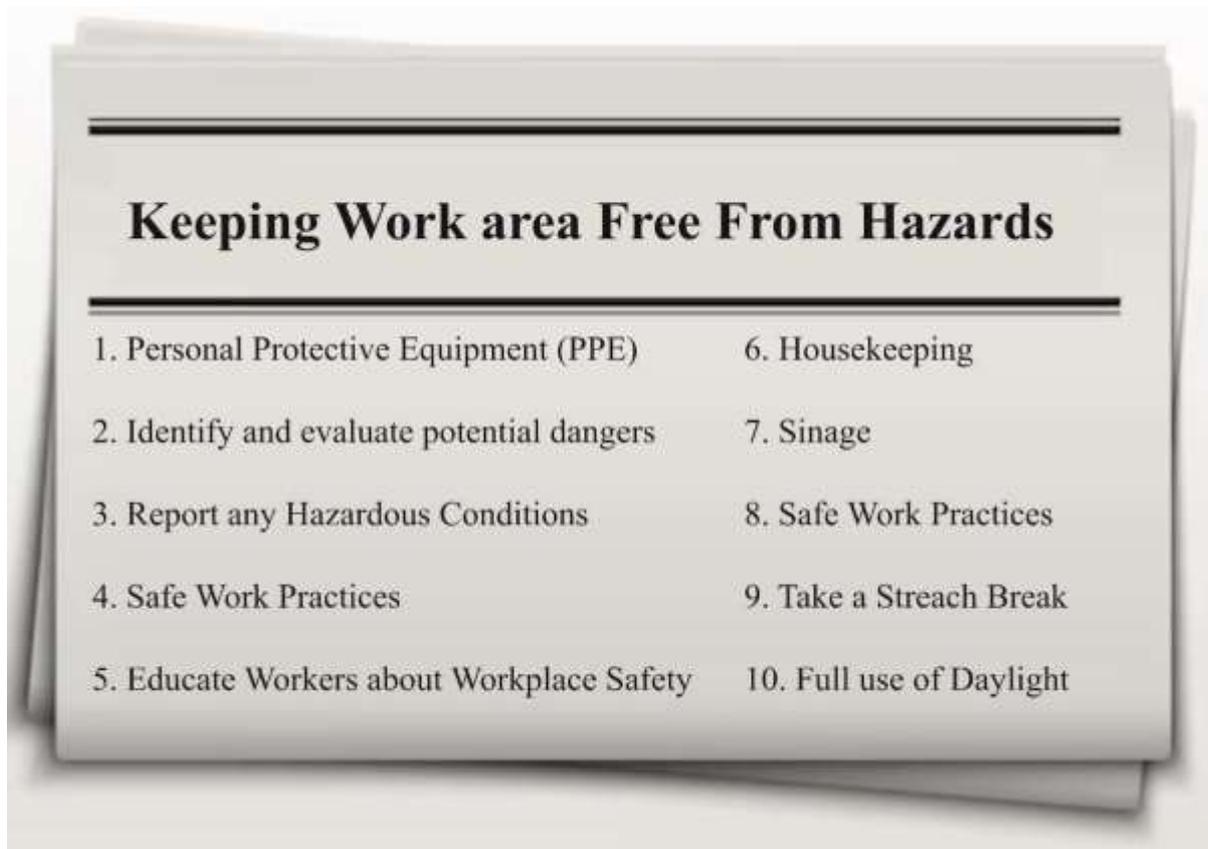


Fig. 6.2: Keeping work area free from hazards

By adopting these simple but effective practices, a paper mache craft unit can create a safe, hygienic, and organized environment that protects artisans from harm and supports smooth and efficient operations.

Activities

Activity: Hazard Identification and Prevention Poster

Materials Required:

- A3 chart paper or thick drawing sheet
- Sketch pens/markers
- Scissors and glue
- Cut-outs or hand-drawn illustrations of hazards (mechanical, chemical, biological, etc.)
- Labels for each hazard type

Procedure:

1. Divide the chart into sections for each type of hazard (Mechanical, Biological, Chemical, Ergonomic, Electrical, Physical, Psychological).

