

SECTION

2

**MATERIALS,
METHODS AND
TECHNIQUES FOR
ART AND DESIGN**



Art and Design Theories and Application

Material Classifications and Methods

INTRODUCTION

In order to have a better understanding of this section, observe and record all the artworks in your environment that you have encountered or experienced. From the artworks listed, identify the various media used to create these art and design works and discuss their unique qualities. Closely examine the forms of art and design fields discussed in **Fig. 1.6** and list some of the basic media used in the creation of artworks within those fields. Additionally, reflect on and identify some of the artworks used during rites of passage (birth, puberty, marriage, and death) and festive occasions, including both indigenous and contemporary festivals in your community, as well as the everyday artworks found in the home.

At the end of the section, you will be able to:

- Discuss art materials according to nature, technique and purpose.
- Discuss the basic methods and techniques in creating 2-D and 3-D art and design works.
- Discuss the basic methods for preparing and storing art media.

Key Ideas

- Art media could be natural or manmade and have different characteristics.
- Art media could be grouped according to nature, technique, technology, and purpose.
- Art media is a collective term used for tools, equipment, and materials.
- The physical nature and structure of artworks usually informs their classification.
- Some art materials may be liquid, solid, or gaseous.
- **Composition** is the process of blending various materials and techniques into a single cohesive artwork. By layering elements like paint, paper, fabric, and digital images, artists create a unified piece that harmoniously integrates different textures, colours, and forms to express complex ideas.
- Varnishing is the application of a protective, transparent coating over a finished artwork. This coating, known as varnish, serves several purposes:
 - * **Protection:** It shields the artwork from dust, dirt, UV light, and environmental damage.
 - * **Enhancement:** Varnish can enhance the colours and textures of the artwork, providing a glossy or matte finish as desired.
 - * **Longevity:** It helps preserve the artwork and extends its lifespan by preventing damage.

- **Varnishing** is commonly used in painting, including oil and acrylic paintings, to maintain the artwork's appearance and durability.
- Art media require preparation before usage and proper maintenance after use.
- **Kneading:** The process of manipulating clay or dough with the hands to improve its texture, consistency, and pliability by working out air bubbles and ensuring an even mixture.
- **Wedging:** A technique used in pottery to prepare clay by cutting and folding it repeatedly to remove air bubbles and achieve a uniform texture before shaping.
- **Sealants:** Substances applied to surfaces to create a protective layer that prevents moisture, dirt, or other contaminants from penetrating and damaging the material.
- **Primers:** Coating materials applied to surfaces before painting to improve adhesion, ensure an even finish, and enhance the durability of the final paint layer.
- **Solvents:** Liquids used to dissolve or dilute other substances, such as paints or adhesives, making them easier to apply or clean up. Common solvents include water, alcohol, and turpentine.
- **Binders:** Materials used in art and design to hold pigment particles together and adhere them to a surface. Binders can be found in paints, inks, and adhesives.
- **Sanding:** The process of smoothing or polishing a surface by rubbing it with sandpaper or other abrasive materials to remove imperfections and create a refined finish.
- **Sandblasting:** A technique that involves blasting abrasive particles at high speeds onto a surface to clean, smooth, or etch it, often used in industrial settings or for artistic effects.
- **Pigment:** A substance that provides colour to materials such as paints, inks, or dyes. Pigments are finely ground powders that are mixed with binders to create coloured mediums.
- **Diluting:** The process of reducing the concentration of a substance, such as paint or ink, by adding a solvent or another liquid to make it thinner and easier to apply.

CONCEPT OF ART MEDIA

Art media come in various forms, each offering distinctive qualities, textures, colours, and effects. These allow artists to convey their ideas and concepts in diverse and expressive ways. The term “art media” refers to the materials, tools, equipment and techniques that artists use to make artworks. Let us now identify and discuss some of the art media commonly used by artists to produce art and design works.

- **Drawing media (mediums):** These are materials used for drawing. They include ink, pastels, pens, paper, wood, wall, markers, charcoal, and pencils.
- **Painting media:** oil paints, acrylic paints, watercolour, papers, canvas, wall, wood, floors, easel, gouache, and tempera are some of the painting media.
- **Sculpture Media:** Some of the media used to produce sculpture include clay, stone, wood, metal, resin, fibreglass, wax, found objects, and paper.

