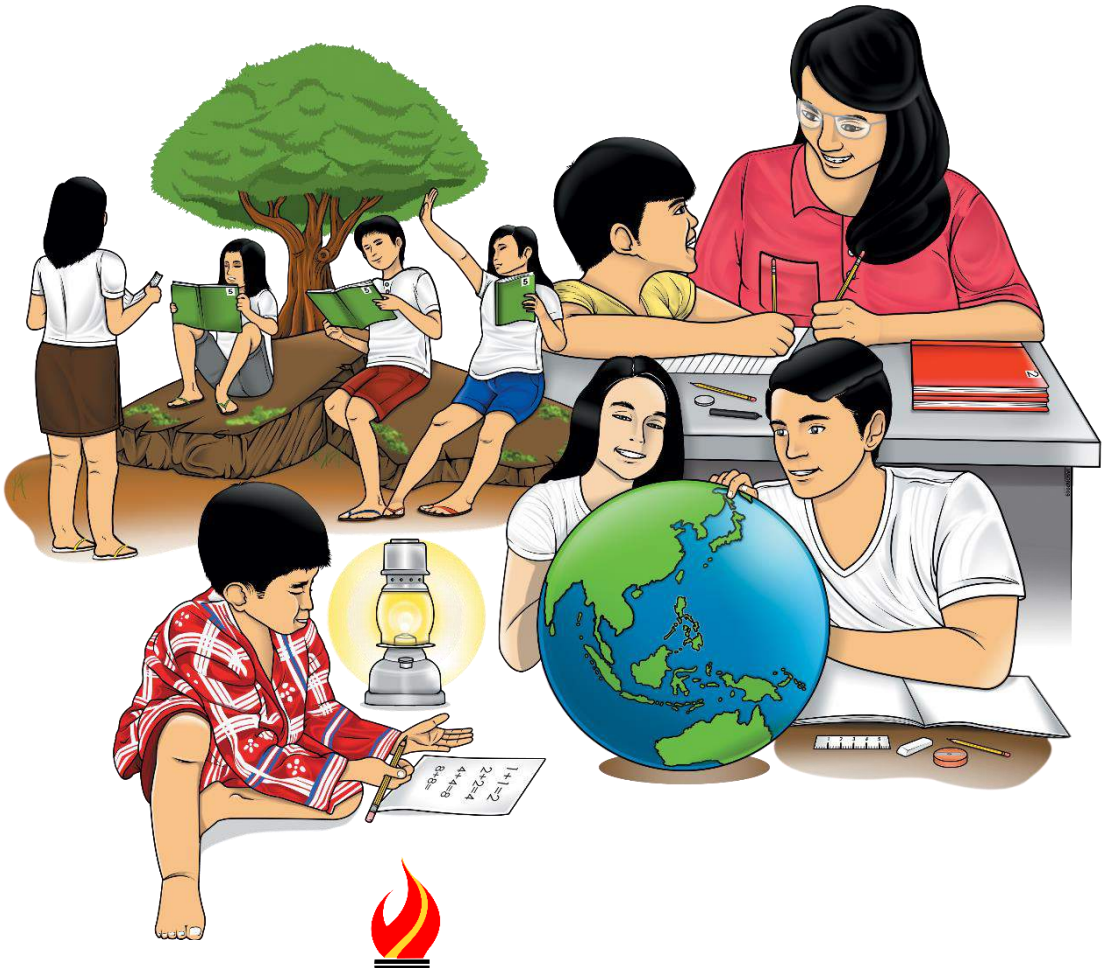
6

DepED
DEPARTMENT OF EDUCATION

Arts

Quarter 3 – Module 1:
Elements and Design of Printing



ALTERNATIVE DELIVERY MODE
ADM

Arts – Grade 6
Alternative Delivery Mode
Quarter 3 – Module 1: Elements and Design of Printing
First Edition, 2020

Published by the Department of Education
Secretary: Leonor Magtolis Briones
Undersecretary: Diosdado M. San Antonio

Development Team of the Module

Author:	Azalea Eulalio – Jabagat
Editor:	Ma. Lourdes Lizzette Z. Remola
Reviewers:	Melany S. Nazareta, Rebecca Y. Ibarreta, Mahnnie Q. Tolentino, Hajji S. Tropa
Illustrator:	Gerry D. Almanon
Layout Artist:	Gerry D. Almanon
Management Team:	Ma. Gemma M. Ledesma, Josilyn S. Solana Miguel Mac D. Aposin, Jose Niro Nillasca Elena P. Gonzaga, Donald T. Genine, Jerry A. Oquendo Dobie P. Parohinog, Mahnnie Q. Tolentino Rebecca Y. Ibarreta, Hajji S. Tropa, Rovie C. Abello

Printed in the Philippines by _____

Department of Education – Region VI – Western Visayas
Office Address: Duran St., Iloilo City
Telefax: (033) 336-2816, (033) 509 7653
E-mail Address: region6@deped.gov.ph

6

Arts

Quarter 3 – Module 1:
Elements and Design of Printing

DepED
DEPARTMENT OF EDUCATION

Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.

What I Need to Know

This module was designed and written with you in mind. It is here to help you master art. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course. But the order in which you read them can be changed to correspond with the module you are now using.

After going through this module, the learner is expected to:

1. recognize the origin of Art;
2. name the different persons who developed styles of printing Arts;
3. identify the different elements and principles of Arts; and
4. examine the harmonies created in Arts;

What I Know

How much do you know about the topic of this module? Answer the questions below for you to find out. State TRUE if the statement is a fact and FALSE if the statement is not true.

1. _____ The ancient people used cave walls as the canvas for these arts.
2. _____ These colors were used by the ancient people made from grounded plants and trees that has natural colors.
3. _____ The visual components of Art can be seen in its principles.
4. _____ This is the means that an artist uses to organize elements within a work of art.
5. _____ This is a printing technique which evolved from Japanese stenciling.
6. _____ This is used by the Chinese and the Europeans to imprint their company of family logos.
7. _____ The oldest mechanical device for print transfer.
8. _____ This was used to print bank notes by the Japanese.
9. _____ It produces an image or pattern by applying pigment to a surface over an object with designed gaps.
10. _____ a method of transferring a pattern by brushing, spraying, squeezing ink or paint through the open areas of a stencil.

Lesson 1 The Beginning of Art and Print

Have you ever wondered where art had come from? Have you ever asked yourself why everything you see around you are placed in a manner which is pleasing to the eye? The signages, the layout of newspapers, the packaging of everyday products and the different designs used are all colorful and attractive. Some of them were made by hand, but mostly they were made by modern machines.

In this lesson we will learn about the origin of art. Who were the people responsible in developing printed arts? How did they used the different elements and principles of design to produce printable arts?

After using this module, you should be able to understand the beginning of printing arts, its application and the modern machines used in printing.

Are you ready to start? You may go now to the next page and begin Lesson I.

What's In

Look at pictures below. They are the printed arts by different ancient people around the world. Let us discover them and know who were the people that developed them.

1. Stencil

Hand stencils were made by Cave men by blowing natural colored pigment over a hand held against a wall.

2. Seals

Ancient Chinese used seals to stamp over melted wax. The seals had religious purposes, used as healing devices by impressing therapeutic characters onto the flesh of sick people.

Europeans used seals to imprint their company, institutional or family logos. They used clay molds called casting, poured with melted metals. When the metal hardens, it is removed from the clay molds by breaking it. The result is the metal mold of the seal.

3. Woodblock Printing

Woodblock printing, also known as xylography today is the first ever recorded method of printing. It became widely used for paper and textile printing. It uses engraved woodblock blocks.

4. Metal-block Movable Printing

Metal movable type appeared in the late Japanese era. It was used to print banknotes and official documents.

Copper-block print has square holes for embedding movable characters such that each printed paper money had a different combination of markers for preventing counterfeit.

5. Flat-bed Printing Press

A printing press is a mechanical devise applying pressure to an inked surface thereby transferring an image.

Developed by the Germans, it replaced the metal block printing. It became the sole modern movable type of printing that was used for mass consumption.

6. Lithography

Invented by a Bavarian author, it is a method on printing on a smooth surface. It uses a chemical process to create image. There is a positive image to which the ink clings to and the clean side becomes the negative.

High-volume lithography is used today to produce posters, maps, books, newspaper and packaging.

7. Screen Printing

Screen printing has its origins in simple stenciling by the Japanese, patented by Samuel Simon (England) and adopted by the Americans, who used it for multi-prints. It used negative copies of patterns to infuse different colors to one picture design.

What's New

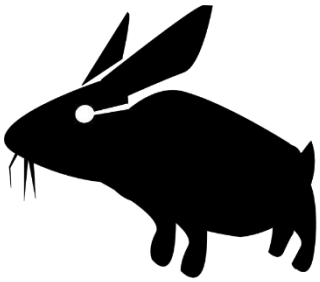
There are different ways and techniques of printing designs. Some of them are made by hand. Others are made by machines.

By using the simple technique of stenciling, you can make art designs.

Stencil printing is a method of transferring a pattern by brushing, spraying, squeezing ink or paint through the open areas of a stencil.

Stenciling produces an image or pattern by applying pigment to a surface over an object with designed gaps. It creates the pattern or image by only allowing the pigment to reach some parts of the surface.

A **stencil** is an instrument with a design created in it, in the form of design gaps. The gaps that are crafted normally allows pigment pass through**.**


What is It

Would you like to do your own stenciling? Here is how.

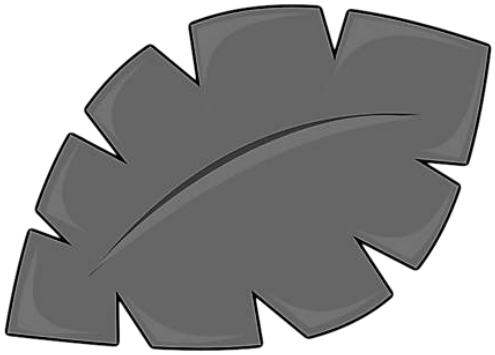
Let us do a positive stencil printing. A positive stencil printing allows you to paint around the desired design. The desired design is left untouched while the outside surface shall be covered by paint.

Activity 1: Leaf Stencil

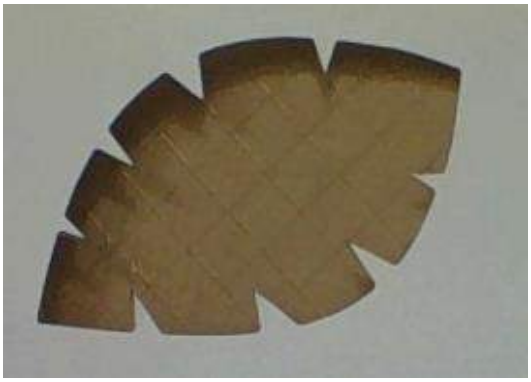
Materials Needed:

- 1 pc of bond paper
- 1 pc colored cartolina
- pencil
- a pair of scissors
- Water color and paint brush

Step 1: Draw the desired design on a bond paper.



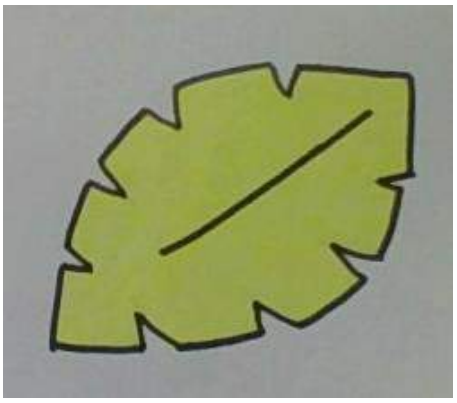
Step 2: Cut-out the leaf design.



Step 3: Place the cut-out leaf over a new piece of bond paper.

Step 4: Color over the stencil pattern with crayons, marker or water color.

Step 5: Remove the leaf stencil. The resulting print is one that is called **positive stencil printing**. You may add details if you desire.



Now let us try to do a negative stencil printing. A negative stencil printing allows you to paint the design onto the surface.

What's More

A negative stencil is what results, when a design is imprinted in a sheet of paper or textile.

Activity 2: Hand Imprint Stencil

Materials Needed:

- 1 pc of bond paper
- 1 pc paper plate
- Any color of poster paint

Step 1: Pour the poster paint in the paper plate. Mix to even out the consistency of the paint.

Step 2: Dip your hand in the paint.

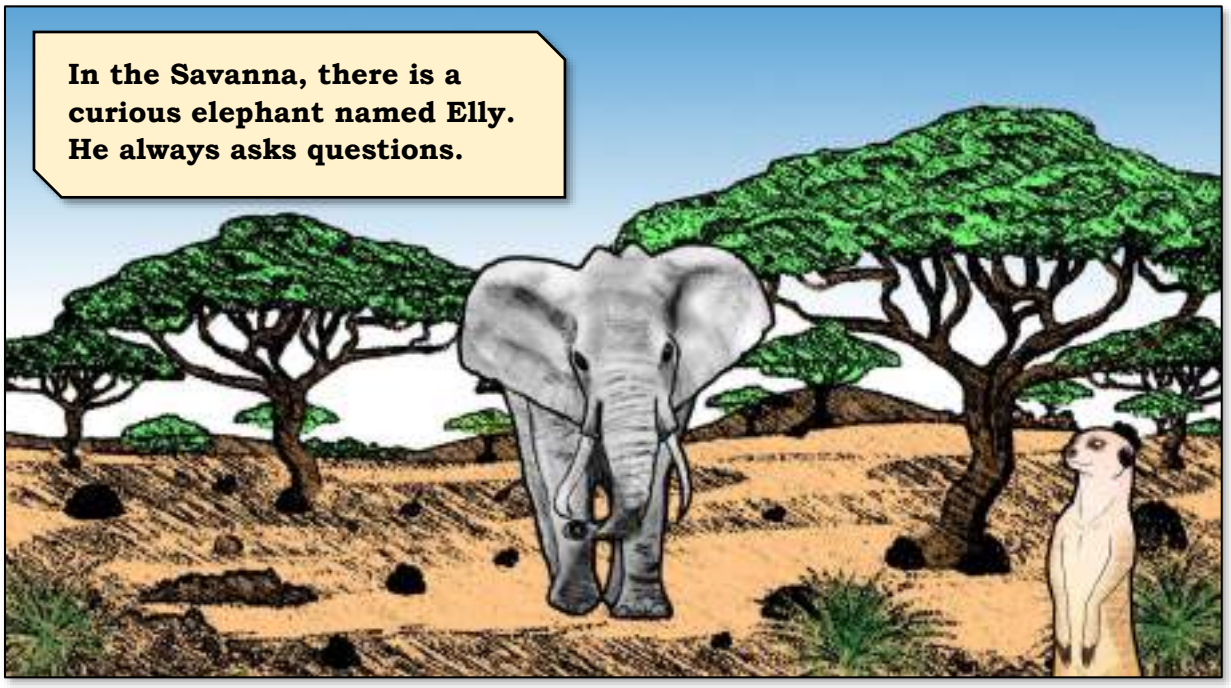
Step 3: Place your hand in the coupon bond to imprint the hand with paint.

Step 4: Wait for a few seconds for the paint to soak in the paper. Lift the hand. Wait for the paint to dry.

The resulting print is one that is called **negative stencil printing**. Choose more colors and be creative.

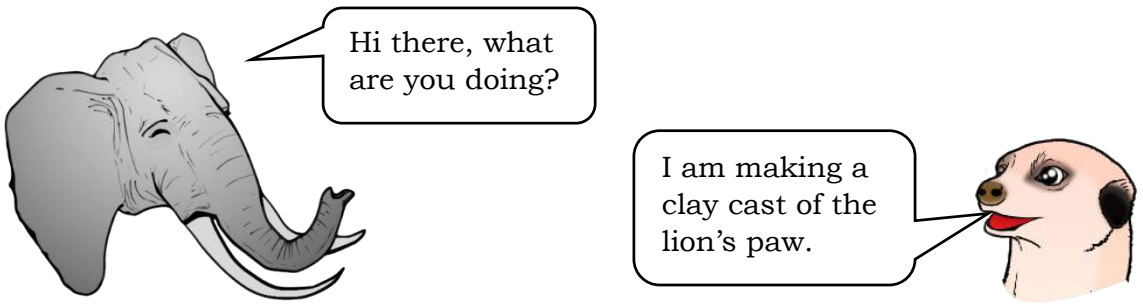
What I Have Learned

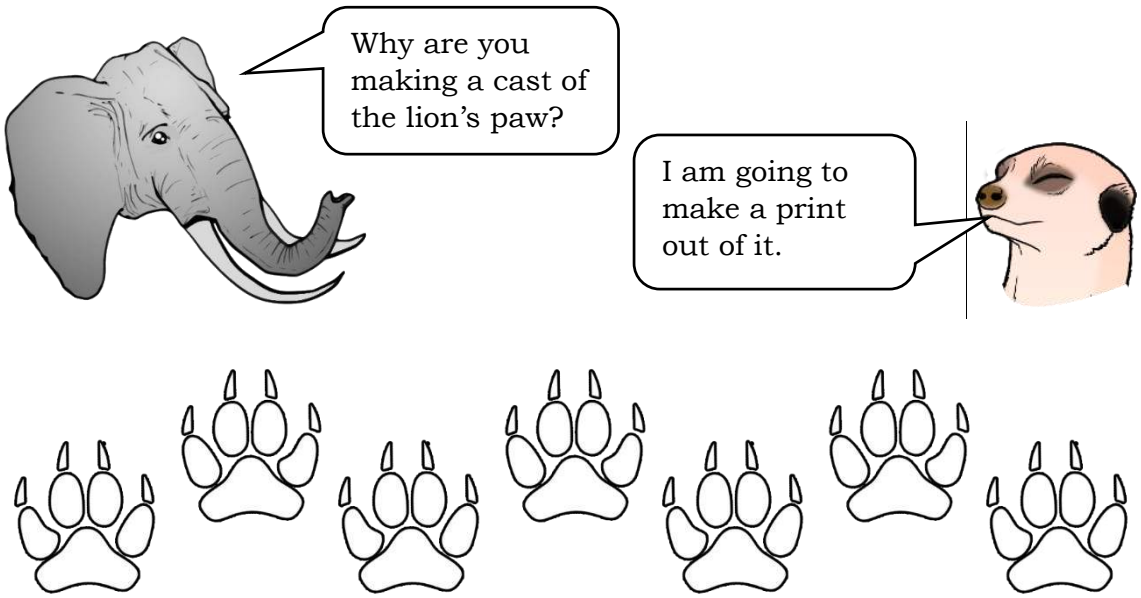
Read the story of Elly the curious elephant. Try to identify the things that Elly learned about art and printing.