2. In each section, paste or draw an image showing the hazard (e.g., a scissor for mechanical hazard).
3. Write 1–2 lines below each image describing:
 - What the hazard is
 - How it affects artisans
 - One way to prevent it
4. Present the chart to your classmates and explain each hazard.
5. Display the poster in your craft unit.

Check Your Progress

A. Fill in the Blanks

1. _____ hazards are caused by sharp tools like scissors, cutters, and knives.
2. Long hours of bending and poor posture lead to _____ hazards.
3. Fungal growth due to moist pulp or paste is a _____ hazard.
4. _____ hazards are caused by stress, long working hours, or poor work environment.
5. Broken tools and exposed wires are examples of _____ and _____ hazards.

B. Short Answer Questions

1. What is a mechanical hazard? Give one example and a preventive measure.
2. Define ergonomic hazard and suggest two ways to reduce it.
3. Why is it important to identify and report workplace hazards?

C. Long Answer Questions

1. Explain any four types of hazards found in a paper mache craft unit with examples.
2. Describe the steps to keep the workplace free from hazards.
3. Discuss the importance of regular equipment inspections and good housekeeping in craft units.

Session 2: Health, Safety and Security at Workplace

Safety at the workplace is not only about preventing accidents but also about creating an environment where artisans can work with confidence, dignity, and peace of mind. In a paper mache unit, workers often handle sharp tools, sticky glues, flammable varnishes, and chemicals that can harm their health if not handled properly. Moreover, long hours of repetitive work and poorly organized spaces can cause physical and mental fatigue. Therefore, it is important to follow proper safety guidelines, make the work area inclusive for all, and manage potential risks through training and preparedness. This session will help students understand the essential safety practices and workplace compliance needed in a paper mache craft setting.

1. Work Area Management

Housekeeping is not all about sparkling walls and floors. A clean workplace is a healthy and safe environment for employees. If the workplace is unclean or hazardous, employees can fall ill or become injured. To prevent accidents and illness, adopt these basic rules in cleaning:

Dry and Clean Floors

Dry floors are critical to avoid slipping accidents. Various floor cleaners exist in the market to cater to different situations. For heavy-footed areas, alkaline cleaners are usually suitable because of their strong cleaning action. In the case of work environments that have a tendency towards rust, acidic cleaners can be more suitable. But care should be taken to select cleaning products, as certain products contain abrasive chemicals that might not be suitable for certain settings. For example, in textile industries, acidic cleaning products must be avoided, as they might ruin the fabric. To further keep floors dry and clean, substances like mats, carpets, or rubber rolls can be utilized. Although these supplements enhance floor safety and cleanliness, they can be more expensive in terms of initial setup because vacuum cleaners or specific equipment may be required for frequent maintenance.



Fig. 6.3: Using Mop on Floor

Kill Germs and Infections

Germs such as bacteria and viruses are easily spread. Kill them with disinfectants and maintain a healthy workplace. We all witnessed during the COVID-19 pandemic how deadly viruses can be.



Fig. 6.4: Applying disinfectants on work area

Clean the Air

- Dust and small particles in the air may hurt your health.
- Good ventilation prevents air from becoming dirty and lessens illness.
- If cutting or grinding is part of your work, air cleaning is extremely crucial.
- Clean your HVAC system frequently to prevent mould and bacteria.
- Use HEPA filter vacuum cleaners to get rid of fine dust.

Maintain humidity between 30% and 50%. You can use:

- A dehumidifier if air is too dry.
- A humidifier if the air is too dry and dusty.



Fig. 6.5: Air Filtration

Keep Proper Lighting

Do not keep your lights dirty or it will reduce this effectiveness. Good light is important for working with concentration. Also, stairways and aisles should always have clear visibility by lights to preventing accidents.

- Filthy lights lower brightness.
- Clean light fixtures and bulbs frequently.
- Ensure stairs and pathways are properly lighted to prevent accidents.



Fig. 6.6: Light Bulbs

Employ Eco-friendly Products

- Utilize environment-friendly cleaners.
- Toxic chemicals can harm the environment.
- The use of green products keeps our Earth safe.