- **Printmaking Media:** Some printmaking media include copper etching, woodcut, lithography, screen printing, printing inks, paper, screens, rollers, printing plates, and stencils.
- **Photography:** SLR cameras, films, lenses, memory cards, darkroom chemicals, photo editing software, filters, and smartphones, are used to produce images that can be regarded as artistic expressions.
- **Digital Media:** As technology has advanced, digital art has become more and more popular. It uses computer software, tablets, styluses, laptops, digital brushes, joysticks, scanners, painting software, design software, and other digital instruments to produce artworks.
- **Collage and mixed media:** These combine different materials such as paper, fabrics, pictures, found objects, wood, fabrics, plastics, paint, and adhesives, which could be brought together to produce an artwork.
- **Performance art:** This type of art entails live performances that combine elements from the theatre, dance, music, and other media. The human body and voices are used as primary mediums.

Classification of Art Media

Art media, referring to the materials used in creating artwork, can be classified based on their nature, purpose, technology, and the form of the artwork (2-D, 3-D, and 4-D). This classification helps in understanding the diverse ways materials can be utilised in artistic expression, whether through traditional methods or modern technological approaches and how they contribute to the creation of various forms of art across different dimensions. Below are the ways in which art media can be classified.

i. Classification According to Nature:

- **Natural:** Media that come from nature, such as clay, wood, and stone. These materials are often used in traditional art forms and have unique textures and properties.
- **Man-made (artificial or synthetic):** Media created through human processes, like plastic, acrylic paint, or synthetic fibres. These materials are designed for specific uses and often offer a wide range of colours and finishes.

ii. Classification According to Type, Use, or Technology:

- **Two-dimensional (2D):** Includes media used for creating flat artworks, such as paper, canvas, and ink. Examples are drawing, painting, and printmaking.
- **Three-dimensional (3D):** Media used for sculptural or tactile art forms, like clay, metal, and wood. Examples include sculpture, pottery, and installation art.
- **Four-dimensional (4D):** Involves time-based or interactive media, such as video, animation, and digital installations. These artworks often incorporate movement and sound.

- **Conventional:** Traditional materials and methods used in established art practices, like oil paint, charcoal, etc.
 - **Non-conventional:** Unorthodox materials and methods, such as using found objects or experimental techniques.
 - **Analogue:** Traditional, nondigital media, such as film photography and manual printmaking.
 - **Digital (new media):** Media that involve digital technology, such as digital painting, computer graphics, and virtual reality.
 - **Traditional media:** Established art materials and techniques passed down through generations, such as watercolour, oil paint, and sculpting with marble.
 - **Non-traditional media:** Innovative or contemporary materials and methods, including mixed media and recycled materials.
 - **Performance-based media:** Art forms that involve live performance or interaction, such as theatre, dance, and performance art. These often combine various media and focus on the artist's actions or presence.
- iii. Classification of Art Tools and Equipment:**
- **Manual:** Tools that are operated by hand, like brushes, chisels, and pencils. These tools require direct physical manipulation by the artist.
 - **Digital:** Tools that involve electronic or digital technology, such as graphic tablets, digital cameras, and software for design and editing.

Activity 2.1 – Group Works

1. In groups of five, gather resources such as actual art and design works, and photographs from your community.
 - a. Identify and document the materials used in these artworks.
 - b. Make sure to include both traditional and modern materials in your documentation.
 - c. Sort and classify the materials you have gathered.
 - d. Use both manual and digital tools to organise the materials according to their nature, purpose, and form. For example, you might classify them into natural or man-made, two-dimensional or three-dimensional, and traditional or modern categories.
 - e. Discuss your findings.
2. In groups of three, create a pictorial chart that visually represents how art media are used in creating art and design works. Your chart should classify the media according to their nature (natural or artificial) and their uses (purpose). You can choose to make this chart manually using drawing materials or digitally using software. Present your work to the class, explaining how art media is used to create various art and design works.