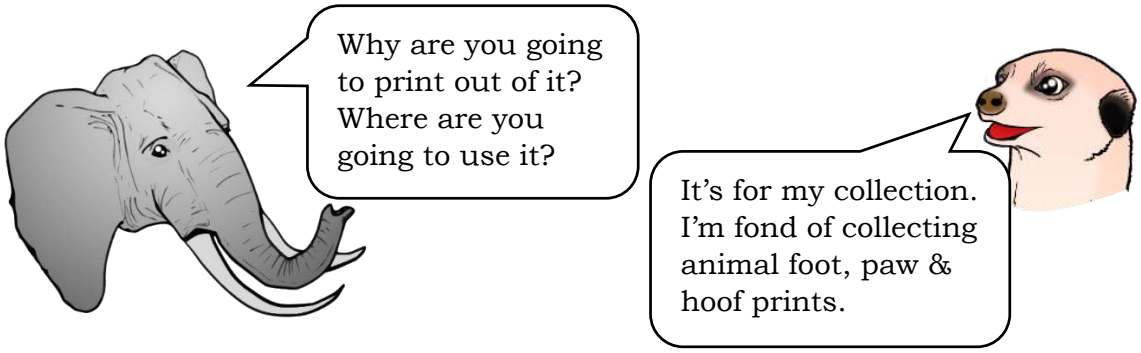


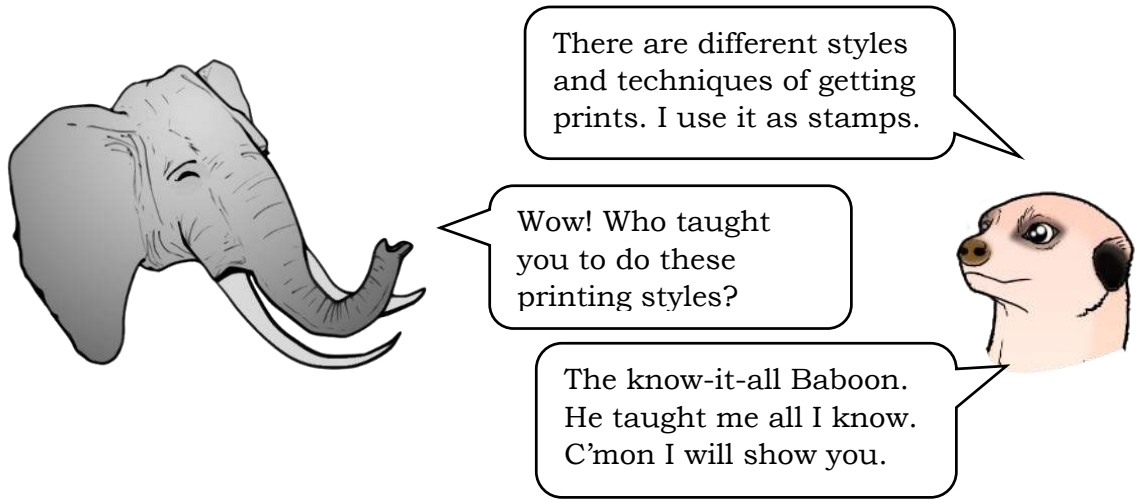
One day while he was walking down the riverbank, he saw a small meerkat named Milley. She was making something.

He came closer and asked the meerkat what he was doing.



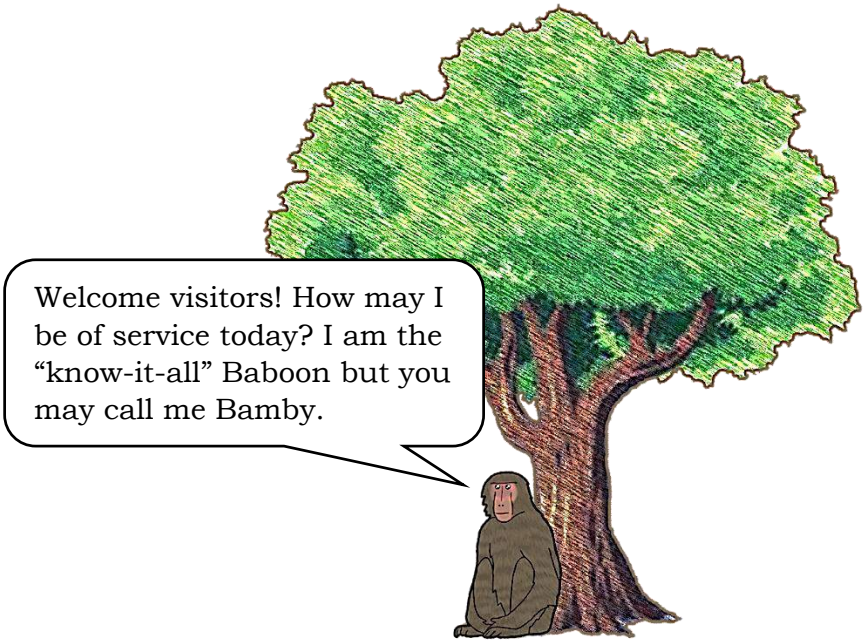


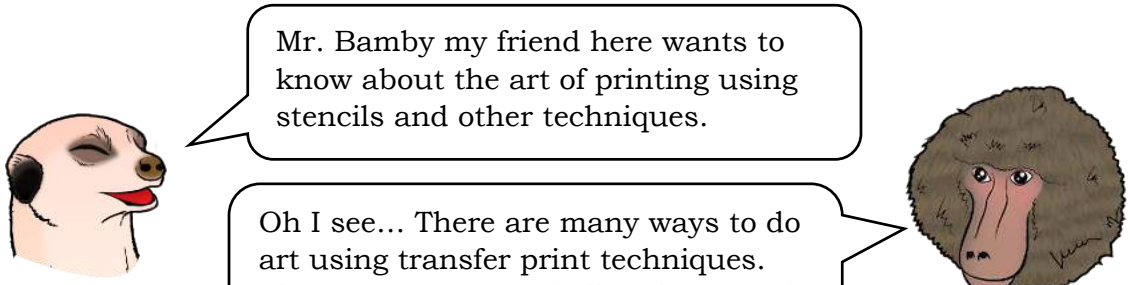


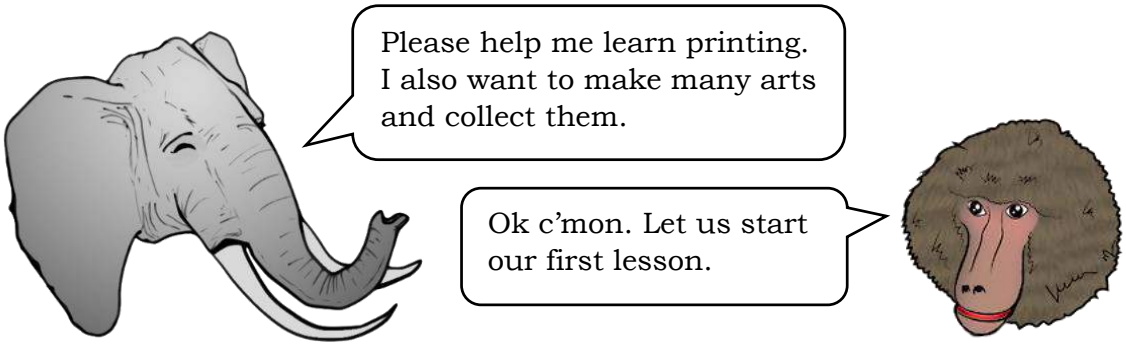


Elley and Milley went to see the "know-all" Baboon.

Elly and Milley soon arrived at the tree where the "know-it-all" Baboon live.







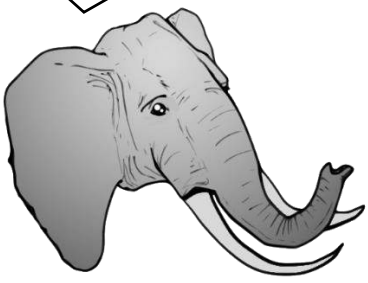
The process of stamping seals and paint transfer was a process that originated in China and soon spread to countries around East Asia and Europe.

A seal is a general term used for printing stamps and impression which are used in exchange of signatures in personal documents, office, paperwork, contracts and arts.

The seals were typically made of stone, wood, metal or ivory, they were engraved with images and were dipped in red ink or wax.

These hand stencil cave printings were made by cave people found in Latin America. This was done by the positive image formed by covering the hand with paint and placing it on a surface. The stencil which is the negative images formed by placing the hand against a surface and blowing paint around it.

Mr. Bamby, what does this contraption do?



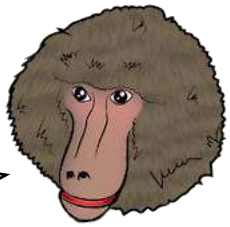
A flatbed press employs a flat surface where the paper of garment id placed to be pressed against the plates which has the embossed design or art desired.

Used widely in Europe, developed by the Germans. It was used by printing newspapers, books and brouchers.

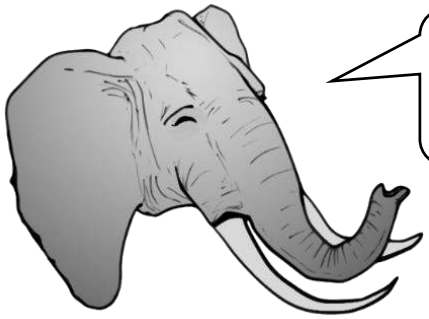
The flatbed printing had evolved itself to the modern printing machines we see today. They use state of the art ink transfer system to create beautiful and colorful arts.

The modern printing machines were developed by American giant printing companies.

Still my favorite print art is the stencil. I can make so many artistic images and use different pigments to make them attractive.



Yes that is correct Milley, print stenciling is very easy and you can make different designs.



Wow these are so amazing! Now I'm inspired to do my own print arts. Thank you Mr. Bamby!

Elly started doing his own art. He uses the art of silkscreen printing to create wonderful quotes which he posts all over the savanna to remind his fellow animal to love and preserve their home. He also made amazing t-shirt designs for the human guests who visits the savanna.

What I Can Do

Did you like the story of Elly? Were you also motivated and encouraged to do your own print art? Would you like to try?

Here is a stencil art that you can do on your own. Follow the steps and see the amazing results.

Activity 3: Coin Stenciling

Materials Needed:

- Coins (Money)
- Charcoal or pencil lead
- Bond paper
- Cotton balls

Step 1: Place the coins under the paper.

A drawing of placing a coin under a bond paper.

Step 2: Rub the charcoal or pencil lead over the paper with the coin below. You will notice that the embossed design of the coin is engraved in the paper.

A drawing of rubbing the coal on the paper.

Step 3: Gently rub the cotton balls over the coal stenciled art to smooth out the design.

A drawing of rubbing the cotton balls over the coal stencil.

Step 4: Gently blow out the rubbed coal.

What result is an imprint of the embossed coin design on the paper.

A drawing of the final result of the stencil art.

Assessment

Multiple Choice: Choose the letter of the best answer. Write the chosen letter on a separate sheet of paper.

1. What was the earliest printed art in recorded history?
    a. A photograph
    b. Paintings of Leonardo de Vinci
    c. Books printed by a flatbed printing press
    d. Hand stencil painting in the caves of Argentina

2. Who were the first to used blocks with engraved designs dipped in red colors or wax?
    a. Americans
    b. Chinese
    c. Germans
    d. Japanese

3. What is a print transfer technique that uses chemical process to transfer designs to paper or textile?
    a. Lithography
    b. Seal
    c. Silk Screen printing
    d. Stencil

4. What is an instrument with a design created with gaps. The gaps allow pigment pass through to make an art?
    a. Casting
    b. Lithography
    c. Paint transfer
    d. Stencil

5. What do you call a method of transferring a patter by brushing, spraying, squeezing ink or paint through the open areas of a stencil?
    a. Casting
    b. Lithography
    c. Photocopy
    d. Stencil printing

Lesson 2 Principles and Elements of Art

Do you know what an Art is? Can you imagine a world without any works of art? There would be no photographs or paintings, decorated walls, no sculptures, no imagery in advertisements and no outlet for artistic expressions.

Art is all around us. It is such a wonderful thing to learn. Art appeals to everyone, regardless of age, gender and culture, because it crosses all boundaries.

Art is so powerful because it can be open to interpretation. People of all levels can appreciate a piece of art. By learning about art, we can start to see how beautiful our world is.

Van Gogh, Starry Night

What's In

Multiple Choice. Choose the letter of the best answer. Write the chosen letter on separate sheet of paper.

1. What element may be a continuous mark made on a surface with a pointed tool or implied by the edges of shapes and forms?
    a. Art
    b. Color
    c. Harmonies
    d. Lines

2. What comes from light, that when passed through a prism creates hues?
    a. Color
    b. Harmonies
    c. Lines
    d. Shapes

3. What is created when a line crosses itself or intersects with other lines to enclose a space?
    a. Color
    b. Lines
    c. Shapes
    d. Spaces

4. What refers to the space inside, around and above a sculpture or object?
    a. Color
    b. Lines
    c. Space
    d. Texture

5. What is the surface quality of an object?
    a. Color
    b. Lines
    c. Space
    d. Texture

6. What element may be two or three dimensional?
    a. Art
    b. Color
    c. Harmonies
    d. Lines

7. What element of art that is two-dimensional, flat or limited to height or width?
    a. Color
    b. Form
    c. Lines
    d. Shapes

8. What element encloses volume, height, width and depth?
    a. Form
    b. Lines
    c. Spaces
    d. Value

9. What element has a halfway that is an extreme called gray?
    a. Color
    b. Lines
    c. Texture
    d. Value

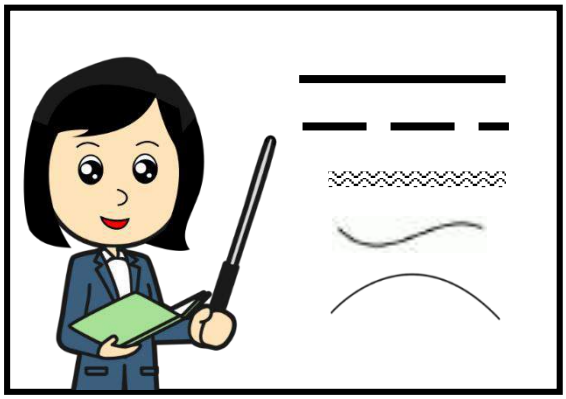
10. What element of art has intensity as its quality of brightness and purity?
    a. Color
    b. Lines
    c. Space
    d. Texture

What's New

There are so many different forms of art that most people enjoy. It could be pencil sketches, water color paintings, realistic portraits, or completely abstract pieces.

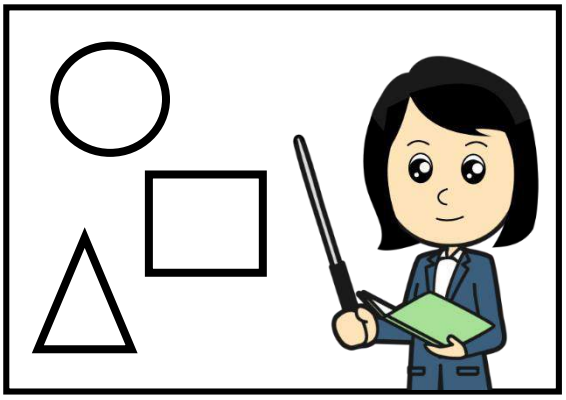
Art continues to fascinate people because there is no right or wrong interpretation. When you look at any piece of art, it can range from the learning about the basic elements of art to the principles of design.

Would you like to know more about the elements and principles of art?
Let us discover them.

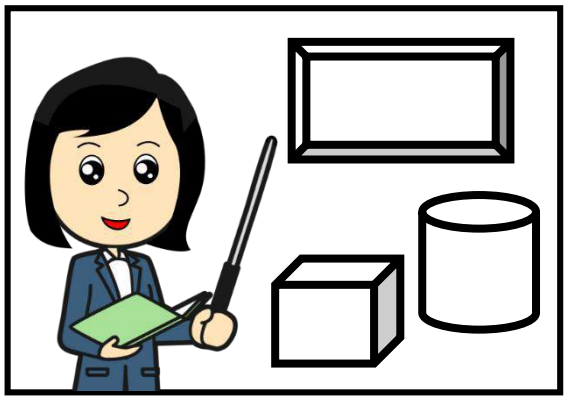


These are **lines**. It is an element of art which is defined as a point moving in space.

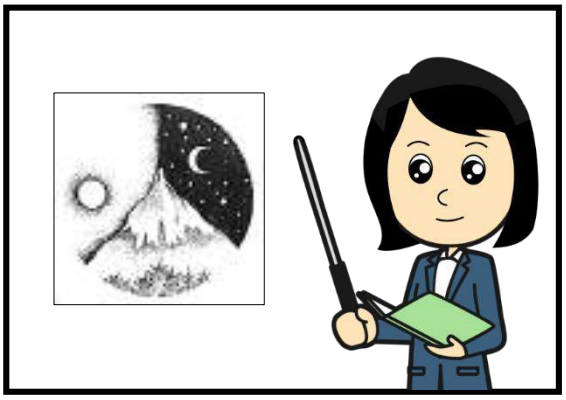
A line may be two or three-dimensional, descriptive, implied, or abstract.