Fig. 6.7: Eco-friendly Cleaning

Utilize Proper Dust Bins

Classify your dust bins in terms of wastage you generate in your working place. You may have different dust bins for wet and dry trash. If your waste products contain paper, glass, plastic, or metal then you may have the same number of dust bins so recycling them would be convenient and effective.



Fig. 6.8: Bin Types

Advantages of Keeping Workplace Clean

A clean and well-kept workplace provides numerous advantages:

- Saves time and effort in dealing with materials.
- Less slipping and falling accidents.
- Less likelihood of fire.
- Workers remain healthier with fewer respiratory issues.
- Tools and materials are readily available.
- Tools and machines are simpler to clean and maintain.
- Cleaner environments improve worker morale and mood.
- Improved utilization of available space.
- Fewer damages to tools and property.
- Increased productivity of workers.

2. Complying with Health and Safety Instructions

Maintaining health and safety rules is the foundation of a productive and hazard-free workshop. Ignoring such practices may result in injuries, stress, or poor product quality.

Key Measures:

1. **Objective:** The main goal is to ensure that all artisans, helpers, and staff have a safe and healthy place to work in.
2. **Emergency Protocols:** All emergency exits should be clearly marked and always kept accessible. A first-aid box with basic medicines and bandages must be available and staff should be trained in basic first aid. Fire extinguishers must be placed in visible spots and checked regularly. Fire drills and safety practices should be conducted from time to time.
3. **Use of Personal Protective Equipment (PPE):** PPE such as gloves (to protect from cuts and glue burns), aprons (to protect clothing), safety goggles (to shield eyes from dust and varnish), and masks (to avoid inhaling fumes) should be provided and used during tasks.
4. **Tool Safety:** Workers must be trained on how to use tools such as scissors, knives, cutters, and glue guns safely. A reporting system should be in place so that any damaged tool or unsafe condition can be fixed immediately.
5. **Workspace Ergonomics:** The workstations should be arranged in a way that artisans don't have to bend or stretch uncomfortably for long hours. Proper seating, table height, and lighting must be ensured to prevent physical strain and improve efficiency.

3. Complying with Gender and PwDs (Persons with Disabilities) Related Instructions

A safe workspace should also be respectful and inclusive. Paper mache clusters often include women and youth, and with thoughtful planning, can also include persons with disabilities (PwDs).

Inclusivity

In many paper mache units, women form a major part of the workforce. Their health and hygiene needs must be taken into account while planning shifts and breaks. Tasks should be distributed equally without discrimination and women artisans should feel safe and respected.

Inclusion of PwDs

Not all disabilities can be accommodated, but wherever possible, necessary adjustments should be made. For instance, visual alarms (blinking lights) can be used for hearing-impaired artisans. Seating arrangements, tool placements, and clear walkways can assist physically challenged artisans in performing tasks comfortably.

Creating an inclusive workplace not only builds trust but also strengthens team collaboration and ethical values.

4. Monitoring Potential Risks at the Workplace

To prevent future accidents or disruptions, regular assessment of risks is necessary. This involves identifying risks early and taking action before they cause harm.

1. **Risk Assessment:** Artisans and supervisors should frequently discuss possible risks like tool misuse, electric hazards, or chemical exposure. A risk matrix (tool to measure severity and likelihood of a risk) can be used to plan responses.
2. **Risk Register and Verification:** Maintain a record of identified risks, what action was taken, and whether it was effective. This register must be updated regularly.
3. **Informative Onboarding:** New artisans or helpers should be educated about the risks involved in paper mache work as part of their joining process. Posters and signboards should display safety instructions as daily reminders.
4. **Outside Audit:** An external inspection (by an NGO, safety officer, or training body) can help evaluate the unit's readiness for emergencies and compliance with safety rules. This supports legal compliance with the Occupational Safety, Health and Working Conditions Code, 2020.