CLASSIFYING TWO-DIMENSIONAL AND THREE-DIMENSIONAL ARTWORKS

You may have observed that artworks come in various forms. In this lesson, we will classify artworks according to their forms. It is important to note that the physical nature and structure of artworks usually inform their classification. Generally, artworks can be classified as two-dimensional, three-dimensional, or four-dimensional.

Two-dimensional artworks, such as paintings, drawings, fabrics, and graphic designs, have length and width, resembling flat art objects. Three-dimensional artworks, on the other hand, such as jewellery, sculpture, pottery, and architecture, possess length, width, and depth. Additionally, four-dimensional artworks refer to multimedia installations where various creative elements, including performance, light, sound, and video, are integrated to invite viewers to engage with the artwork in new and interactive ways.

It is important to note that these three classifications of artworks (2D, 3D, and 4D) can overlap and are not mutually exclusive.

Creating Computer-Generated Designs

The term “computer-generated designs” refers to graphical or visual artworks created using computer software. Through the use of vector or raster-based software, such as Adobe Creative Suite, Autodesk Maya, Corel Photo-Paint, Sketchbook Pro, and GIMP, designs are crafted by manipulating digital elements, including forms, shapes, colours, textures, and patterns. Examples of computer-generated designs include graphic art, digital art, animations, and more.

It is important to note that when using raster-based software (e.g., Adobe Photoshop, GIMP, Corel PaintShop Pro, Affinity Photo, Paint.NET, Krita, Procreate, Pixelmator, Clip Studio Paint, and Autodesk SketchBook), images can become distorted or pixelated when resized to larger dimensions. In contrast, vector-based software relies on mathematical principles, enabling the creation of designs that can be scaled indefinitely without any loss of quality. With vector-based software, the original file size is less crucial than with raster-based software, as the shapes you design can be adjusted to suit your needs. These programs are particularly useful for visual and typographic work. Examples of vector-based software include Adobe Illustrator, CorelDRAW, Inkscape, and Affinity Designer.

Figure 2.1 presents symbols or icons of some of the software used for computer-generated designs.



Fig. 2.1. Example of icons/symbols of Computer-based software.

Illusion of depth

Let us now proceed to discuss the illusion of depth observed in some two-dimensional artworks. The illusion of depth refers to a technique artists use to give a two-dimensional surface the appearance of three dimensions. By employing this method, the eye is tricked into perceiving depth in a two-dimensional artwork where none actually exists. Techniques used to create this illusion on a two-dimensional surface include overlap, diagonals, scale, placement, contrast, gradation, focus, detail, transparency, atmospheric perspective, and shadows.

Concept of Mixed Media

Another important aspect to consider in art materials is the use of mixed media in art production. Mixed media involves using more than one material, method, or technique to create a single piece of art. It may incorporate elements of digital art, printmaking, sculpture, collage, painting, and drawing, blending these diverse artistic components to form a coherent and aesthetically pleasing composition. Artists who work with mixed media explore a range of possibilities without being limited to just one medium, as shown in **Fig. 2.2**. By combining various materials and techniques, they can convey complex ideas and emotions, adding depth and interest to their work.



Fig. 2.2. Osuanyi Essel. 2010. Hero's Story. Wood, rope, bone., nails

Take a moment to do this activity

Reflect on **Fig. 2.2** above using the following questions or prompts. Record your notes or answers in your notebooks.

- Describe the activities you observe in this artwork.
- What does this artwork remind you of?
- What message does the artwork convey to you?
- What emotions or feelings does the work express?
- What does the composition reveal about the culture of the people?

Creating Mixed Media Art

Having discussed the concept of mixed media, let us now focus on how to create artworks using mixed media. The following steps provide a guide for the creation of mixed media artworks:

1. **Identification of the problem:** Determine the artistic challenge that needs intervention, focusing on what you want to create as artwork and the reason behind it.
2. **Research:** Investigate the best artistic approaches to address the problem. Through research, artists gather relevant information on similar existing artworks and the various techniques employed in their production.
3. **Idea development:** Generate and sketch your own artistic ideas as they emerge. This process involves the exploration and refinement of concepts.
4. **Pre-production planning:** Plan the production of the artwork, including setting timelines and selecting the specific mixed media to be used. Mixed media may involve different materials, tools and equipment, as well as digital art, video, sound, and various techniques.
5. **Production:** Create the desired work of art using the selected mixed media.