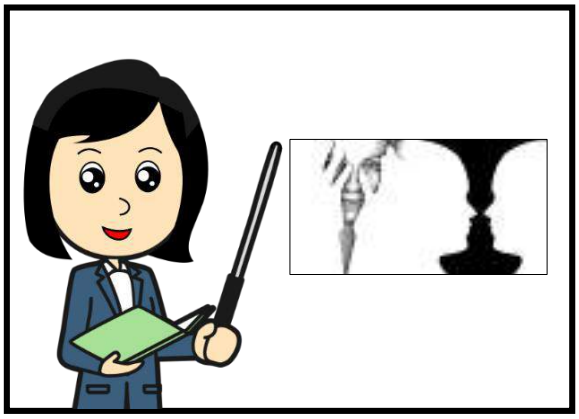
Shapes is an element of art that is two-dimensional, flat, or limited to height and
width.



Form is an element of art that is three-dimensional and encloses volume; includes height, width and depth, examples are cube, a sphere, a pyramid, or a cylinder. Form may also be free flowing.

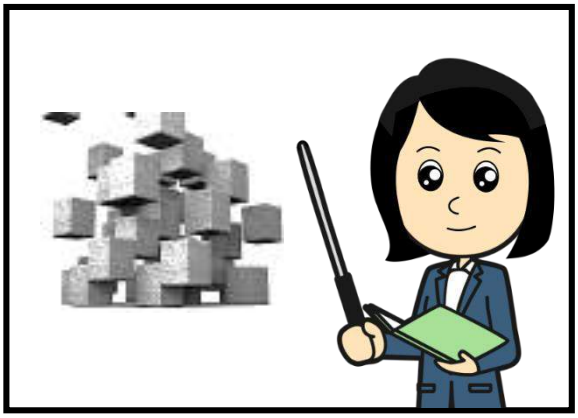


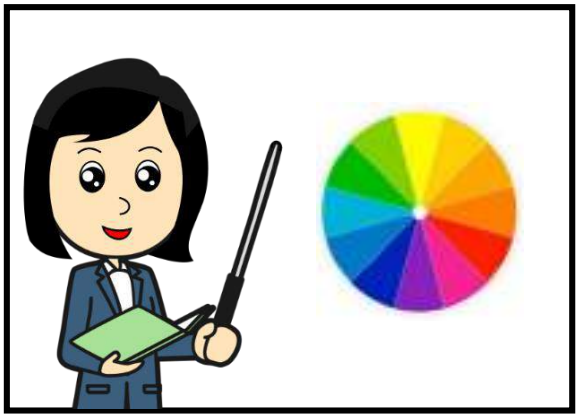
Value is the lightness or darkness of tones or colors. White is the lightest value, while black is the darkest. The value halfway
between these extremes is called middle gray.



Space is an element of art by which positive and negative areas are defined or a sense of depth is achieved in a work of art.

Texture is an element of art that refers to the way things feel, or look as if they might feel if touched.





Color is an element of art made up of three properties: hue, value and intensity. The name of the color is called **Hue.**
Value is the hue's lightness and darkness. A color's value changes when white or black is added.
The quality of brightness and purity is called **Intensity**. When the intensity is high, the color is strong and bright and when the intensity is low, the color is faint and dull.

What is It

Here is an activity that will make you think what makes something an art.

Activity 4: Drawing

Materials Needed:

- Bond paper
- Pencils
- Coloring materials

Note: You may use rulers, patterns or any other art materials that you want to use.

Directions:

1. Draw two pictures. One drawing must be a drawing of anything you can find in your surroundings that you can copy (like your room, your kitchen, or a flower vase) and the other is a picture that you can imagine (like a landscape of a mountain side, the sunset, or even your school).

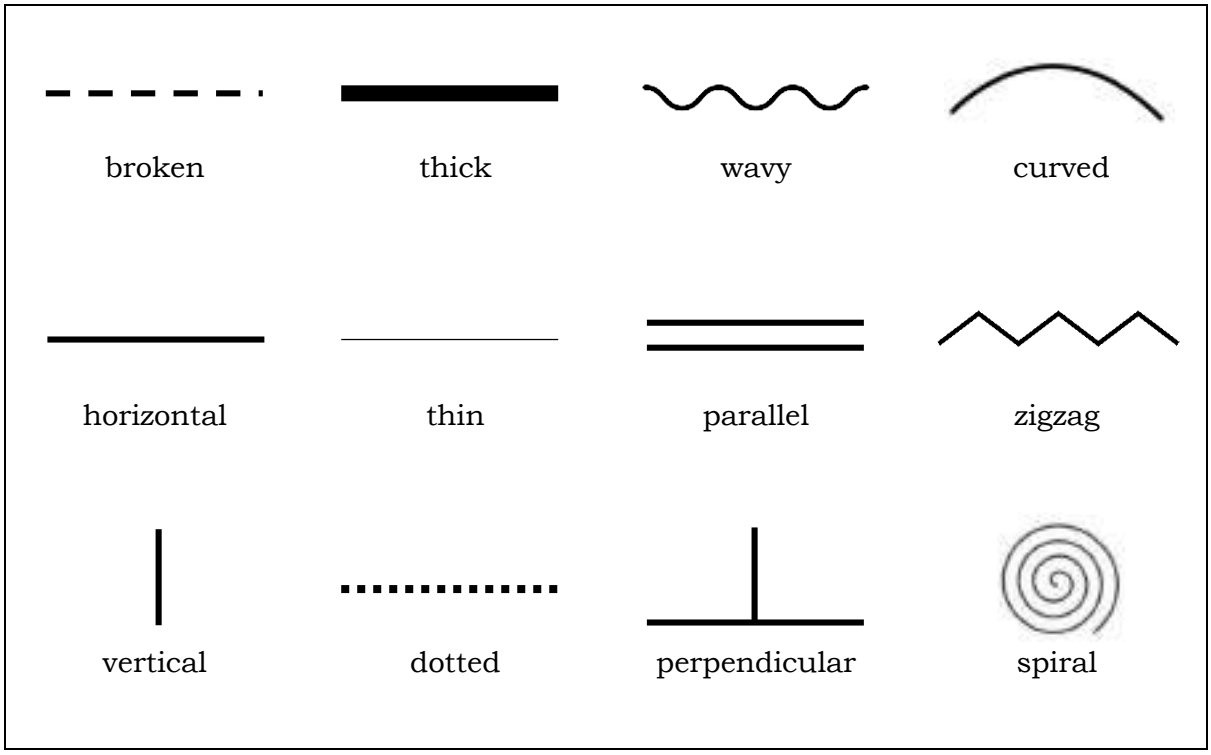
2. When the two drawings are finished, ask yourself these questions:
   a. What makes one drawing art and the other not art.
   b. Will your intention in drawing two separate drawings matter?
   c. Were your efforts in drawing the pictures the same? If not why?
   d. Show your drawing to your teacher. Do not tell your teacher which drawing is copied and imagined. Ask her the same questions above.

3. Ask your teacher to post your drawing picture and tack it up on the board. Ask your friends or classmates the same questions above.

What I Have Learned

Here are important Elements of Art that you may want to consider when you want to make art.

Line: An element of art used to define shape, contours, and outlines. It also suggests mass and volume. It may be a continuous mark made on a surface with a pointed tool or implied by the edges of shapes and forms.



Characteristic of Line are:

- **Width** - thick, thin, tapering, uneven
- **Length** - long, short, continuous, broken
- **Direction**- horizontal, vertical, diagonal, curving, perpendicular, oblique, parallel, radial, zigzag
- **Focus**- sharp, blurry, fuzzy, choppy
- **Feeling**- sharp, jagged, graceful, smooth

Types of Line:

1. **Outlines**- Lines made by the edge of an object or its silhouette.
2. **Contour Lines**- Lines that describe the shape of an object and the interior detail.
3. **Gesture Lines**- Lines that are energetic and catch the movement and gestures of an active figure.
4. **Sketch Lines**- Lines that capture the appearance of an object or impression of a place.
5. **Calligraphic Lines**- Greek word meaning *"beautiful writing"*. Precise, elegant handwriting or lettering done by hand. Also, artwork that has flowing lines like an elegant handwriting.
6. **Implied Line**- Lines that are actually not drawn but created by a group of objects seen from a distance. Implied line is the direction an object is pointing to, or the direction a person is looking at.

Color: Color comes from light. If it were not for light, we would have no color. Light rays move in a straight path from a light source. Within this light, rays include all of the colors in the spectrum or rainbow. Shining a light into a prism will create a rainbow of colors because it separates the color of the spectrum. When the light rays hit an object, our eyes respond to the rays that are reflected back and we see only the reflected colors.

Categories of Color

Color Wheel is a tool used to organize color. It is made up of:

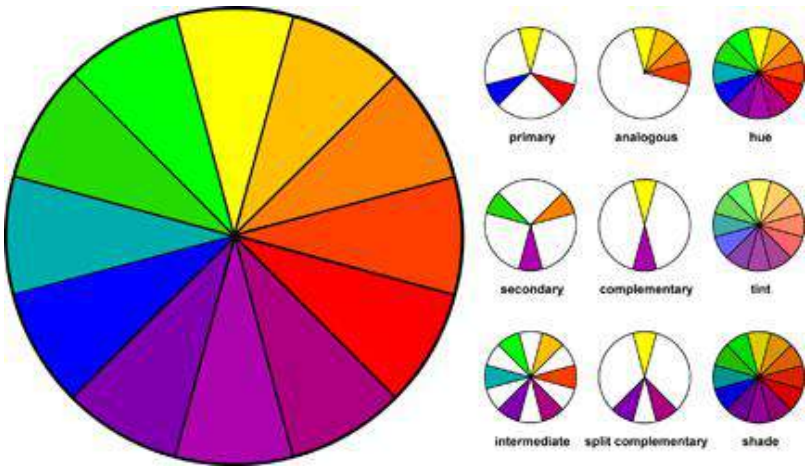
- **Primary Colors** - Red, Yellow, and Blue.
- These colors cannot be mixed, they must be bought in some form.
- **Secondary Colors** - Orange, Violet, and Green.
- These colors are created by mixing two primary colors.
- **Intermediate Colors** - Red Orange, Yellow Green, Blue Violet, etc.;
- Mixing a primary with a secondary creates these colors.
- **Complementary Colors** - Colors that are opposite each other on the color wheel. When placed next to each other they look bright and when mixed together they neutralize each other.

Color Harmonies

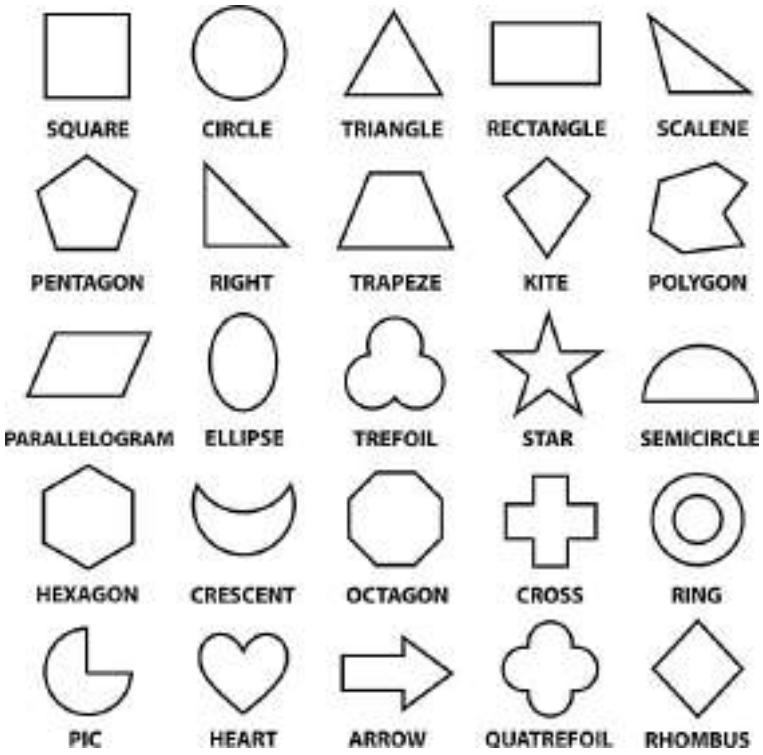
- **Color Harmonies** are certain combinations of colors that create positive looks or feelings.
- **Analogous Colors** are colors that are next to each other on the color wheel. Examples include red, red orange, and orange.
- **Triadic Harmonies** are three equally spaced colors on the color wheel.

  For example, yellow, Red, and Blue are a triadic harmony color scheme.

  a. **Monochromatic** is one color used with different values and intensity. For example, light brown, brown and dark brown are monochromatic colors.
  b. **Warm colors** are on one section of the color wheel and give the feeling of warmth. For example, red, orange, and yellow are the colors of fire and warmth.
  c. **Cool colors** are on the other side of the color wheel from the warm colors. They give the feeling of coolness. For example, blue and violet are the colors of water, and green is the color of cool grass.



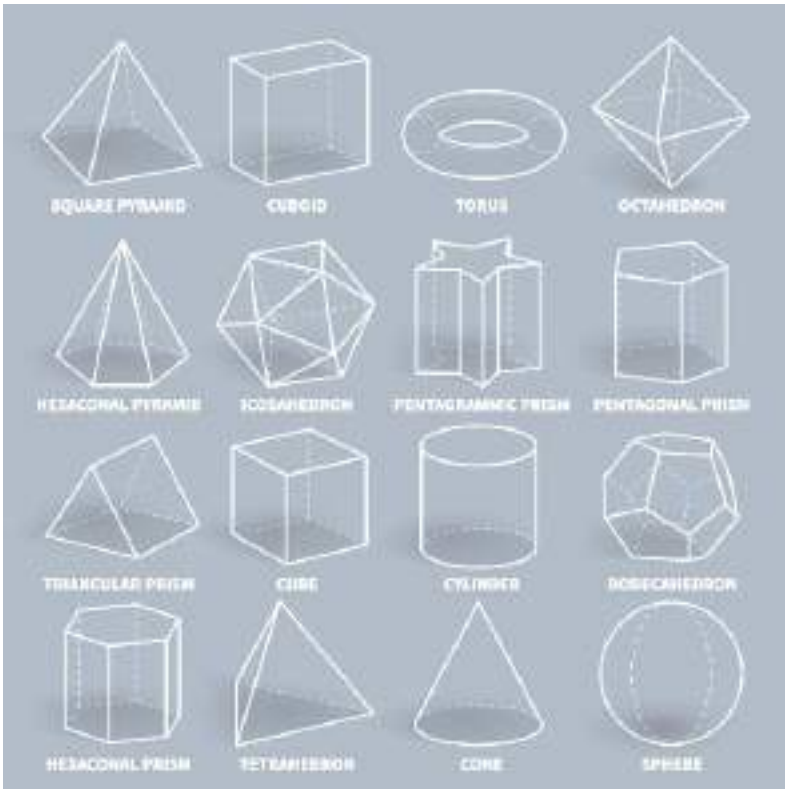
Shape: When a line crosses itself or intersects with other lines to enclose a space, it creates a shape. Shape is two-dimensional and has height and width, but no depth.



Categories of Shapes:

- **Geometric Shapes** - Circles, Squares, rectangles, and triangles. We see them in architecture and manufactured items.
- **Organic Shapes** -Leaves, seashells, and flowers are organic shapes.
- We see them in nature and they have free flowing, informal and irregular characteristics.
- **Positive Shapes** - In a drawing or painting, positive shapes are the solid forms (positive space) in a design such as a bowl of fruit. In a sculpture, positive shapes are solid areas of the sculpture that remain after removing portions of the sculpture.
- **Negative Shapes** - In a drawing or painting, the space around the positive shape is negative space. Negative space can form a shape when it meets a positive shape. Negative space can include the sky or spaces between objects. In sculpture, the negative space is the portion that is removed from a sculpture.
- The negative space can become a shape when it meets the positive form of the sculpture.
- **Static Shapes** - Shapes that appear stable and resting.
- **Dynamic Shapes** - Shapes that appear to be moving and active.
- **Space Negative**- space surrounds a sculpture or object.

A person can walk around sculptures and objects, look above them, and enter them.



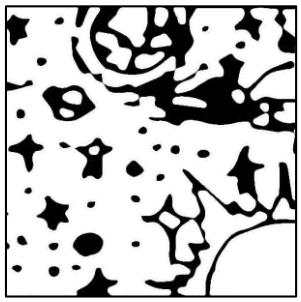
Space: It refers to the space inside, around, and above a sculpture or object. A three-dimensional object with positive space will have height, width, and depth.

Space in a two-dimensional drawing or painting refers to the arrangement of objects on the picture plane. The picture plane is the surface of your drawing paper or canvas. You can have a picture plane that is a crowded space with lots of objects or an empty space with very few objects.

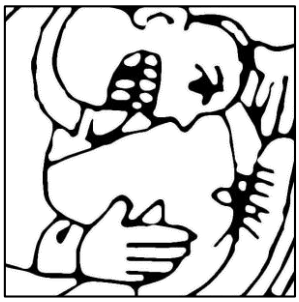
A two-dimensional piece of art has height and width but no depth. The illusion of depth can be achieved by using perspective. Perspective is the technique that is used to create the illusion of depth in your picture. Perspective makes your picture look like it is moving to the distance like in a landscape or cityscape.

Categories of Space

- **Positive space** - Similar to a positive shape, it is the actual sculpture or building.
- **Negative space** - Similar to a negative shape, it is the space around the sculpture or building.
- **Picture Plane**- is the flat surface of your drawing paper or canvas.
- **Composition**- is the organization and placement of the elements on your picture plane.
- **Focal Point**- is the object or area you want the viewer to look at first.