5. Safety Guidelines for Handling Paper Mache Tools and Materials

The following guidelines should always be followed to reduce hazards in the craft space:

1. **Read Instructions for Tools and Materials:** Always read the manufacturer's manual before using a glue gun, varnish, or cutter.
2. **Wear Proper Safety Gear:** Use gloves, masks, and aprons as per the activity. It is recommended that while working with machines or at larger work sites, artisans should wear a good pair of protective shoes. These shoes help protect the feet from machine blades, uneven surfaces, and various sharp or heavy materials.
3. **Maintain a Clean and Uncluttered Area:** Avoid crowding the workspace with unused tools or materials.
4. **Store Tools Safely When Not in Use:** This prevents injuries and helps in maintaining order.
5. **Use Tools Properly:** Workers should be trained in handling each tool carefully and understand what it is meant for.

The Following Are the Specifics of the PPE to Be Used in Paper Mache Craft Unit

Gloves: Two different kinds of gloves are commonly used in paper mache craft units:

Cotton Gloves: Cotton gloves serve as a cost-effective and practical form of personal protective equipment (PPE). They are useful for general craft activities such as mixing pulp, layering paper, handling dry components, and finishing touches. Cotton gloves provide protection from minor cuts and abrasions during light tool work and offer comfort during long hours of crafting. Some cotton gloves may have PVC dots to improve grip while handling moist or delicate materials.



Fig. 6.9: Cotton gloves

Rubber Gloves: Rubber gloves, available as unsupported (pure rubber) or supported (rubber-coated textile gloves), are essential during tasks involving glue, varnish, paints, and cleaning agents. They protect the hands from chemical exposure, sticky materials, and prolonged contact with water or flour paste that could cause skin irritation or fungal infection. Rubber gloves are especially important during the finishing stages, such as polishing, coating, and cleaning.



Fig. 6.10: Leather gloves

Safety Glasses: Safety glasses protect the eyes from fine paper dust, paint splashes, and accidental chemical splatters from glues or varnishes. It is important that the glasses fit well and provide coverage from all sides to prevent eye irritation or injury during sanding or polishing work.



Fig. 6.11: Safety glasses

Apron: Industrial aprons made from thick cotton or plastic-coated fabric are important for protecting clothing from glue, water, colour stains, dust, and chemicals. Wearing an apron helps maintain hygiene, avoids skin contact with adhesives, and ensures safe handling of materials without damaging personal attire.



Fig. 6.12: Apron

Mask: Industrial N95 or simple protective masks should be worn while working with dry paper dust, sanding work, or when handling chemicals like varnish or aerosol sprays. Masks prevent inhalation of fine particles or fumes, which may cause respiratory discomfort or long-term health issues.



Fig. 6.13: Mask

Earmuff or Earplug (Rarely Required): In most paper mache units, noise levels are not high. However, if the unit uses motorized mixers, electric fans, or polishing machines in a confined area, then basic earplugs can help prevent ear strain or long-term hearing sensitivity.



Fig. 6.14: Earmuff or earplug

Activities

Activity: Safety Drill Role Play and PPE Demonstration

Materials Required:

- Gloves, aprons, masks, goggles (can be real or made from paper for demonstration)
- A printed safety checklist (emergency exits, first aid, PPE, tool safety)
- Space for role play

Procedure:

1. Divide students into small groups.
2. Assign each group a safety situation, such as:
 - Using PPE correctly
 - Responding to a minor cut or electric hazard

- Guiding a new artisan through safety rules
 - Helping a PwD artisan work comfortably
3. Each group prepares a short role play or demonstration (2–3 minutes).
 4. Perform the role play for the class, demonstrating correct safety practices.
 5. Conduct a group discussion on what was learned from each act.

Check Your Progress

A. Fill in the Blanks

1. _____ must be available in the workshop to treat minor injuries.
2. PPE stands for _____.
3. _____ should be clearly marked and always accessible during emergencies.
4. The safety of women and PwDs is part of creating an _____ workplace.
5. _____ and _____ alarms help hearing-impaired workers during emergencies.

B. Short Answer Questions

1. List any three items included in PPE for paper mache work.
2. Why is it important to follow ergonomic guidelines in craft units?
3. What is a risk register and how is it used?

C. Long Answer Questions

1. Explain how a craft unit can be made inclusive for women and persons with disabilities.
2. Discuss the importance of emergency protocols and first aid training in the workplace.
3. Describe three safety practices that artisans should follow while working with tools and materials.