6. **Post-production:** After the artwork is produced, apply the appropriate finishing techniques depending on the type of mixed media used. Finishing techniques, such as compositing, adding special effects, varnishing, and framing, enhance the artwork's appearance, ensuring it aligns with the artist's vision and meets the needs of the customer or audience. This stage is also crucial for conserving or protecting the work, ensuring it lasts longer.
7. **Documentation:** Create an artist's statement about the work to aid viewer understanding and for personal records. This documentation may include statements, photographs, videos of the artwork, and the creation of catalogues or webpages.
8. **Presentation and exhibition:** Present the artwork to the intended audience or exhibit it in public places such as galleries, museums, or online platforms.
9. **Reflection and feedback:** After the presentation or exhibition, reflect on the creative process and gather feedback from peers and the audience. This will inform and improve future artistic works.

Mixed-Media Art Techniques

It is important to note that several mixed media techniques are available. Below are some of them:

- **Collage:** Traditionally, collage involves assembling various materials, such as paper, cloth, photos, and other objects, onto a surface to create an artwork. Digital collage, similarly, involves combining different digital assets, such as images, graphics, and illustrations, to create visually striking compositions.
- **Assemblage and Construction:** This technique involves bonding various objects together to create sculptures.
- **Mosaic:** Mosaic art comes in two forms: conventional and digital. Traditionally, a mosaic involves arranging fragments of materials, such as pieces of pebbles, stones, or tiles, on a surface to produce an artwork. In contrast, a digital mosaic involves combining several small images, typically thumbnails or pixels, to create an artwork.

Other mixed media techniques include decoupage, printmaking, texturising, digital mixed media, encaustic painting, and resin art.

Finishing in Mixed-Media Artworks

There are several methods for finishing mixed media artworks. Some of them include:

- **Varnishing:** This involves applying varnish to the finished artwork to protect it and give it a glossy, satin, or matte finish.
- **Embellishments:** This process incorporates embellishments such as beads, sequins, or metal findings onto the artwork to add visual interest and dimension.
- **Burnishing:** This involves rubbing the surface of the artwork with a smooth object or burnishing tool to create a polished finish or reveal underlying layers.

- **Sealing:** This process involves applying a sealant or fixative over the finished artwork to protect it and prevent smudging or fading.
- **Resin Coating:** This involves pouring resin over the surface of the artwork to create a glossy, glass-like finish.
- **Paint Washes:** This process involves applying thin washes of paint or ink over the surface of the artwork to add colour or create a translucent effect.
- **Texture Overlay:** Adding texture overlays can give digital art a tactile feel, simulating the look of traditional mediums like canvas or paper.
- **Colour Grading:** Adjusting the overall colour balance, saturation, and contrast can enhance the mood and unify the composition.
- **Adding Highlights:** Enhancing certain areas of the artwork to create a sense of depth or focus.
- **Adding Shadows:** Incorporating shadows can give the artwork a more three-dimensional appearance.
- **Glazing:** Applying translucent layers of colour builds up richness and complexity, similar to traditional glazing techniques used in painting.
- **Final Adjustments:** Making final adjustments to the composition, lighting, and overall balance ensures the artwork achieves the desired impact.

Activity 2.2

1. In groups of five, gather various 2-D and 3-D artworks from your living space and use available digital and manual resources to identify and document the step-by-step processes involved in creating these artworks.
2. Discuss how the processes differ depending on the appearance, tools and methods used in producing the artworks.
3. Compare the differences and similarities between the 2-D and 3-D artwork. Focus on how the materials and techniques vary between the two forms, and highlight the similarities and differences that emerge from your comparisons.
4. Compile your findings into a report to be submitted to your teacher for review.

Activity 2.3

1. In groups of three, create a pictorial chart on an A3 manila card or PowerPoint presentation that illustrates how both manual and digital techniques have been applied to create 2-D and 3-D art and design works. Ensure that your presentation clearly demonstrates the processes involved

and showcases examples of artworks that use a mix of techniques and materials.

2. Create another chart highlighting the significance of mixed media artworks in the cultural, economic, political and social context of Ghana.