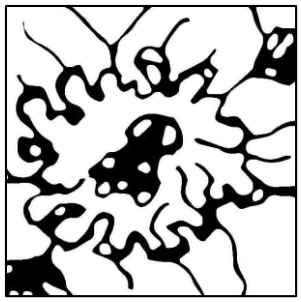


consider composition



draw big

fill the whole paper



lines off the paper

placement in relation to horizon

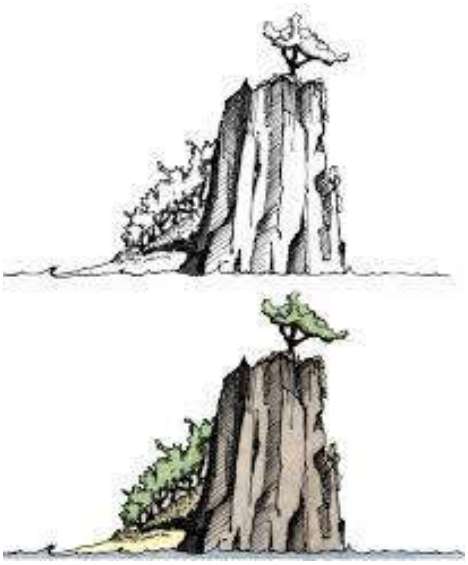
smaller in distance, larger closer up

Types of Perspective

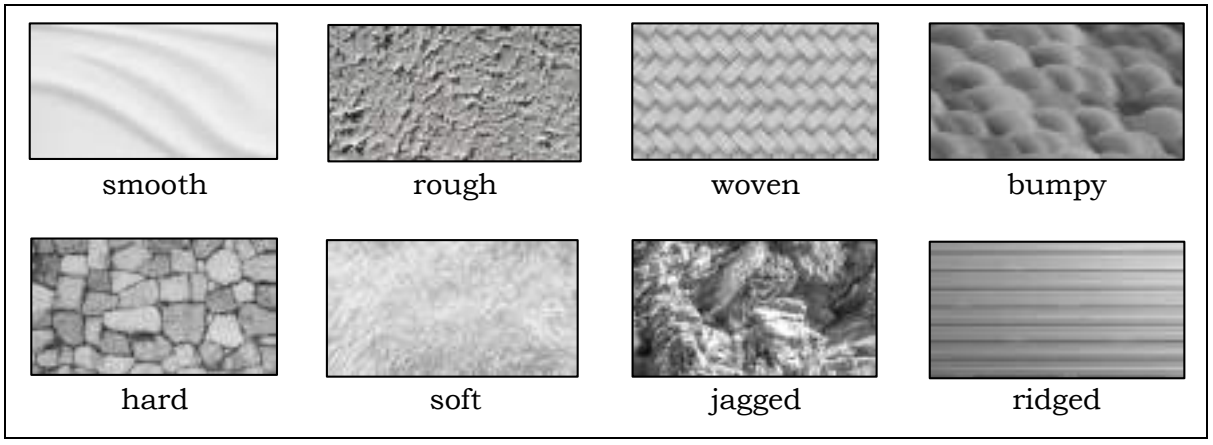
1. **Nonlinear Perspective** is the method of showing depth that incorporates the following techniques.
2. **Position** - Placing an object higher on the page makes it appear farther back than objects placed lower on the page.
3. **Overlapping** - When an object overlaps another object it appears closer to the viewer, and the object behind the object appears farther away.
4. **Size Variation** - Smaller objects look farther away in the distance. Larger objects look closer.
5. **Color** - Bright colors look as if they are closer to you and neutral colors look as if they are farther away.
6. **Value** - Lighter (not brighter] values look as if they are farther back and darker values look as if they are closer.
7. For example, in a landscape the mountains often look bluish and lighter than the trees or houses that are closer to you.
8. **Linear Perspective** is the method of using lines to show the illusion of depth in a picture.

Types of linear perspective:

a. **One-point perspective** - When lines created by the edge of an object or building look like that are pointing to the distance and these lines meet at one point on the horizon. To see an example, stand in the middle of the hallway and look at the horizontal lines in the brick or the corner where the ceiling meets the wall. See how they move to one point on the horizon line.
b. **Two-point perspective** - An additional line added to one-point perspective that goes to a different point on the horizon line.

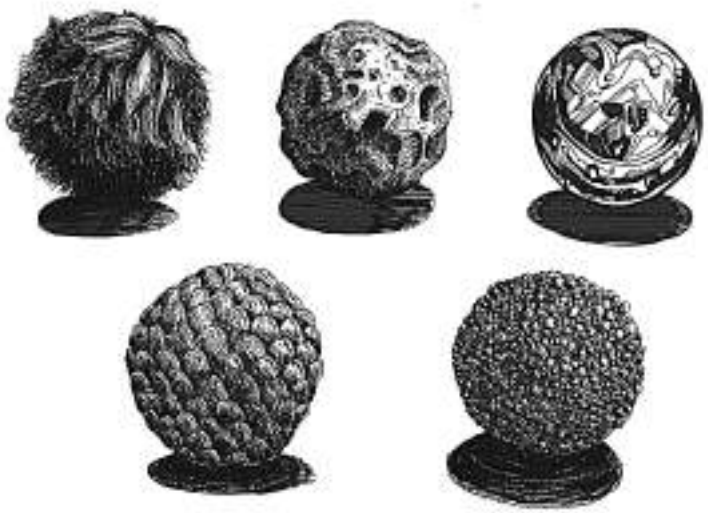


Texture: Texture is the surface quality of an object. A rock may be rough and jagged. A piece of silk may be soft and smooth, and your desk may feel hard and smooth. Texture also refers to the illusion of roughness or smoothness in a picture.



Categories of Texture

- **Real Texture** is the actual texture of an object. Artists may create real textures in art to give it visual interest or evoke a feeling. Real texture occurs only in a three-dimensional sculpture or a collage. A piece of pottery may have a rough texture so that it will look like it came from nature or a smooth texture to make it look burnished.
- **Implied Texture** in two-dimensional art is made to look like a certain texture but in fact is just a smooth piece of paper. Like a drawing of a tree trunk may look rough but in fact it is just a smooth piece of paper.

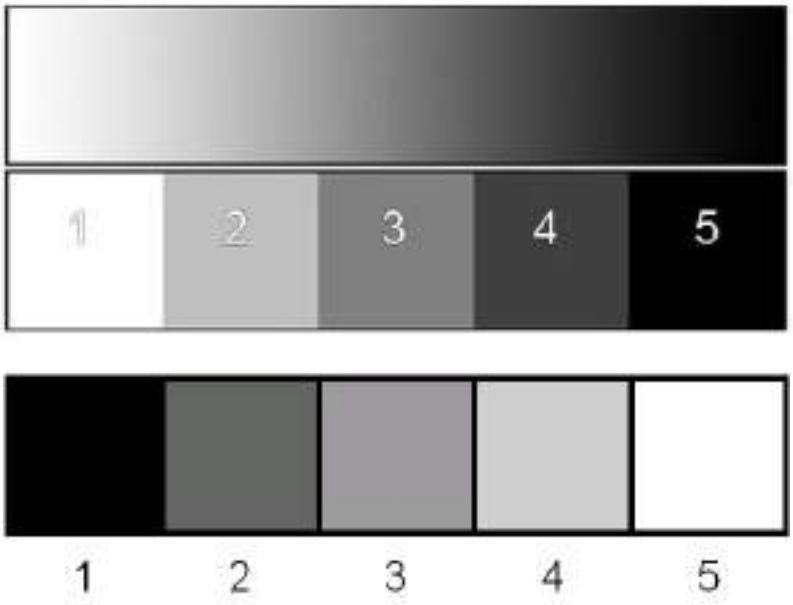


- **Value:** Value is the range of lightness and darkness within a picture. Value is created by a light source that shines on an object creating highlights and shadows. It also illuminates the local or actual color of the subject.

Value creates depth within a picture making an object look three-dimensional with highlights and cast shadows, or in a landscape where it gets lighter in value as it recedes to the background giving the illusion of depth.

Categories of Values

- **Tint** is adding white to a color paint to create lighter values such as light blue or pink.
- **Shade** is adding black to a paint color to create dark values such as dark blue or dark red.
- **High-Key** is a picture with all light values.
- **Low-Key** is a picture with all dark values.
- **Value Contrast** is light values placed next to dark values to create contrast of strong differences.
- **Value Scale** is a scale that shows the gradual change in value from its lightest value, (white) to its darkest value (black).

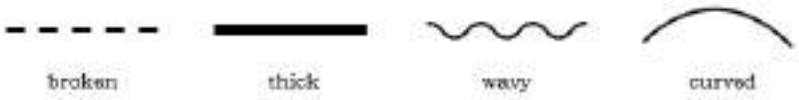


Form: Form is the three-dimensionality of an object. Shape is only two-dimensional; form is three-dimensional. You can hold a form, walk around a form, and in some cases walk inside a form. Value can imply form in drawings or paintings. Shading a circle in a certain manner can give it the illusion of a sphere.

Mastery of the elements of art make will make you do art works better. Practice makes perfect. You should try them in your free time. You might discover a hidden talent in you.

Have you learned any techniques that you want to practice? Here is an illustration of the basic elements of art for you to remember.

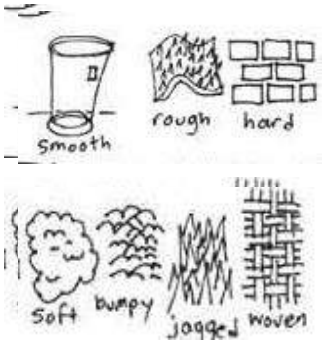
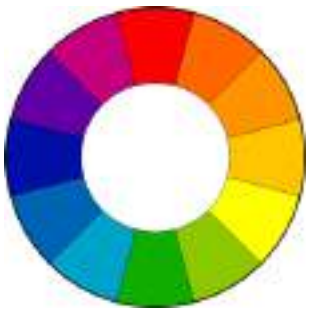
Elements of Art

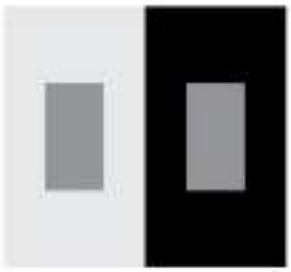
Line	
Shape & Form	
Color	
Texture	
Space	 consider composition draw big fill the whole paper
Value	

Assessment

Do you now have an idea on the elements and principles of Art? Would you like to try how much you have learned?

Modified Identification: In the box below, write the element of art that corresponds to the definition and picture drawn.

1.		An element of art that refers to the way things feel, or look as if they might feel if touched.
2.		An element of art made up of three properties: hue, value, and intensity.
3.		An element of art by which positive and negative areas are defined or a sense of depth achieved in a work of art.

4.		The lightness or darkness of tones or colors. White is the lightest value; black is the darkest. The value halfway between these extremes is called middle gray.
5.		An element of art that is three-dimensional and encloses volume; includes height, width and depth and it may also be free flowing.
6.		An element of art that is two-dimensional, flat, or limited to height and width.
7.		An element of art defined by a point moving in space. It may be two-or three-dimensional, descriptive, implied, or abstract.

Lesson 3 Principles of Design

You have now learned how Printmaking was discovered and how it has evolved.

You have also learned that the basic elements and principles of art helps you make amazing arts.

Now here is another lesson that could help you understand better on how you could design your art to make it more pleasing.

The principles of design in art can be a little abstract but once you understand that these principles are tools that you can use in making art incredible.

When you think of tools, it does not mean a specific material but it is more on techniques or "tricks". This is what artists use to get a perspective of a certain art. Many artists do this instinctively and without naming the process but knowledge is power. Knowing the terminology and reasoning behind the principles of design is a good place to start.

Are you ready? Let us begin.

What I Know

Essay. Write your answer to the questions on a separate sheet of paper.

"Case of the Purple Picture"

Do you still remember the two pictures that you have done in Lesson 2? It was pinned by your teacher in your art wall.

One day your teacher says that she wants to use your pictures. You are excited. She takes your art and covers the whole thing in purple and then she tacks it back up on the art wall. Under it she writes:

"This is a picture of _____."

Questions:

1. Would you be mad? Why or why not?
2. Would your picture still be a good picture? Why?
3. What is the picture?
4. How do we know what a good picture is?
5. How do we know what the person who drew the picture meant?

What's In

In this lesson you will learn to identify and distinguish how the principles of design are used to visually organize an artwork.

Visual art manifests itself through media, ideas, themes and sheer creative imagination. Yet all of these rely on basic structural principles that, like the elements you have been studying, combine to give voice to artistic expression. Incorporating the principles into your artistic vocabulary not only allows you to objectively describe artworks you may not understand, but contributes in the search for their meaning.

The first way to think about a principle is that it is something that can be repeatedly and dependably done with elements to produce some sort of visual effect in a composition.

The principles are based on sensory responses to visual input, elements "appear" to have visual weight, movement, etc. The principles help govern what might occur when particular elements are arranged in a particular way. Using a chemistry analogy, the principles are the ways the elements "stick together" to make a "chemical", in your case, an image.

Another way to think about these design principles is that they express a value judgment about a composition. For example, when we say a painting has "unity" we are making a value judgment. We might also say that too much unity without variety is boring and too much variation without unity is chaotic.

The principles of design help you to carefully plan and organize the elements of art so that you will hold interest and command attention. This is sometimes referred to as visual impact.

In any work of art there is a thought process for the arrangement and use of the elements of design. The artist who works with the principles of good composition will create a more interesting piece; it will be arranged to show a pleasing rhythm and movement. The center of interest will be strong and the viewer will not look away, instead, they will be drawn into the work. A good knowledge of composition is essential in producing good artwork. Some artists today like to bend or ignore these rules and by doing so are experimenting with different forms of expression. The following page explore important principles in composition.

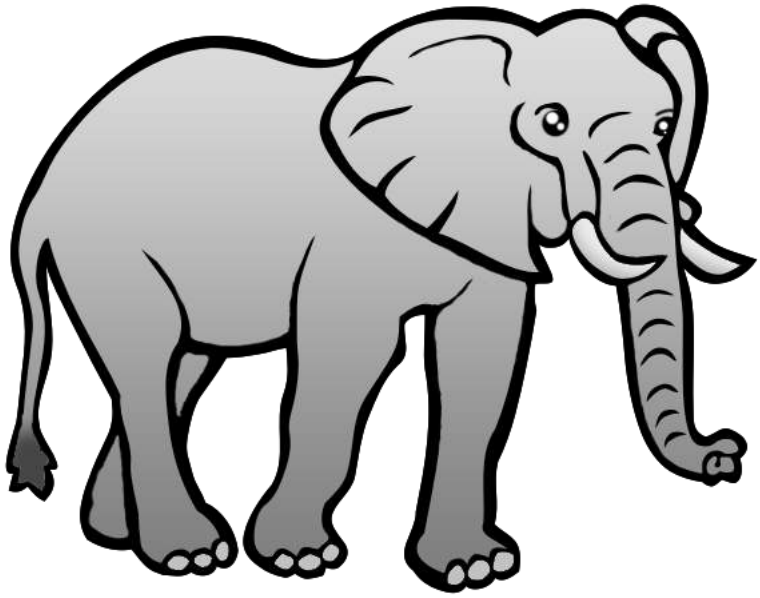
Principles of Design

The principles of design describe the ways that artists use the elements of art in a work of art.

"Like me, a Chameleon, I was designed by nature to be a colorful creature. I use my design to hide from predators and to hunt for my food. I can change color to match my environment. This is how I was designed and I love it. I hope you love it too."

Balance is the distribution of the visual weight of objects, colors, texture, and space. If the design was a scale, these elements should be balanced to make a design feel stable. In symmetrical balance, the elements used on one side of the design are similar to those on the other side; in asymmetrical balance, the sides are different but still look balanced.

"Like me, an Elephant, my physical features are perfectly balanced. I was made to be big and heavy. My body structure is proportion to my weight & size. I am both gentle and strong. I was made perfectly balanced."



In **radial balance**, the elements are arranged around a central point and may be similar.

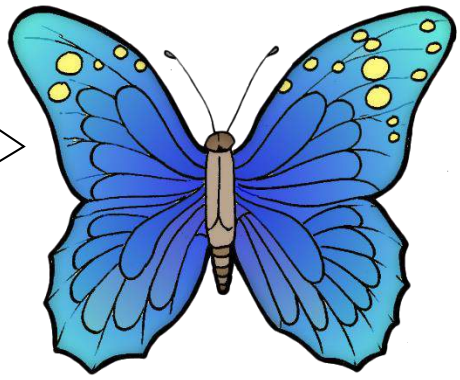
"Like me, a Snail, my shell has a radial design, it was designed to start from a single point and spiral around it.

Emphasis is the part of the design that catches the viewer's attention. Usually the artist will make one area stand out by contrasting it with other areas. The area could be different in size, color, texture, shape, etc.

"Like me, a colorful Parrot. I was designed to be colorful. My colors contrast but they are beautiful. The color of my wings stands out among my features. Making me very attractive."

Movement is the path the viewer's eye takes through the work of art, often to focal areas. Such movement can be directed along lines, edges, shape, and color within the work of art.

"Like me, a Butterfly, I was designed to be colorful so you would always be drawn to look at my special features. I have a small body but you tend to appreciate my beautiful patterned colors."



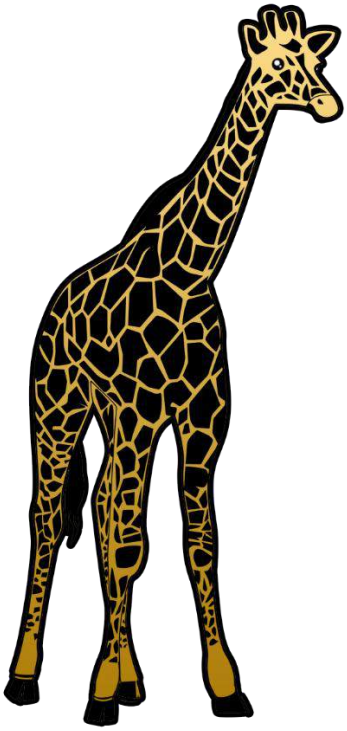
Pattern is the repetition of an object or symbol all over the work of art.