Session 3: Environmental Safety, Emergency Preparedness, and Workplace Signage

In any craft-based industry like paper mache, maintaining safety does not end with personal protection and hazard control alone. It also includes caring for the environment, preparing for emergencies, and following signage systems to prevent confusion or injury during a crisis.

A clean, eco-friendly, and safe workplace benefits not only the artisans but also the larger community and environment. This session focuses on three important areas: Environmental Management System (EMS), responding to accidents and emergencies, and understanding safety signboards in the workplace.

1. Environmental Management System (EMS)

An Environmental Management System (EMS) is a structured approach that helps craft units minimize their negative impact on the environment. In the context of paper mache, this involves responsible use of paper, adhesives, paints, water, and energy, as well as the proper disposal of waste materials.

Key components of EMS in a paper mache unit:

- **Planning:** Identify how paper mache products production may affect the environment—such as water usage, non-biodegradable glue waste, or chemical disposal. Set goals to reduce harmful practices, like shifting to eco-friendly glues and paints.
- **Implementation:** Provide training to artisans on waste segregation, reusing leftover pulp, and using natural alternatives. Ensure dustbins, cleaning areas, and drying spaces are maintained hygienically. Minimize water wastage during pulp preparation.
- **Monitoring and Review:** Keep records of material usage and waste generation. Regularly inspect the workspace to ensure cleanliness and eco-friendly practices. Display posters encouraging sustainable habits. Periodic audits can help measure progress and make improvements.

By following EMS, paper mache units can contribute to sustainability, reduce health hazards, and enhance their reputation as responsible craft enterprises.

2. Potential Accidents, Emergencies and Response

Accidents may still occur despite safety precautions. Therefore, artisans must be trained to respond quickly and correctly during emergencies such as injuries, fires, or chemical exposure.

Common types of accidents and responses in paper mache units:

- **Cuts and wounds:** Caused by scissors, blades, or cutters. Clean the wound with water, apply antiseptic, and bandage. Seek medical help if the cut is deep.
- **Chemical exposure (glue, varnish, paint):** Wash the affected area with clean water. If chemicals get in the eyes, rinse immediately for at least 10 minutes. Use gloves and masks to prevent such incidents.

Potential accidents and response to those scenarios

Cuts and wounds

The following are the cuts and wounds that are caused while working with paper mache tools machine tools:

- Abrasions or minor lacerations
- Deep cuts or puncture wounds
- Cuts and scratches may occur while manually preparing pulp with hands.
- Wounds that bleed heavily or won't stop bleeding
- Wounds with visible foreign objects
- Boils due to repeated rubbing against the tool handle



Fig. 6.15: Different cuts and wounds

A significant number of injuries and their underlying causes are, in fact, predictable and preventable through organised and strategic preparedness measures. The following are a few preparedness measures to deal with an accident in a paper mache craft unit:

- Appropriate personal protective equipment must be worn to avoid abrasions or minor lacerations.
- Safety precautions must be followed to avoid cuts or puncture wounds.

- Well-fitted gloves with cushions for hands are required to reduce friction. Further, comfortable and non-slip handles are desired.
- A first aid kit with essential items like antibiotic ointment, sterile gauze pads, antiseptic wipes, adhesive bandages of various sizes, disposable gloves, tweezers and a pair of clean scissors should be kept in readily accessible locations.

Accidents are often viewed as unforeseen events or "acts of God" and are thus believed to be unavoidable. During an emergency with cuts and wounds, the following immediate steps are to be followed:

- Debris of any kind has to be removed using sterilized tweezers.
- Gently rinse the wound with clean running water or saline solution.
- It is recommended to gently rinse the wound with clean running water or saline solution.
- Bleeding has to be stopped by applying pressure with thoroughly washed hands.
- Put a thin layer of antibiotic cream on the cleaned wound.
- A sterile bandage or clean dressing must be applied to the wound.
- For deep cuts, puncture wounds or wounds that bleed heavily, the casualty must be taken to the nearest primary health care or the hospital.

Fire emergencies: Paper, glue, and varnishes are flammable. In case of fire, follow the RACE method:

- **R** – Rescue anyone in danger
- **A** – Activate the fire alarm
- **C** – Confine the fire by closing doors
- **E** – Extinguish with the right fire extinguisher if safe to do so



Fig. 6.16: Fire instructional signs

Electric shock: Disconnect the power source if safe. Do not touch the victim directly. Use a wooden stick or non-conductive object to move them. Call for medical assistance immediately.