NATURAL AND MAN-MADE ART MEDIA

Reflect on what you have studied about art media and its classification. Revisiting this information will be beneficial. This lesson will introduce you to how art media can be prepared for creating artworks and how it should be maintained for future use.

Basic methods for preparing art media

In preparing art media for art creation, the processes involve physical handling, mixing, and occasionally the use of chemicals. Artists often develop their own techniques and preferences, tailored to their chosen medium and artistic style.

1. Preparation of Natural Art Media:

- Clay: Preparing clay for sculpting and pottery involves kneading and wedging to remove air bubbles and ensure uniform consistency. It is also mixed with water to achieve the desired level of plasticity.
- Wood: To smooth wood surfaces for painting or engraving, sanding or carving is applied. It may also be treated with sealants or primers to prevent warping or decay.
- Stones: They are often carved or shaped using tools such as chisels and rasps in preparation for art. Artists may employ methods like polishing or sandblasting, depending on the kind of stone and the desired finish.
- Natural Pigments: In preparing natural pigments like ochre or charcoal, they are ground into fine powders and mixed with binders or solvents to create paints.

2. Preparation of Man-Made Art Media:

- Paints: Man-made paints such as acrylics or oils are mixed with mediums to change their thickness or extend the drying time before use. They may also require diluting with water, thinner, or turpentine.
- Digital Software: Preparing digital art media includes the installation of software, setting up the digital workspace, selecting appropriate tools, and making necessary settings.
- Synthetic Pigments and Dyes: These may need to be mixed with binding agents or solvents (water, alcohol, thinner, or turpentine) to create paints or inks suitable for application on various surfaces.

3. Preparation of Art Media Tools:

- **Brushes:** Before use, brushes should be thoroughly inspected for any loose bristles or damage and gently washed with mild soap and water to remove any residue from manufacturing or previous use.
- **Palette:** This should be cleaned and free of any dried paint residue and wiped down with a damp cloth or rinsed with water before use.
- **Pencils:** Sharpen pencils, including charcoal sticks, to a fine point using a sharpener or knife, and mechanical pencils should be loaded with fresh lead before use.
- **Clay sculpting tools:** Clean clay sculpting tools with a damp cloth to remove any dried clay residue. Check for any signs of rust or damage, and replace or repair tools as needed.
- **Armatures:** For sculpting larger pieces, armatures made of wire or other materials should be prepared and shaped according to the desired form to provide adequate support and stability for the clay or other sculpting medium.
- **Digital drawing tablets:** Ensure that digital drawing tablets are connected to the computer and configured with the appropriate settings and preferences to ensure accurate input.

Basic methods for storing art media

Let us also consider how natural and man-made art media are stored for safety and future use by artists. Proper storage ensures that art materials remain in good condition and are ready for use whenever inspiration strikes.

1. Storing of Natural Art Media:

- **Clay:** Prepared clay should be stored in airtight containers or sealed bags to prevent it from drying out and maintain its plasticity.
- **Wood:** Primed wooden pieces should be stored in a cool, dry place away from direct sunlight to prevent warping or cracking. Unfinished wood should be protected from moisture and pests.
- **Stone:** Carved stone should be stored in padded containers or wrapped in soft materials to prevent scratching or chipping.
- **Natural Pigments:** They should be stored in airtight containers away from light and moisture and kept in a cool, dark environment to maintain their colour and quality.

2. Storing of Man-made Art Media:

- **Paints:** Tubes or jars of paint should be tightly sealed and stored in a cool, dry place away from direct sunlight to prevent drying out.
- **Digital software:** Software is stored on computers or external hard drives, and artists should ensure to back up their digital files to prevent loss due to technical issues or hardware failure.

- Synthetic pigments and dyes: These should be stored in airtight containers away from light and moisture to maintain their colour and consistency.