"Like me, Im a Zebra. My body is riddled with patterns.

Did you know that even if we Zebras, look exactly alike, no two Zebras ever have the same pattern."

Repetition works with pattern to make the work of art seem active. The repetition of elements of design creates unity within the work of art.

"Like me, awhite Tiger. My patterns are attractive and is one of the rarest. Without my patterns I will never be recognized as a tiger."

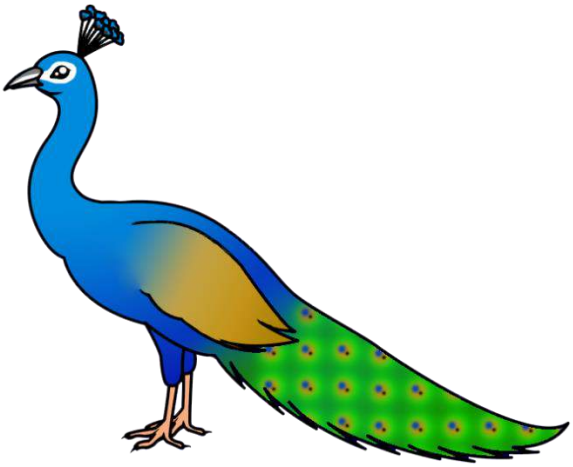


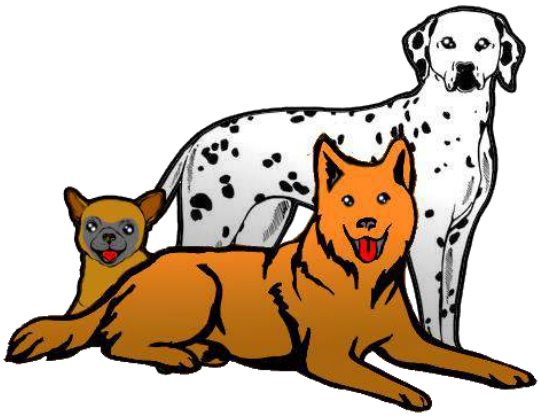
Proportion is the feeling of unity created when all parts (sizes, amounts, or number) relate well with each other. When drawing a figure, proportion can refer to the size of the head compared to the rest of the body.

"Like me, a Giraffe, I was designed to be tall. The size of my body is proportioned to support the length of my long neck. My legs are also long and strong to balance my body. My head is small so that my neck can support it."

Rhythm is created when one or more elements of design are used repeatedly to create a feeling of organized movement. Rhythm creates a mood like music or dancing. To keep rhythm exciting and active, variety is essential.

"Like me, a Peacock, my tail feathers have so many colors and design and yet they form an organized visual pattern that is harmonized.



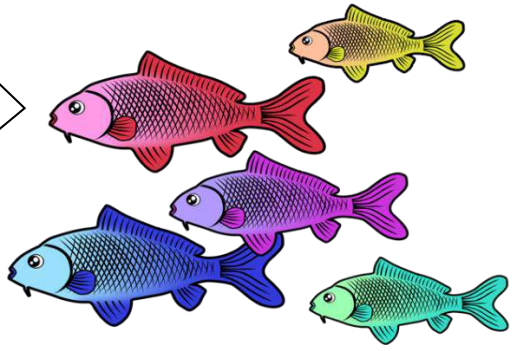


Variety is the use of several elements of design to hold the viewer's attention and to guide the viewer's eye through and around the work of art.

"Like us, we are different breeds of dog."

Unity is the feeling of harmony between all parts of the work of art, which creates a sense of completeness.

"Like us, we are a school of Fish. We were designed to be individually wonderful but when we group together, we feel complete. The way we move in water as a unified organism, you could not tell that it is composed of many individual fishes."



You see that even in nature, animals and their design were based on the principles of design.

For you to understand these principles you must practice and apply them in your art work.

What is It

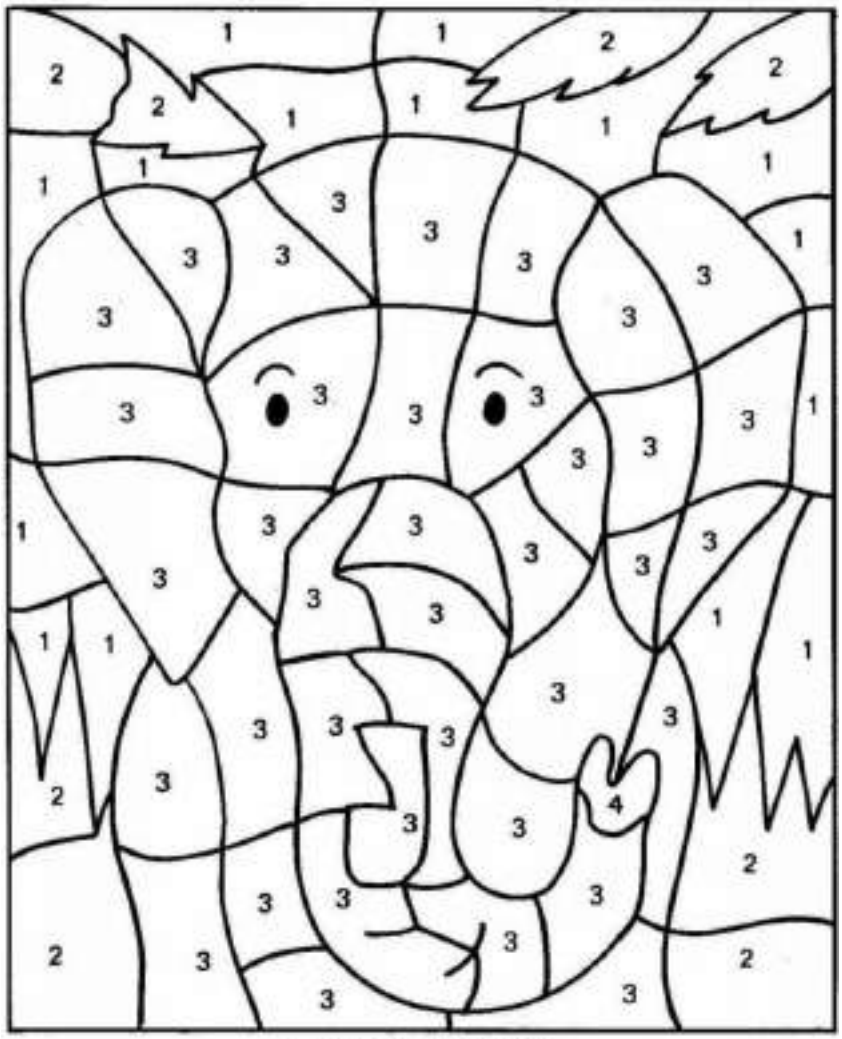
Here is an activity for you to practice if you have learned some of the principles of design. Color the picture. Color the numbered parts with the corresponding color.

Activity: Color by Numbers

Materials Needed: Crayons: Blue, Green, Grey and Pink

The African Elephant is one of the most endangered animals in the world. Hunted for their ivory tasks.

You can lighten or darken your color depending on your perspective of design.



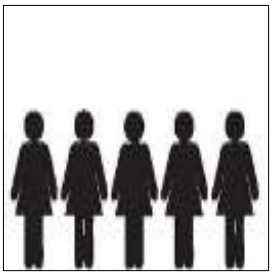
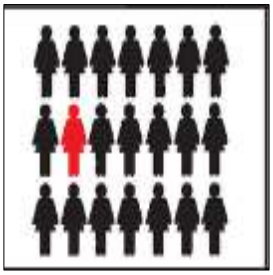
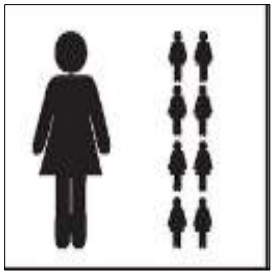
African Elephant

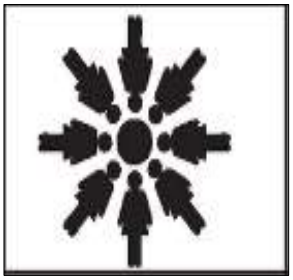
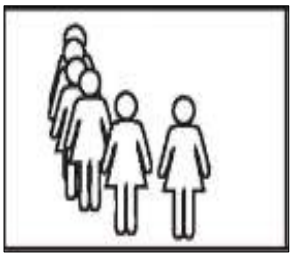
1-blue 2-green 3-grey 4-pink

What I Have Learned

The principles of design are not as difficult as you think. These principles are the means that an artist uses to organize elements within a work of art.

Observe the illustration below. They are basic techniques for you to follow.

The Principles of Design **(How to use the tools to make art)**		
Pattern		A regular arrangement of alternated or repeated elements (shapes, lines, colors) or motifs.
Contrast		The juxtaposition of different elements of design (for example: rough, smooth textures, dark and light values) in order to highlight their differences and/or create visual interest or a focal point.
Emphasis		Special attention/importance given to one part of a work of art (for example, a dark shape in a light composition). Emphasis can be achieved through placement, contrast, color, size, repetition. It relates to focal point.
Balance		A feeling of balance results when elements of design are arranged symmetrically or asymmetrically to create the impression of equality in weight of importance.

The Principles of Design (How to use the tools to make art)		
Proportion / Scale		The relationship between objects with respect to size, number, and so on, including the relation between parts of a whole.
Harmony		The arrangement of elements to give the viewer the feeling that all the parts of the piece form a coherent whole.
Rhythm / Movement		The use of recurring elements to direct the movement of the eye through the artwork. There are five kinds of rhythm: random, regular, alternating, progressive, and flowing. The way the elements are organized to lead the eye to the focal area. Movement can be directed for example, along edges and by means of shape and color.

Assessment

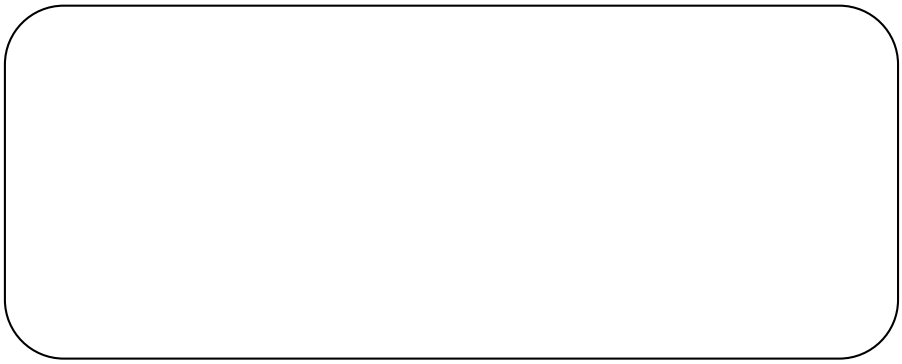
Would you like to know how much you have learned from the lesson? Try this activity.

Modified Identification: Supply the missing words in the sentence that pertains to a principle of design. If you can, illustrate the principles in the space provided.

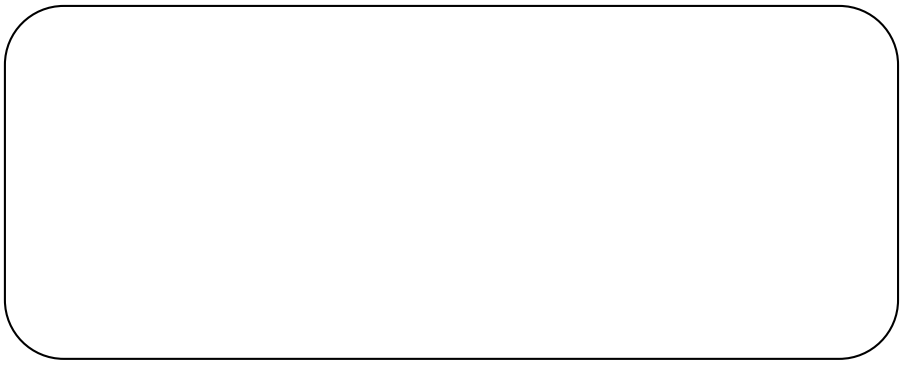
1. _____ is a principle of design used to create the look and feeling of action and to guide the viewer's eye throughout the work of art.

2. _____ is a principle of design concerned with diversity or contrast. It is achieved by using different shapes, sizes, and/or colors in a work of art.

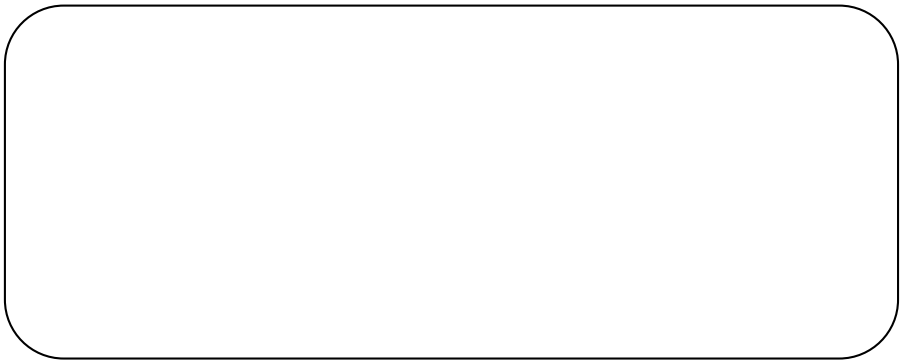
3. _____ is a way of combining similar elements in an artwork to accent their similarities (achieved through use of repetitions and subtle gradual changes).



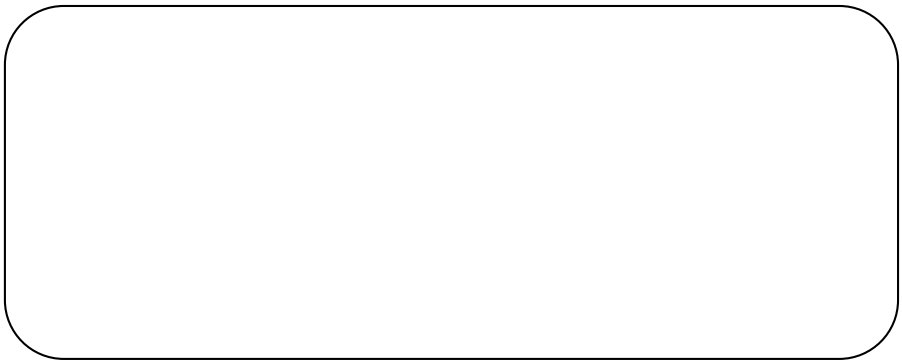
4. _____ is a way of combining elements by using a series of gradual changes in those elements (large shapes to small shapes, dark hue to light hue, etc).



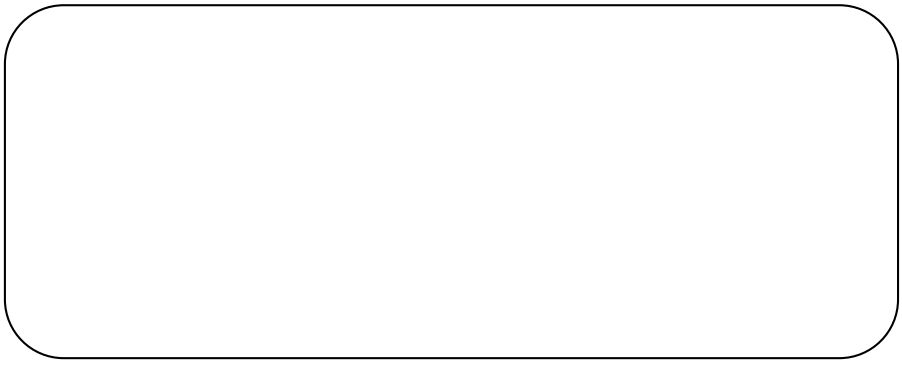
5. _____ is a principle of design that refers to the relationship of certain elements to the whole and to each other.



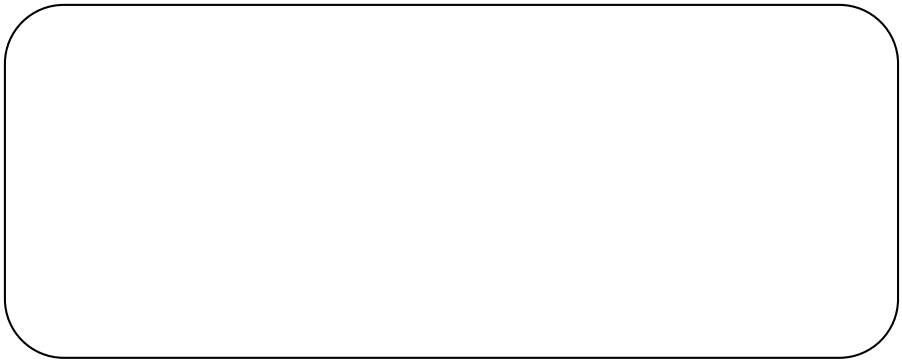
6. _____ is a way of combining elements to stress the differences between those elements.



7. _____ is a way of combining elements to add a feeling of equilibrium or stability to a work of art. Major types are symmetrical and asymmetrical.



8. _____ is a principle of design that indicates movement, created by the careful placement of repeated elements in a work of art to cause a visual tempo or beat.