The following are the key emergency response steps in case of an electric shock:

- Before approaching the victim, the rescuer should ensure his or her own safety and check if the power source can be safely turned off or if the victim can be moved away using a plastic, wood or any non-conductive object. Wet or metal objects should never be used to move a person in contact with electricity.
- If possible, turn off the electricity at the main switch or circuit breaker.
- Once the victim is clear of the electrical source, check if they are conscious and breathing.
- If the victim is not breathing, begin CPR immediately.
- If the victim has burn marks from the electrical shock, cool the area with running water for 20 minutes and cover it with a clean, dry cloth.
- For severe injury or if the rescuer is not confident about what to do, emergency medical services should be called immediately.



Fig. 6.17: Electric shock emergency resuscitation

Emergency preparedness includes:

- Keeping a first-aid box ready and accessible
- Training artisans in basic first-aid response
- Marking and keeping emergency exits clear
- Conducting mock drills regularly

3. Different Types of Signboards at Workplace and Their Application

Signboards are important for communication, especially during emergencies. They guide artisans in safety practices, alert them about hazards, and direct them toward emergency exits or first-aid stations.

Types of workplace safety signs:

- 1. Mandatory Signs (Blue Circle):** These signs inform workers about actions they must follow to ensure safety. They provide instructions that are compulsory, such as using protective equipment or maintaining hygiene.

Common Examples in Paper Mache Units:

- “Wear Gloves” to protect hands from glue and cutting tools.
- “Use Mask” while sanding or handling chemicals.
- “Wash Hands Before and After Work” for cleanliness.
- These signs are usually displayed at entry points or near tool stations.



Fig. 6.18: Wear PPE (Personal Protective Equipment) Sign

- 2. Prohibition Signs (Red Circle with Slash):** These signs show what is not allowed in the workplace. They are important for preventing unsafe actions that could lead to accidents or contamination.

Common Examples:

- “No Smoking” to avoid fire risks near flammable materials like paper and varnish.

- “Do Not Use Without Gloves” near areas where chemicals or sharp tools are used.
- “No Entry for Unauthorized Persons” near tool or storage rooms.
- These signs must be placed in sensitive or restricted areas.



Fig. 6.19: No smoking sign

- 3. Warning Signs (Yellow Triangle):** These signs alert workers to potential hazards that may not be immediately visible. They are designed to prevent accidental injuries by making workers aware of risks.

Common Examples:

- “Wet Floor” where water or glue spills are likely.
- “Electric Shock Risk” near extension cords, glue guns, or fans.
- “Sharp Tools” near cutting and carving areas.
- These signs should be placed wherever caution is needed.



Fig. 6.20: Sharp tool caution sign

- 4. Emergency Signs (Green Rectangle):** These signs provide information during emergencies, such as where to go or what to do. They ensure that artisans can act quickly during accidents or disasters.

Common Examples:

- “First Aid Box” – shows where first aid supplies are kept.
- “Emergency Exit” – indicates the way out in case of fire or evacuation.
- “Assembly Point” – a safe area where everyone should gather.
- These signs must be well-lit and always visible.

**Fig. 6.21: First Aid sign**

5. Fire Safety Signs (Red Rectangle): These signs indicate the **location of fire-related equipment** and should be recognized instantly during emergencies.

Common Examples:

- “*Fire Extinguisher*” – helps in putting out small fires.
- “*Fire Alarm*” – activates an alert to evacuate the area.
- “*Fire Hose Reel*” – used in case of larger fires.
- These signs should be placed near fire-fighting tools and escape paths.

**Fig. 6.22: Fire safety sign**

These signs must be displayed clearly in appropriate places within the paper mache unit and should be easily visible even in low light or emergencies.

Application in the Paper Mache Unit:

In a paper mache craft space, these signboards must be:

- Positioned at eye level and in visible locations.
- Made using durable material to withstand moisture, dust, and wear.
- Understood by all artisans, including those with limited reading skills hence use of simple icons and colours is essential.
- Introduced as part of safety training and induction for new workers.