3. Storing of Art media Tools:

- Brushes: Store brushes upright in containers or jars with bristles facing upward, or store them in protective cases to prevent bending or damage to the bristles, and avoid overcrowding the tool container to prevent deformation of the bristles.
- Palettes and paint trays: Clean palettes and paint trays thoroughly after each use to remove any dried paint residue. Store them in a clean, dry area to prevent contamination.
- Paint tubes and jars: Store paint tubes and jars upright in airtight containers or boxes to prevent drying out and maintain freshness. Keep them in a cool, dry place away from direct sunlight to prevent colour fading or weakening.
- Pencils and erasers: Keep pencils and erasers in pencil cases or organisers to prevent breakage and loss. Consider using protective caps or sleeves for pencils to protect the tips.
- Clay sculpting tools: Store clay sculpting tools in clean, dry containers or toolboxes to prevent rusting and damage. Consider using foam in-between tools to keep tools organised and prevent them from knocking against each other.
- Digital drawing tablets: Store digital drawing tablets in protective cases to prevent damage and scratches. Keep them in a clean, dry area away from dust and moisture.

Additionally, art media containers should be clearly labelled for easy identification. Use shelving units or cabinets to store art supplies neatly and protect them from dust and damage. Hazardous materials, such as solvents or chemicals, should be kept out of reach of children and pets, and you should follow the safety guidelines provided by manufacturers. Always use personal protective equipment when handling tools and chemicals to ensure safety.

Activity 2.4

1. Imagine you and your classmates or group members have been assigned to set up a new art studio. Your task is to discuss the importance of preparing and storing art media to ensure the materials remain in good condition. In a group of five, consider the following questions:
 - a. Why is it important to prepare art media properly before use?
 - b. How can correct storage techniques affect the longevity of your art supplies?
 - c. What are the potential consequences of not storing art materials correctly?

- d. As art students, create illustrations on an A3 sheet, showing **four (4)** ways of storing art media for future use.
- e. Write a summary of your group's discussion, addressing these questions, and submit it with the illustrations to your teacher for review.

Activity 2.5

1. Using resources such as photographs, videos, and real objects, create a detailed presentation on five basic methods for preparing and storing art media.
 - Your report should include explanations of each method, why it is important, and how it can be effectively applied.
 - You can either present your findings in a written document or in a digital format (a PowerPoint presentation). Clearly describe and illustrate each method with examples.
 - Present your final work before your class for review.
2. In your own view, present five (5) other methods for preparing and storing art media that are different from those previously discussed in the lesson.

Review Questions for Section 2

- 1a.** Using any method of production, create an artwork showing a distinction between natural and man-made art media.
- b.** Tabulate all the tools, materials, and equipment used in producing the artwork.
- 2.** Draw a 2-D artwork and shade using the stippling technique.
- 3.** Using four different media or mediums, create a mixed-media artwork of your choice.
- 4.** Create a photomontage showing different art media storage facilities, including art storage cabinets, bags, shelves, and specialised holding containers.
- 5.** Choose an art medium and use a chart to communicate two (2) ways of preparing the medium before usage.

Answers to Review Questions for Section 2

1a. Using graphic design to distinguish between **natural art media** and **Man-made art media**.



Fig. 2.3 Source: Authors' compilation (2024).

1b.

TOOLS	MATERIALS	EQUIPMENT
Computer, graphics tablet	Cardboard, ink	Large format printer, cutting tool, and lamination machine.

2. Below is a suggested 2-D artwork.



Fig. 2.4 Source: Author's Compilation (2024)

3. A sample mixed media artwork



Fig. 2.5 [Kofi Owusu](#). 2024. [From the Stream](#) (Mixed media – fabrics, oil paint) 139.7 W x 152.4 H x 5.1 D cm

4. Below is an example of a photomontage artwork showing art media storage.



Fig. 2.6

5. A chart showing how to prepare painting brushes for use.



Fig. 2.7

Extended Reading

- Opoku-Bonsu, K. (2017). Rethinking materiality in pre-tertiary studio art education in Ghana. *Journal of Arts and Humanities*, 6(12), 11-24.
- https://www.researchgate.net/publication/322365779_Rethinking_Materiality_In_Pre-Tertiary_Studio_Art_Education_In_Ghana

ACKNOWLEDGEMENTS



Ghana Education
Service (GES)



List of Contributors

Name	Institution
Prof. Osuanyi Quaicoo Essel	UEW, Winneba
Emmanuel Aklasu	Takoradi Technical Institute
Cynthia Tettey	Ghanata SHS, Dodowa
Nyamawero Navei	Tumu SHTS, Upper West