Answer Key

Lesson 1

What's In	Assessment
1. Stencil Art	1) D
2. Pigment	2) B
3. Element of Art	3) A
4. Principles of Design	4) D
5. Silk Screen Printing	5) D
6. Seals	
7. Flatbed Printing Press	
8. Metal-block	
9. Stenciling	
10. Stencil Printing	

Lesson 2

What I know	Assessment
1. D	1) Texture
2. A	2) Color
3. C	3) Space
4. C	4) Value
5. B	5) Form
6. D	6) Shape
7. B	7) Line
8. C	
9. C	
10. D	

Lesson 3

What I know	Assessment
There is no Correct or Wrong answer. It is the opinion and perception of the learner.	1) Movement
	2) Emphasis
	3) Pattern
	4) Contrast
	5) Harmony
	6) Variety
	7) Balance
	8) Rhythm

References

Garcia-Quinto et. al (2019), MAPEH in Action, The 21st Century Teacher's Resource Manual, Rex Book Store, Iloilo City

Goorevich, E. (2019¬), Seven Elements of Arts, retrieved on October 27, 2019 from https://learn.g2.com/elements-of-art

J. Paul Getty Trust (2011), Principles of Design, J. Paul Getty Educational Museum, retrieved on October 27, 2019 from https://www.getty.edu/education/teachers/building_lessons/principles_design.pdf

National Gallery of Art (2019), retrieved on October 27, 2019 from https://www.nga.gov/education/teachers/lessons-activities/elements-of-art.html

Robert, S. (2018), What are the Elements of Art, retrieved on October 27, 2019 from https://study.com/academy/lesson/what-are-the-seven-elements-of-art-definition-examples.html

http://www.publicdomainpictures.net/pictures/50000/velka/floral-pattern-stencil.jpg

https://freesvg.org/rabbit-stencil

https://www.publicdomainpictures.net/pictures/310000/velka/jack-o-lantern-face-stencil-1568114973GE8.jpg

https://freesvg.org/vector-image-of-leaf

https://www.publicdomainpictures.net/pictures/210000/velka/handprints-colorful-seamless-paper.jpg

https://www.pexels.com/photo/anonymous-person-pouring-white-paint-from-bottle-to-plate-3933277/ (enhanced and edited)

https://www.peakpx.com/18426/human-hand-with-blue-paint (enhanced and edited)

https://www.publicdomainpictures.net/pictures/180000/velka/hand-on-white-1465802879Vbz.jpg (enhanced and edited)

https://www.peakpx.com/460136/red-hand-print (enhanced and edited)

https://www.commons.wikimedia.org

For inquiries or feedback, please write or call:

Department of Education - Bureau of Learning Resources (DepEd-BLR)

Ground Floor, Bonifacio Bldg., DepEd Complex
Meralco Avenue, Pasig City, Philippines 1600

Telefax: (632) 8634-1072; 8634-1054; 8631-4985

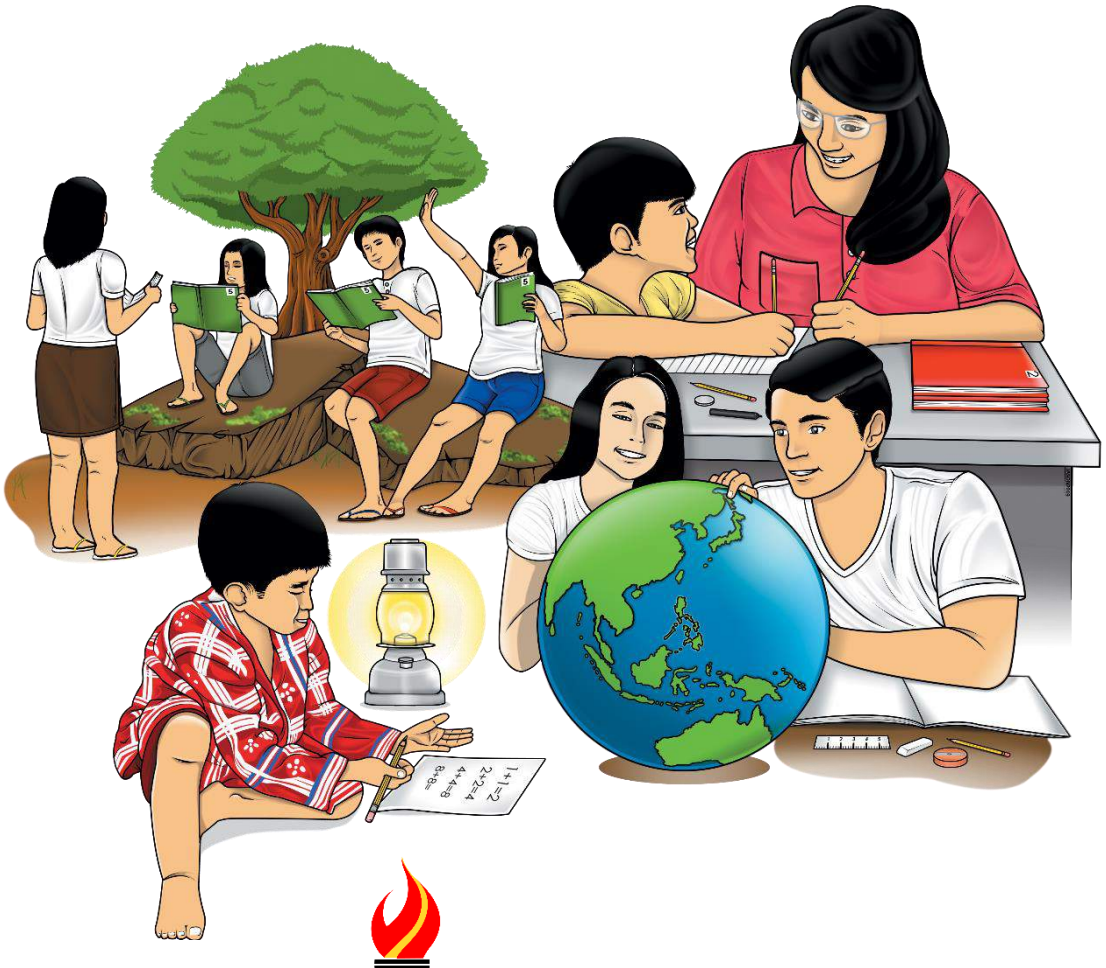
Email Address: blr.lrqad@deped.gov.ph * blr.lrpd@deped.gov.ph

6

DepED
DEPARTMENT OF EDUCATION

Arts

Quarter 3 – Module 2:
T-Shirt Printing



ALTERNATIVE DELIVERY MODE
ADM

Arts – Grade 6
Alternative Delivery Mode
Quarter 3 – Module 2: T-Shirt Printing
First Edition, 2020

Published by the Department of Education
Secretary: Leonor Magtolis Briones
Undersecretary: Diosdado M. San Antonio

Development Team of the Module

Author:	Melany S. Nazareta, Azalea Eulalio – Jabagat
Editor:	Ma. Lourdes Lizzette Z. Remola
Reviewers:	Rebecca R. Ibarreta, Mahnnie Q. Tolentino, Hajji S. Tropa
Illustrator:	Gerry D. Almanon
Layout Artist:	Gerry D. Almanon
Management Team:	Ramir B. Uytico, Pedro T. Escobarte, Jr. Miguel Mac D. Aposin, Samuel J. Malayo Elena P. Gonzaga, Donald T. Genine, Jerry A. Oquendo Dobie P. Parohinog, Mahnnie Q. Tolentino Rebecca R. Ibarreta, Hajji S. Tropa, Rovie C. Abello

Printed in the Philippines by _____

Department of Education – Region VI – Western Visayas
Office Address: Duran St., Iloilo City
Telefax: (033) 336-2816, (033) 509 7653
E-mail Address: region6@deped.gov.ph

6

Arts

Quarter 3 – Module 2:
T-Shirt Printing

DepED
DEPARTMENT OF EDUCATION

Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.

What I Need to Know

This module is designed and written with you in mind. The scope of this module permits it to be used in various learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course but the order in reading them could be changed to correspond with the module you are now using.

After going through this module, the learner is expected to:

1. define silk-screen printing;
2. enumerate the different types of ink and tools used for silk-screen printing;
3. identify the different parts of the t-shirt where logos or prints are commonly placed, and the sizes of each design allowed; and
4. demonstrate the step-by-step process of silk-screen printing on t-shirt.

What I Know

Do you have a favorite t-shirt? Have you ever wondered how that design was printed to your shirt?

After learning about elements of art and principles of design, as well as realizing of modern print arts, you should be able to answer the following:

Direction: Fill in the blanks with the correct words to complete the statements.

1. _____ is a printing technique in which a woven mesh is used to support an attached stencil.
2. _____ is used to spread the paint into the mesh screen.
3. _____ this dulls the paint, makes it ~~a~~ flat, and gives the print a low gloss finish.
4. _____ thins the ink and reduces its viscosity and opacity.
5. _____ is a transparent film that is coated with an emulsion layer that allows for the deposit of large amounts of ink.

Lesson 1 Introduction to Garment Screen Printing

Have you ever wondered where art come from? Have you ever asked yourself why everything you see are placed in a manner which is pleasing to the eye? The signage, the layout of newspapers, the packaging of everyday products and the different designs used are all colorful and attractive. Some of them are made by hand, but mostly they are produced by modern machineries and equipment.

In this lesson, we will learn about the origin of art. Who were the people responsible in developing printed arts? How to use the different elements of art and principles of design to produce printable arts.

After using this module, you should be able to understand the beginning of printing arts, its application, and the modern machines used in printing.

Are you ready to start? You may go now to the next page and begin Lesson I.

What's In

Read the story. Find out the importance of print.

In the Savanna, there is a little zebra named Zeke who always asks questions.

Why can't I have a different print? Why must I look like the others?

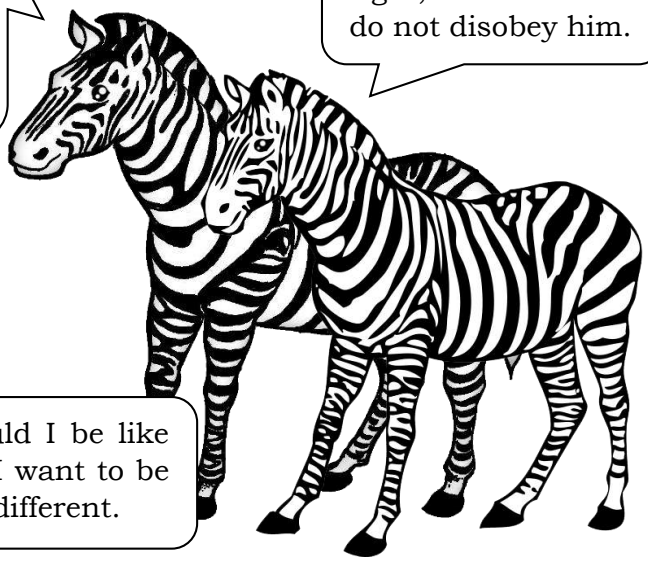
I wish I could be different.

Zeke belongs to the most powerful herd in the Savanna. His father and mother are always telling her to blend in with the herd.

Zeke darling, what are you wearing? You should remove that. Please try to blend in with the herd. You might get in trouble if you keep on disguising yourself.

Your father is right, Zeke. Please do not disobey him.

Why should I be like the others? I want to be unique and different.



I don't want to blend in. I want to stand out among the rest. I want to show off my amazing prints.

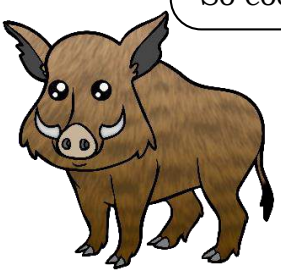
Darling this is our way of life, we have these patterns and print for us to avoid predators.

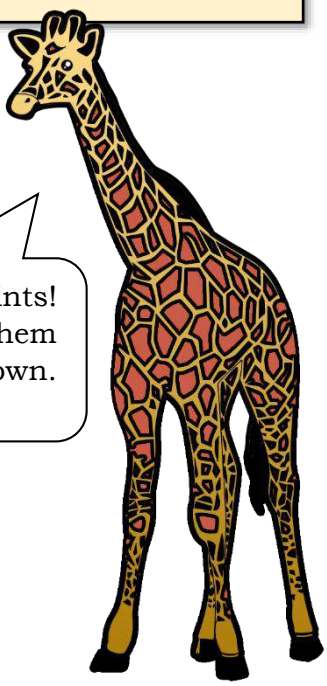
While Zeke was wondering around the Savanna, she stumbled upon Luli, the warthog. Luli is making prints on other animals hide.

What are you doing? Why are you printing other animals' hide?

I am painting their hide using patterns to make them colorful.

Look at my prints! Luli changed them from orange to brown. So cool.



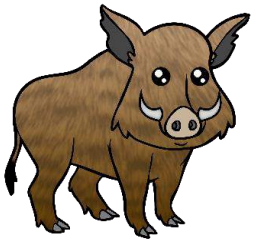


I want to change my prints too. Can you do it, Luli?

Oh sure. You can be as colorful as you like. You can choose whatever design you desire. Then, you would be the most beautiful zebra ever!!!

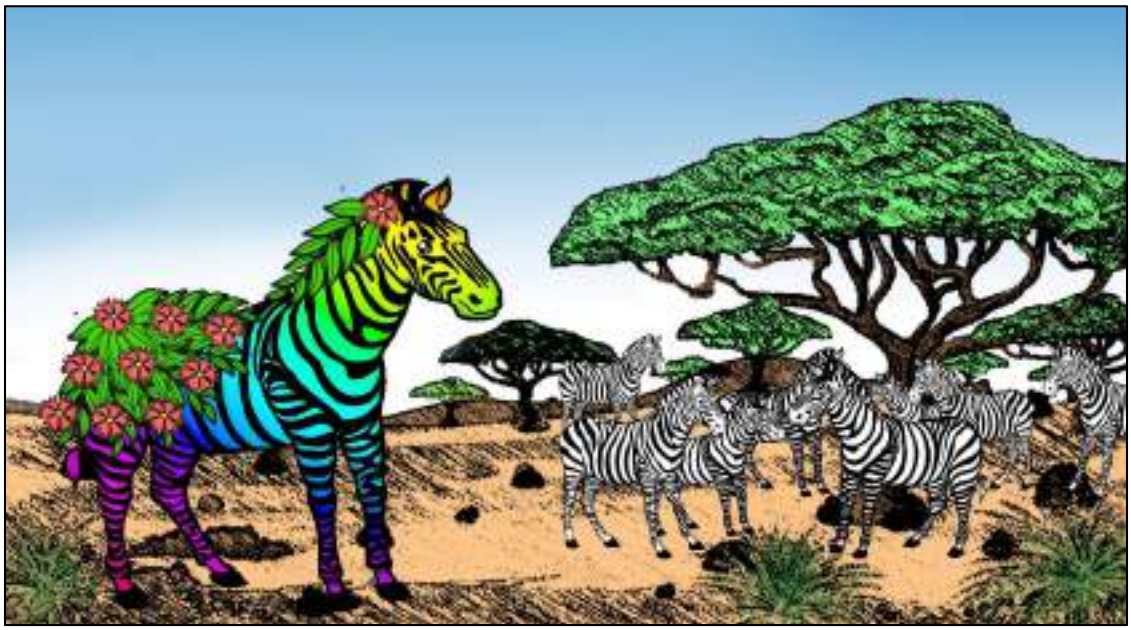
Luli changed Zeke's hide prints to rainbow color. Zeke was so excited.

Your so colorful now. You will love to maintain these wonderful colors that highlights your amazing prints.



Yeah, my design is so colorful. I love it!!!

Zeke boastfully flaunted her colorful stripes in the savanna. She was unaware that weary eyes were watching her. She was happily showing off.



Suddenly an attack was launched. The predator Tsakah, a cheetah went for Zeke. She was helpless when Tsakah preyed on her. But his brave mother came to her rescue. Her mother snarled Tsakah and Zeke got away. Her mother was wounded and so was Zeke.

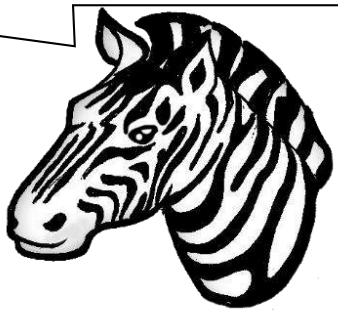
Wounded, Zeke kept crying. She does not know why the Tsakah' choose to go after her.

I did not know why Tsakah chose to eat me. I was the most colorful zebra out there, yet he tried to eat me.

Tsakah chose to run after you because of yoor colored prints Zeke, you stick out among the others. You were very easy to spot.

If only I had listened to you mom and dad.

That is the reason why we kept telling you to blend in Zeke but you never listened. Our kind had survived here in Savanna because of our black and white print. We were made this way so that when predators come at us they will get confused because we all look the same.

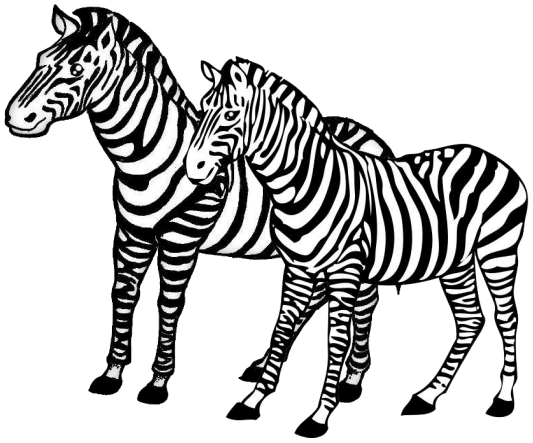


Zeke wanted to be unique and different but in doing so she endangered herself. She did not realize that Zebras looked alike because it is there way of camouflaging from predators. The similar black and white stripe design kept them safe and confused attacking predators.

There is nothing wrong in being different and unique. Uniqueness has its own beauty and characteristics. If we go back on the black and white stripes of the Zebras, none of them has the same pattern but they still look lovely and amazing individually.

Wild Fact:

In the wild Savanna of Africa, NO two Zebra has the SAME pattern print. Each Zebra has its own design of black and white pattern. Like humans, it serves as their fingerprints.



What's New

The most common print transfer technique used individually or in an industrial scale is screen printing.