Depending on the size and working conditions of the paper mache craft unit, signage can be modified for better visibility and relevance. By using the correct signboards, a craft unit ensures a safer, more organized, and compliant workspace where artisans can focus on their creativity without unnecessary risk.

Activities

Activity: Create a Safety Signboard Display Chart for Your Craft Room

Materials Required:

- A3 sheet or chart paper
- Colour pens, rulers, glue
- Printed or hand-drawn images of safety signs
- Labels and short descriptions

Procedure:

1. Divide the sheet into 5 sections: Mandatory, Prohibition, Warning, Emergency, and Fire Signs.
2. Paste or draw signs in each section.
3. Write 1–2 lines explaining each sign’s purpose.
4. Present it to the class and hang it in the workshop.

Check Your Progress

A. Fill in the Blanks

1. The _____ system helps in reducing the environmental impact of craft practices.
2. Paper, glue, and paints can be a cause of _____ in case of carelessness.
3. The green rectangular signboard is used for indicating _____ locations.

4. A red circle with a slash is used for _____ signs.
5. The _____ box should always be stocked and placed in a visible area.

B. Short Answer Questions

1. What is the purpose of an Environmental Management System (EMS) in paper mache craft?
2. Name two common accidents in a craft unit and how you would respond to them.
3. What are the five types of safety signboards and their colour codes?

C. Long Answer Questions

1. Explain how EMS helps in promoting sustainability in a paper mache unit.
2. Discuss any three common emergencies that can occur in a paper mache unit and the immediate response steps to be taken.
3. Why are safety signboards important in a workshop? Explain each type with an example.

Answer Key

UNIT – 1

Session: 1

Fill in the Blanks

1. Hand
2. Metal
3. Paper mache
4. Paper mache
5. Chewed paper

One-Word Answer Questions

1. Lucknow
2. Paper
3. Rajasthan
4. Brass
5. Cuttack

Session: 2

Fill in the Blanks

1. Low, high
2. Market exposure
3. Transport
4. Instructors
5. Branded

Session: 3

Fill in the Blanks

1. Festival
2. Jewelry/Fashion
3. Educational

4. Ganesh
5. Eco-friendly

Session: 4

Fill in the Blanks

1. Sakhta
2. Steady hands and attentiveness
3. Varnish
4. Buyer's
5. Painting

UNIT – 2

Fill in the Blanks

Session: 1

1. Color
2. Texture
3. Diagonal
4. Occupied by, around
5. Shape

Session: 2

Fill in the Blanks

1. Balance
2. Rhythm
3. Emphasis
4. Harmony
5. Variety

UNIT – 3

Session: 1

Fill in the Blanks

1. Glue
2. Cutter
3. Pliers
4. Paper and Flour
5. Brush

Session: 2

Fill in the Blanks

1. Armature
2. Clean
3. Petals/figurines
4. Layering
5. Airtight

UNIT – 4

Session: 1

Fill in the Blanks

1. Pre-production
2. Smoothness
3. Gond
4. 12 to 15
5. Chalk powder

Session: 2

Fill in the Blanks

1. Armature
2. Coil method
3. Flat forms
4. Moulding technique
5. Sticking

Session: 3**Fill in the Blanks**

1. Finishing.
2. Sandpaper
3. Colouring
4. Varnish
5. Well-ventilated

UNIT – 5**Session: 1****Fill in the Blanks**

1. strength
2. coconut
3. adhesive / glue
4. before
5. varnish

Session: 2**Fill in the Blanks**

1. Separator
2. 5–8
3. Direct sculpting
4. Dried
5. Water-resistant

UNIT – 6**Session: 1****Fill in the Blanks**

1. Mechanical
2. Ergonomic

3. Biological
4. Psychological
5. Mechanical and Electrical

Session: 2

Fill in the Blanks

1. First-aid box
2. Personal, Protective, Equipment
3. Emergency exits
4. Inclusive
5. Visual and Sound

Session: 3

Fill in the Blanks

1. Environmental Management
2. Fire
3. Emergency
4. Prohibition
5. First-aid

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