Screen printing is a printing technique in which a woven mesh is used to support an attached stencil. The attached stencil is created to form open areas blocking the transfer of ink to the substrate below. The ink is placed on the upper side of the screen mesh and a squeegee is used to move the ink across the screen and through the open areas of meas. The ink that passes through the screen is deposited onto the substrate. The ink is then cured using either air, heat, or both, until it has adhered to the substrate and created a permanent or semi-permanent bond.

http://pinoyfranchising.blogspot.com/2006/09/franchising-silkscreen-or-screen.html

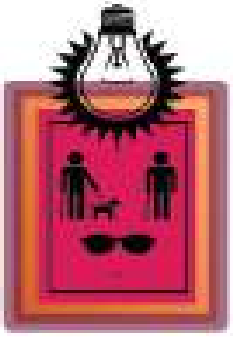
Here is an overview on how screen printing is done.

1.) Create or Edit Artwork

2.) Print Film Positive

3.) Degrease and Dry Screen

4.) Coat screen with Emulsion and Dry thoroughly

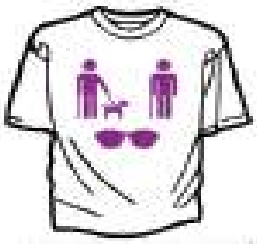


5.) Place film on screen and exposure to UV light

6.) Rinse screen with water until image appears and is clear

7.) Load screen with ink and run the squeegee across until image appears crisp and bright

8.) Dry ink to appropriate temp



9.) Sell it and make money

To get the best possible print, you must use a good quality ink. Here we will discuss what are the ink types which suits your screen-printing needs.

Although screen printers may utilize a multitude of different ink over the course of their career, most are likely to use only two or three for printing on garments. Because water-based and plastisol inks are two most widely used for garment printing, we will focus on these.

Ink and Paint Types

Plastisol Ink or Paint

Plastisol ink has a high opacity and ability to sit on screen for long periods of time without drying that is why it is the most widely used garment ink. On top of that Plastisol is also durable, flexible, and versatile.

Characteristics of Plastisol for garment printing:

High Density – this makes the ink come straight from the garment without arching.

Puff – this makes the ink pop off the garment with an arch so that it looks puffy and soft.

Soft hand – this reduces the viscosity of the ink and allows for a softer print. and it may also reduce the ink's opacity.

Reducer – this thins the ink and reduces its viscosity and opacity.

Suede – this dulls the paint, makes it flat, and gives the print a low gloss finish.

Water-Based Ink or Paint

Another popular ink for screen printing is water-based inks. It is popular because it saturates the fibers of the garment and essentially dyes the garment rather than resting on top of the fibers like plastisol. Because of this, the print becoming softer and more solid than with plastisol.

Although water-based inks are popular, there are also some restrictions in using this kind of ink for garment printing. These are:

Low Opacity – because water-based inks are thinner and do not retain their base when cured, inks can often have issues achieving high opacity.

Drying – because water-based ink cure via simple evaporation, they can often be problematic if used in very arid environments. In contrast, if water-based inks are used in very humid environments, you may never get them dry without a proper heat source.

Custom color matching – while custom colors can absolutely be made with water-based inks, it is important to remember that they are semi-transparent and may not appear the same when printed.

Discharge Ink or Paint

Discharge ink is offered in both water-based and plastisol varieties and works well in both ways. Discharge ink works by removing the dye used to color the garment and replacing it with the pigmented ink or paint color. The picture below shows some inks or paints have gained popularity in recent years because they allow a printer to work on dark garments without the need for under basing.

Some important things to remember about discharge ink and paints include:

Garment selection – discharge ink will only work on 100% cotton garments. Additionally, printers should know the type of their garments if they chose to use discharge ink or paint because it may cause some issues during printing.

Odor – some discharge inks or paints will put off heavy odor and should be used only in a well-ventilated workspace.

Curing – discharge inks are activated by the heat of the dryer and must be dried thoroughly to work properly.

What is It

In knowing what ink or paint works best with certain types of fabrics, we will give you an advantage in getting best quality prints for your garments.

Let us do an experiment.

Activity 1: Ink or Paint Absorption Test

In this activity, we will do an experiment that would determine what ink or paint would be best for screen printing on different kinds of garments.

Materials Needed:

- Garment Ink or Paint:
  - Plastisol
  - Water-based
  - Discharge
- Garments (3 pcs each and all in color white)
  - 100% Cotton
  - Silk
  - Satin
  - Jersey
  - Poly Cotton
- 1 pc small squeegee
- Soap and water
- 1 pc blow dryer or any source of heat.

Kindly follow the directions on how to apply the ink or paint on your garment.

Directions:

1. Lay the fabrics in in sequence and label them.
2. 1 set of garments must be for testing plastisol ink or paint, 1 set for water-based and 1 set for discharge ink or paint.
3. Apply each type of ink or paint in each set of fabrics using the squeegee.
4. Let the ink or paint dry using the blow dryer or any heat source.
5. Observe how the garments absorbs the ink or paint. Using the chart below rate the corresponding categories for pre-washing absorption test.
6. When all paints in the fabrics are dry, wash them with soap and water.
7. Using the second chart for the post-absorption test, rate the retention of the ink or paint on the fabric.
8. Score the ink absorption using the scale provided in the table, before washing and after washing.
9. Keep the data to be analyzed later.

Accomplish the following tables below by rating the quality and performance of inks used in different test with the given scale:

1 – Poor 2 – Good 3 – Very Good

Pre-Washing Absorption Test – Using Plastisol Ink or Paint					
Categories	Types of Fabrics				
	100% Cotton	Silk	Satin	Jersey	Poly Cotton
Density					
Puff					
Finish					
Gloss					
Semi-Gloss					

Pre-Washing Absorption Test – Using Plastisol Ink or Paint					
Categories	Types of Fabrics				
	100% Cotton	Silk	Satin	Jersey	Poly Cotton
Flat					
Color Matching					
Odor					
Curing Time					
Rating Scale					
1 – Poor		2 – Good		3 – Very Good	

Pre-Washing Absorption Test – Water-based Ink or Paint					
Categories	Types of Fabrics				
	100% Cotton	Silk	Satin	Jersey	Poly Cotton
Density					
Puff					
Finish					
Gloss					
Semi-Gloss					
Flat					
Color Matching					
Odor					
Curing Time					
Rating Scale					
1 – Poor		2 – Good		3 – Very Good	

Pre-Washing Absorption Test – Using Discharge Ink or Paint					
Categories	Types of Fabrics				
	100% Cotton	Silk	Satin	Jersey	Poly Cotton
Density					
Puff					
Finish					
Gloss					
Semi-Gloss					
Flat					
Color Matching					
Odor					
Curing Time					
Rating Scale					
1 – Poor		2 – Good		3 – Very Good	

Post-Washing Retention Test – Using Plastisol Ink or Paint					
Categories	Types of Fabrics				
	100% Cotton	Silk	Satin	Jersey	Poly Cotton
Density					
Puff					
Finish					
Gloss					
Semi-Gloss					
Flat					
Color Matching					
Odor					
Curing Time					
Rating Scale					
1 – Poor		2 – Good		3 – Very Good	

Post-Washing Retention Test – Water-based Ink or Paint					
Categories	Types of Fabrics				
	100% Cotton	Silk	Satin	Jersey	Poly Cotton
Density					
Puff					
Finish					
Gloss					
Semi-Gloss					
Flat					
Color Matching					
Odor					
Curing Time					
Rating Scale					
1 – Poor		2 – Good		3 – Very Good	

Post-Washing Retention Test – Using Discharge Ink or Paint					
Categories	Types of Fabrics				
	100% Cotton	Silk	Satin	Jersey	Poly Cotton
Density					
Puff					
Finish					
Gloss					
Semi-Gloss					
Flat					
Color Matching					
Odor					
Curing Time					
Rating Scale					
1 – Poor		2 – Good		3 – Very Good	

What's New

Silk screen printing would not be completed without the basic tools of the trade. Familiarize yourself with them and know their specific functions.

Tools used for Silk-Screen Printing

Screen Types:

1. **Static screen**

A static screen is a screen which is comprised of a rigid frame, usually made of wood or aluminum, that has been permanently adhered to a piece of stretched mesh. These are popular due their ease of use and inexpensive pricing.

2. **Adjustable screens**

Adjustable screens are usually made of aluminum and allow the user to stretch the screen mesh to the desired tension either by hand or with pneumatic equipment. They are popular in print shops that uses rapid change of images because you can remove the mesh and simple replace it with a new piece, the need for cleaning of the old mesh is eliminated. Their popularity roused because of the high tensions that can be achieved, they are adjustable.

Emulsion:

Once your screen has been degreased and dried you will be ready to coat it with emulsion. There are two types of emulsion, liquid emulsion and capillary film.

Types of Emulsion

Direct Liquid Emulsions - is spread onto the screen mesh with a tool called a scoop coater. Scoop coaters come in a variety of sizes and have two coating edges, one for thick coats and one for thin. The decision to use one edge or the other will be based upon the thickness of the stencil you will need for your print.

1. **Photopolymer**

Photopolymer emulsions are premixed with sensitizer by the manufacturer so that they are ready to use straight out of the container. Most photopolymer emulsions will have a faster exposure time that can be a dual cure emulsion because these emulsions can go from under-exposed to over-exposed in a matter of seconds, they are most often less forgiving of errors during the exposure process. Exposure time in using this product must be accurate to within a few second. Photopolymer emulsion is recommended for use in print shops that have very controlled prepress and exposure process.

2. **Dual Cure**

Dual cure emulsion is a two-part product that comes in two separate containers. The user will mix the sensitizing agent with water and then stir and mix them into the emulsion base. The exposure of a dual cure emulsion is slower than a photopolymer emulsion. This product allows for variance of as much as 30 seconds in exposure time.

Capillary Film

Capillary film is an easy to use and inexpensive means of emulsifying screens. Capillary film is offered in sheets of varying size and thickness because it allows a printed to take a screen out of the box and have it ready to print in a matter of minutes. It is quickly becoming the preferred method of busy shops. Capillary films allow printers to know with certainty that they are achieving optimum stencil thickness.

Film

Film Types

1. **Inkjet**

Inkjet film is a transparent film that is coated with an emulsion layer that allows for the deposit of large amounts of ink. Of the three film types, inkjet film allows for the greatest image opacity and edge definition. Due to the ease and affordability of inkjet system it is popular among print shops.

2. **Laser**

Laser film is transparent and designed for use with most laser printers. It is commonly less expensive than inkjet film. Although the opacity of the image printed on laser film is not usually as high as an image printed in inkjet film, many print shops use this product with success. Darkening sprays can be used to enhance opacity but are toxic and should be avoided if possible.

3. **Vellum**

Vellum is a thin white or off-white paper product that can be printed with most desktop printers. It is the least expensive film type. However, because vellum is not transparent it can interfere with the transfer of light to the screen, for this reason vellum is not recommended for small or high detail images.

Types of Exposure Units

1. **Sun**

The sun is the only free exposure of unit. However, it is difficult to control. Although sunlight has been used to expose screens for many years, it is not a recommended method.

2. **Halogen**

Halogen work light are inexpensive, easy to use. However, the downside is it produces poor quality of detailed images.

3. **Fluorescent**

Fluorescent lights are affordable, easy to use, and good for high detail images. Fluorescent units are simple to use, inexpensive and relatively fast exposing. Fluorescent units are the most popular unit type in the market.

4. **Single-point Halide**

This unit is expensive but reasonable. Easy to use, very accurate with very high detail images and very fast exposing time.

5. Light-emitting Diode

LED units are still in their infancy but are quickly proving to be not only accurate but also incredibly efficient.

6. Washout Booth

Washout booth are only differentiated by size and material. Regardless of which size and type you choose; a washout booth is a great tool for any print shop needs to keep things clean and dry.

Printing Press Types

1. Table Top

This type of press is the least expensive and it can be paced in any flat surface. However, production is slow because changing garments is done manually.

2. Stand-alone

This unit is also affordable, easy to use and can handle large print designs. With this unit production is fast and the volume of work is in high.

3. Automatic

This unit is expensive. However, it can handle multiple prints in high quantity, production is fast and can produce the greatest multi-color capacity.

Types of Dryer

1. Handheld dryer

This dryer may be a blow dryer or a fan. It is cheap but inconsistent and the drying process is slow.

2. Flash dryer

This unit is affordable and easy to use. However, its results may be inconsistent depending on the environment. It is also hard on the printing pallets because the abrupt burst of heat may damage it.

3. Conveyor dryer

A small unit of a conveyor dryer can be bought at a reasonable price. It is easy to use, dry garments and ink or paint fast and is reliable.

The above-mentioned tools are the basic materials used in t-shirt and garment printing. If you do not have these tools, do not worry because your teacher will help you acquire them so that you can practice your skill after this module.

There are also other tools that can help you with silk screen printing.

Here are the other tools that will help you make your t-shirt or garment printing consistent and with amazing results.

Other Screen-Printing Tools

Scoop Coater - is a must have tool for coating screen with liquid emulsions.

Squeegee - is used to spread the ink or paint in the screen. It is offered in many sizes and styles to fit your needs.

Ink Knife – an easy and clean way to distribute ink and clean screens.

Drying rack – screen racks are an often overlooked but very valuable tool in any shop.

Scrub pad – the perfect tool for scrubbing screen and ink tools.

Pressure washer – a pressure washer is a great tool for cleaning a screen at any stage of the process.

Laser temperature gun – by using this temperature control, it gives you a peace of mind that comes with knowing that you have properly cured your garments.

What I Have Learned

What is a silk-screen printing?

The most common form of commercial T-shirt decoration is **screen printing**. In screen printing, a design is separated into individual colors. **Plastisol or water-based ink or paint** are applied to the shirt through mesh screens which limits the areas where the ink or paint is deposited.

What are the different types of ink and paint?

- Plastisol
- Water-based
- Discharge

What are the tools used for silk-screen printing?

- Emulsions
- Film
- Exposure Units
- Wash both
- Printing press
- Dryer

Some other materials and equipment in t-shirt printing are as follows:

- Scoop coater
- Squeegee
- Ink knife
- Drying rack
- Scrub pad
- Pressure washer
- Laser temperature gun

Why is it important that I should learn how to use this materials and equipments?

It is important that I should know how to use this equipment and materials for t-shirt printing can help you make your work easier and can drastically improve the finished product. Knowing how to use this materials is very crucial it t-shirt printing.

What I Can Do

Do you still remember the experiment you did earlier? Have you kept the data?

Let us try to analyze the data to know which garment absorbs, what type of ink or paint best before washing, and what garment retains the ink or paint best after washing.

Answer the following questions:

1. Using the scale, add the scores and divide them by 6. What garment absorbed the ink or paint well during the application?
    a. 100 % cotton
    b. Silk
    c. Satin
    d. Jersey
    e. Polycotton

2. Using the scale, add the scores and divide them by 6. What garment absorbed the ink or paint well during the application?
    a. 100 % cotton
    b. Silk
    c. Satin
    d. Jersey
    e. Polycotton

3. Solve and discuss your answer on a PowerPoint presentation.

Assessment

Write **YES** on the blank if the statement about photography is true and **NO** if it is not.

_____ 1. Scrub pad is the perfect tool for scrubbing screen and ink tools.

_____ 2. Squeegee are affordable, easy to use, and good for high detail images.

_____ 3. Laser film is transparent and designed for use with most laser printers.

_____ 4. Plastisol ink has a high opacity and ability to sit on screen for long periods of time without drying.

_____ 5. High density makes the ink come straight from the garment without arching.

_____ 6. Photopolymer emulsions are premixed with sensitizer by the manufacturer so that they are ready to use straight out of the container.

_____ 7. The sun is the most expensive exposure of unit.

_____ 8. Discharge ink is offered in both water-based and plastisol varieties and works well in both ways.

_____ 9. Discharge ink will only work on 100% cotton garments.

_____ 10. Dual cure emulsion is a two-part product that comes in two separate containers

Lesson 2 Silk Screen Printing

Now that you have learned the different materials and equipment used in silk screen printing, it is time that we put that knowledge and skill to the test.

You must start in making your design out of stencil. What design would you like to print in your t-shirt?

In module 1, you have learned about the elements of art and principles of design. Explore in applying some of the elements and principles which are appropriate.

In module 2 - lesson 1, you have learned the different ways of printing a shirt. In this module, you will learn the most common way of printing on garments which is the silkscreen printing. In addition, you will learn about the types of garments suitable for screen printing.

If you are ready, read this module first as a guide and then practice it. You may ask the assistance of your teacher or you can explore it yourself.

Let us begin.

What's In

To start screen printing, there are some points that you should consider.

In making the design prints, you begin first by looking at the differences in the way fabric and paper handle printed designs. Paper as a print medium translates best from what you see from the computer screen to print. Since paper is not as absorbent as fabric, the inks dry faster with minimal color mixing. More important, the inks dry quickly near the surface.

Fabric, however, is absorbent, which allows the inks to saturate deeper than paper, which makes the fabric great for permanent print. This also greatly affects the way how the colors look, especially processing the light-colored inks on dark colored t-shirts.

For example, if you want a white print design on a black t-shirt, the color will change slightly since the black color of the t-shirt will dominate the white ink. The solution to this common problem is running the white ink twice with flashing in between each printer run.

What is flashing?

It is curing ink temporarily with a heat lamp before printing it again with the same screen. Running the same screen twice with flashing allows the ink to become double strength and stops the shirt color from pushing through.

Another very common technique for printing inks on dark colored fabric is to use a white under-base. The process involves printing all the design in white first, in order to create a blank canvas underneath the actual color design. Under base is a very effective method to get the colors as bright and true as possible on dark colored t-shirts. To apply this, make sure the inks are under-based and/or flashed on dark colored t-shirts.

With the process of screen-printing, colors in the design are printed individually with a short period in between each color. This is just enough time for the colors to spread evenly before settling. As a designer, there is a potential for details to be lost if they are too fine-grained, causing colors to spread. The main problem for spreading is the tightness or lack thereof in the mesh of the screen being used to squeegee the ink through. If the mesh is not tight enough, the ink will go through in bigger blobs causing more spreading. The easiest way fix it is to reduce the fine detail in the design in the places that are not necessary.

The complexity of the design could end up being its downfall, turning parts of the design into a mess. For the elements in the design that cannot be removed, take off those parts to make them thicker or try to rearrange them in areas that aren't touching other colors. On the print side, use a tighter mesh screen in case the printer has not already determined the need for one. Another tip is to remove unnecessary fine detail, avoid small design elements from touching other colors, and work with a tighter mesh screen for printing.

Introduction to Inks

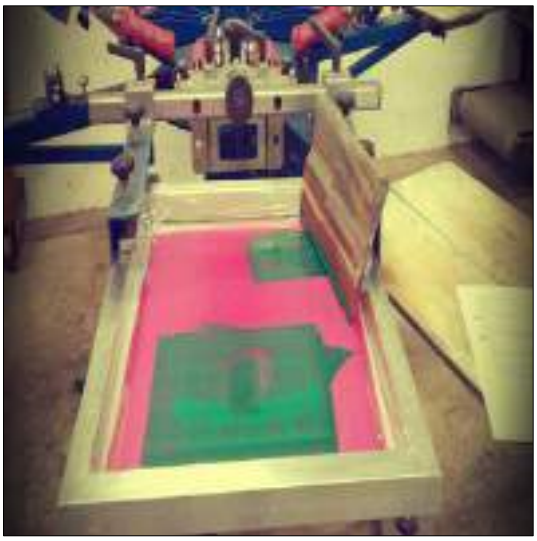
Printed t-shirts are worn almost everyday. Heavy usage of a printed t-shirt over time requires the ink to permanently adhere to the fabric and maintain its quality. There are three major ink options for t-shirt print designs, and in order of popularity, they are: **plastisol ink, water-based ink, discharge ink**.

There are numerous benefits to plastisol: longevity and brightness of the print being two of the most important. The disadvantage of plastisol, however, is being thick to the touch. Designs that have a lot of ink coverage on the fabric can become intrusive when they should be seen and not felt.

One solution to this problem is make use of the negative space on the t-shirt. When used properly, incorporating the blank space in the t-shirt with your design can even make it appear as if you are using an additional print color without the disadvantages of additional ink use.

Screen printing inks come in singular solid colors. Each color is printed one at a time to accomplish the completed design. In doing so, it is not advisable to use color gradients, shading or photograph-like images that contain thousands of colors. Nevertheless, it is possible to print these more complex designs in screen printing inks, though quality suffers.

Registration of the Print



Fabric stretches a lot and rarely maintains a consistent size or shape. It is increasingly difficult when dealing with a material that can change shape.

The technical printing term to ensure the colors are in the right place in relation to the other colors is **registration**. Errors in registration will result in a design that appears misprinted and poorly aligned. Even a slight movement in the fabric can result in a blurry appearance or a misaligned print.

While most of the registration process lies on the print side, you can make it easier and more accurate in the design phase by using **trapping**. Trapping the design simply means adding a very small stroke to the colors that touch each other so there is a little overlap. This small step can make all the difference in registration.

Know Your Colors

Your blue is not someone else's blue. In fact, to get even more granular, your navy blue is not someone else's navy blue. The most widely used universal color system used by designers and printers is the Pantone Color Matching System, or abbreviated as **PMS colors**. It serves the purpose of transferring the color you want in your design to the printer in exact terms. The printer can take the PMS color number you need and mix their standard ink colors to reproduce the PMS color. This is crucial because it removes opinions on what a color should be, and turns it into a measurable result.

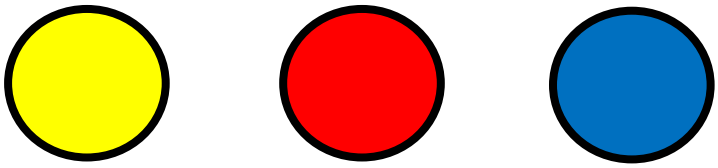
If you will take this advice a step further and convert your design colors to PMS colors using a swatch library, you should be aware that your screen settings alter the color's appearances. The best way to ensure that all parties involved in the design and print process are on the same page, is to refer to the paper PMS color chart. Be explicit in your color selection by providing PMS colors for print.

Understanding these problems and solution when using fabric as a design medium can lead you to a more improved finished product. It is very important that you are aware of this things as a designer.

What's New

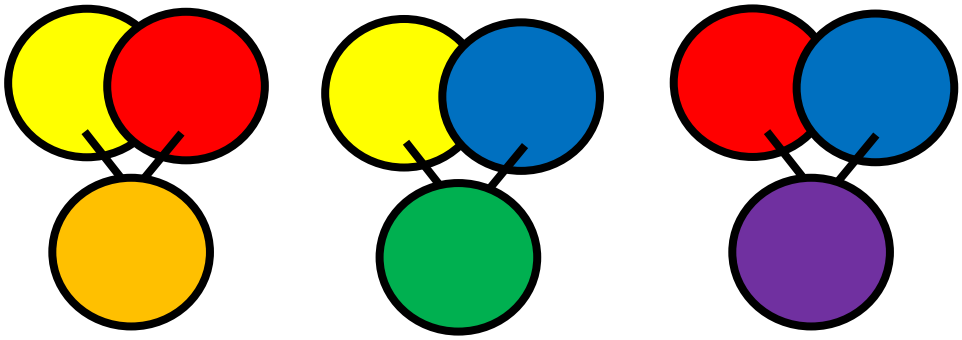
Here is an activity that can help you understand how colors behave.

There are what you call the primary colors:



Yellow Red Blue

By mixing the primary colors, the results will be the secondary colors:



Orange Green Violet/Purple

Materials needed:

- 6 bottles of empty water bottles
- 3 packs of Venus dye (Yellow, Red and Blue)
- Water
- Mixing stick
- Teaspoon
- 6 pcs of white cotton fabrics

Directions:

1. Fill each bottle with enough water.
2. In the first 3 bottles put 1 teaspoon each of venus dye; yellow, red and blue.
3. Mix well. Observe the intensity of colors. Where the colors dark and intense?
4. Dip the cotton fabrics in each bottle. Did the colors transfer well to the fabrics?
5. Was the color transfer intense and have a deep contrast?

6. In the other three bottles:
    a. Mix 1 teaspoon each of yellow and red dye. What color came out?
    b. Mix 1 teaspoon each of yellow and blue dye. What color came out?
    c. Mix 1 teaspoon each of blue and red dye. What color came out?
7. Dip the cotton fabrics in the colors and see if the color transferred to the fabric well.
8. Dry the fabrics. Did the colors retain their intensity?

What I Can Do

Now that you have a wide range of knowledge and techniques in screen printing. Let us put your knowledge to skill by this time.

A step-by-step procedure on how to do screen printing is given below.

Screen Printing

Step 1: Preparing all the needed materials

1. Screen printing screen
2. Emulsion kit
3. Ink or paint
4. Masking tape
5. Squeegee
6. 150-watt bulb
7. Iron
8. Negative print design

Step 2: Preparing Your Screen

Your screen will not be prepared when you first buy it. You need to apply masking tape to the inside and back as shown to stop the flow of the emulsion when preparing your screen.




Step 3: Applying the Emulsion

Mix the emulsion as instructed, then pour onto screen.

Step 4: Spreading the Emulsion


Using the squeegee, spread the emulsion on both sides of the screen. Note that since it is liquid, the emulsion will seep through to the other side of the screen when spreading.

Make sure that your screen should be as even as possible, hold it up to light to see if it smooth and all areas are fully covered.

Step 5: Drying the Screen

Put the screen, flat side up, in a dark room to dry. You can also use a small fan if you want to circulate air so it will dry faster. Mostly, it will take about 3 hours to dry without using a fan.

Step 6: Printing your Transparency

You will need a transparency of the image you want to print. Make sure the image is in black or in a negative image.

Step 7: Exposing Your Screen

On the flat side of the screen, place the transparency upside down then put the piece of glass on top to ensure the transparency is flat against the screen. We put the transparency upside down, because the flat side of the screen is the back side.

Expose the screen with the light about 2 ft. away, for 13-14 minutes. Make sure to time it because an over exposed screen will not wash clean for printing.

Step 8: Checking Your Screen

Once the time is up, turn the light off and remove the transparency and glass. It may not look like anything happened, but when you hold the screen to a light, you will see a difference in color.

By exposing the screen to the light source with the transparency, a reaction occurs. The exposed area becomes hardened and will not wash away. The unexposed area (the image on the transparency) is still soft enough to wash out in the next step.

Step 9: Cleaning Your Screen

Use either a handheld shower head, sink sprayer or pressure washer, to clean your screen. All you need is water and pressure. Note that the only part that will wash away is where the screen was not exposed to light.

Once clean, hold up to light to see if you missed any spots.

If you see any areas on your screen with "holes" (gaps in design or missed coverage of emulsion), just cover with masking tape on the back side of the screen once the screen is dry.

Step 10: Preparing to Print

Use cardboard or any stiff object in between the front and back of your shirt. Don't use corrugated cardboard because the surface may be smooth, but when pressing down to ink your shirt, the waves of the corrugation will show as a pattern.

The reason we use a surface in between the layers is because we don't want the ink to bleed through to the opposite side of the shirt.

Step 11: Placing the screen

Place your screen, flat side down on your shirt. Using the flat side allows the screen to make a direct connection for printing.

Step 12: Applying Ink to the Image

Using a spoon, put a glob of ink or paint on the screen. Drag the glob across the top for even coverage.

Use the squeegee to ink the design onto the shirt.

Make sure it covers the design. Too much amount of ink will cause over-inking and you will lose the sharpness of the design.

Step 13: Finishing

Pull the screen off, lifting from right to left to reveal your design.

Once 100% dry, iron the image using the highest setting before steam. Iron for at least 10-15 seconds on all areas of the design. Place the iron on one half (no need to apply pressure, just place directly on top of the ink) for 10-15 seconds then move the iron to the other half. This will set the ink and will avoid the design to be washed off.

Now you're done!

Assessment

Answer the following questions below. Write your answers on the space provided before the number.

_____ 1. Which of the following allows the ink to become double strength and stops the shirt color from pushing through.?
a. Trapping
b. Flashing
c. Registration
d. None of the above

_____ 2. The following are the three major ink options for t-shirt print designs **except**?
a. Plastisol ink
b. Water-based ink
c. Discharge ink
d. Poster ink

_____ 3. Fabric is absorbent. Is the statement **true**?
a. Yes
b. No
c. Maybe
d. Sometimes

_____ 4. Which of the following is the technical printing term to ensure the colors are in the right place in relation to the other colors?
a. Trapping
b. Flashing
c. Registration
d. None of the above

_____ 5. The following are primary colors **except**?
a. Violet
b. Red
c. Yellow
d. Blue

_____ 6. Which of the following refers to adding a very small stroke to the colors that touch each other so there is a little overlap?

a. Trapping
b. Flashing
c. Registration
d. None of the above

_____7. Which of the following does the abbreviation PMS stands for?

a. Phantom Color Matching System
b. Pantone Color Matching System
c. Phantom Colours Matching Systems
d. Phantone Colours Matching Systems

_____ 8. The one of the benefits of using plastisol ink is having longevity and brightness of the print. Is **true**?

a. Yes
b. No
c. Maybe
d. Sometimes

_____ 9. Which of the following is one of the secondary colors?

a. Orange
b. Green
c. Violet
d. All of the above

_____ 10. Paper is not as absorbent as fabric. Is the statement **true**?

a. Yes
b. No
c. Maybe
d. Sometimes

What's More

The following information can give you more ideas on how to place some of your images on your t-shirt for a more stunning and beautiful finish product. Kindly study and read it carefully.

T-shirt Printing – Placing Your Image in the Correct Position

Setting Up Your T-shirt Printing Project:

When we begin t-shirt printing project, it is crucial that we place your images correctly on the shirt so that they look their best. This is particularly important when we are placing an image on the left chest area. I'm sure you've seen T-shirts where the image is placed almost under the arm. We make sure that doesn't happen.

Position T-shirt Printing Across the Chest

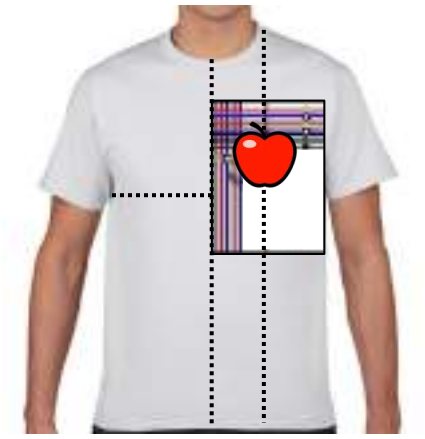
Our maximum t-shirt printing area is 10.5" x 8". When we line this up on the t-shirt the top of the image is normally about 3 inches below the bottom of the collar hem.

This is determined by centering the image and also viewing where the line across the bottom of the sleeves would intersect. The image is centered so that the top two thirds of the image is above that imaginary line and the bottom third is below.

Printing in the Left Chest Area

The correct placement of an image or graphic in the left chest area is that the center of the image is directly below the collar hem at the top of the shirt and either sitting on the line from the bottom of the sleeves or slightly above it.

Now naturally different images are going to display differently on the t-shirts so one that we do is we put a T-shirt on a mannequin or a person, place the image and then evaluate that printing position by measuring. We do not just eyeball it simply because we want all of the shirts to look consistent.



Creating a template for your T-shirt Printing

Once we have determined the optimal position for your logo, we simply create and print a t-shirt printing template on cardstock. We cut out where the image shape so that we can place the transfer into the hole. This allows us to lay the template on top of the shirt, place a transfer through the hole directly to the shirt, line the transfer up, hold the transfer in a place while removing the cardstock template and then pressing the shirt.

This way the t-shirt printing is on straight and the shirts look great!

T-shirt Printing on the Back of the Shirt

When doing the t-shirt printing on the back, the same general guidelines apply as for the front. So again, this means centering on the shirt with two thirds of the image being above the line that would intersect the bottom of each sleeve and the other third below the line.

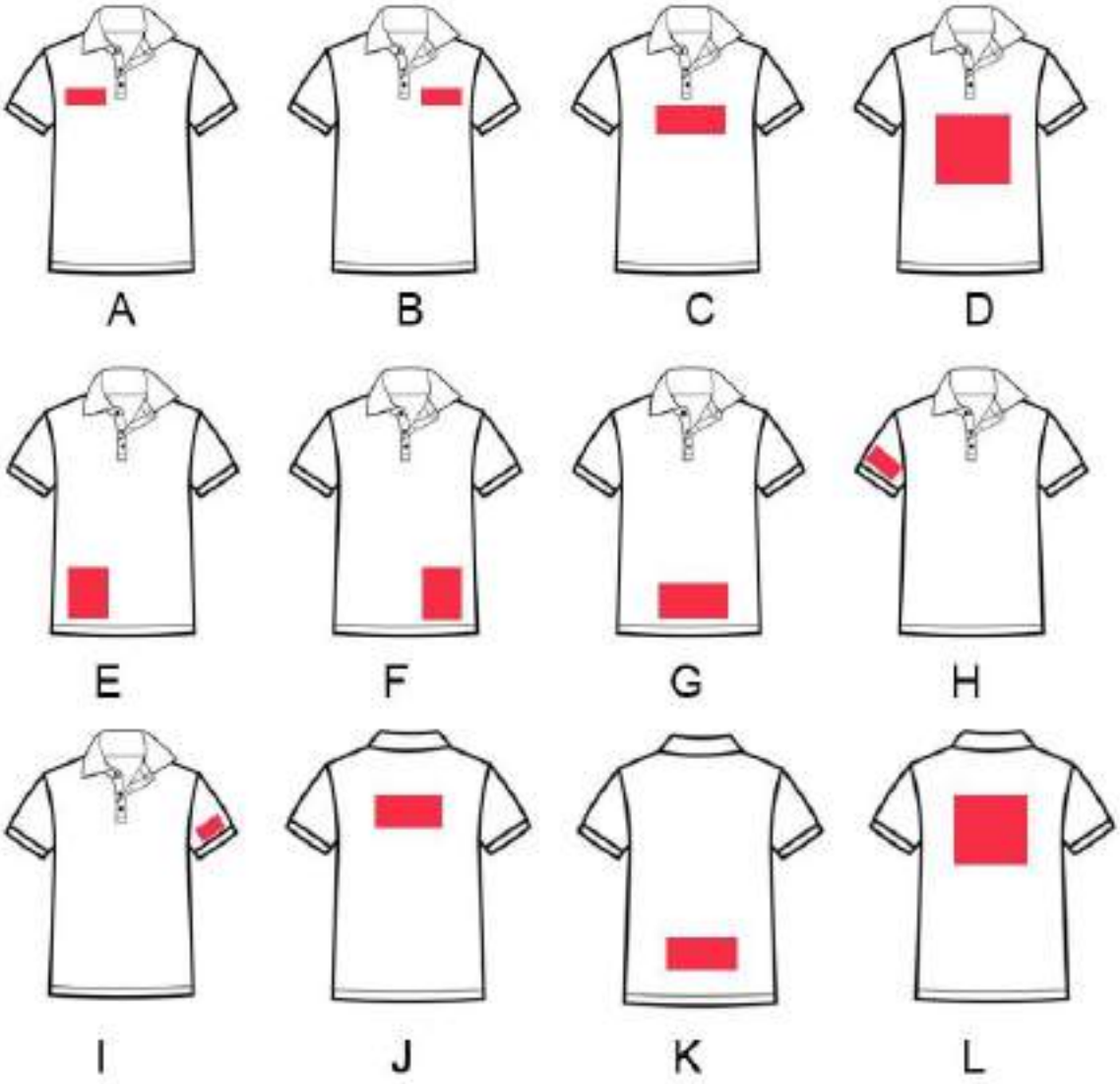
Now there are times when the image which sits on that line because naturally it's all about how it visually looks. There are also times when we will shift the transfer up so that the t-shirt printing remains balanced looking.

Printed just Below the Collar

The image must be about 4 inches below the bottom of the collar since when the t-shirt is laid flat on our heat press, the hem of the collar on the front is lower than that of on the back.

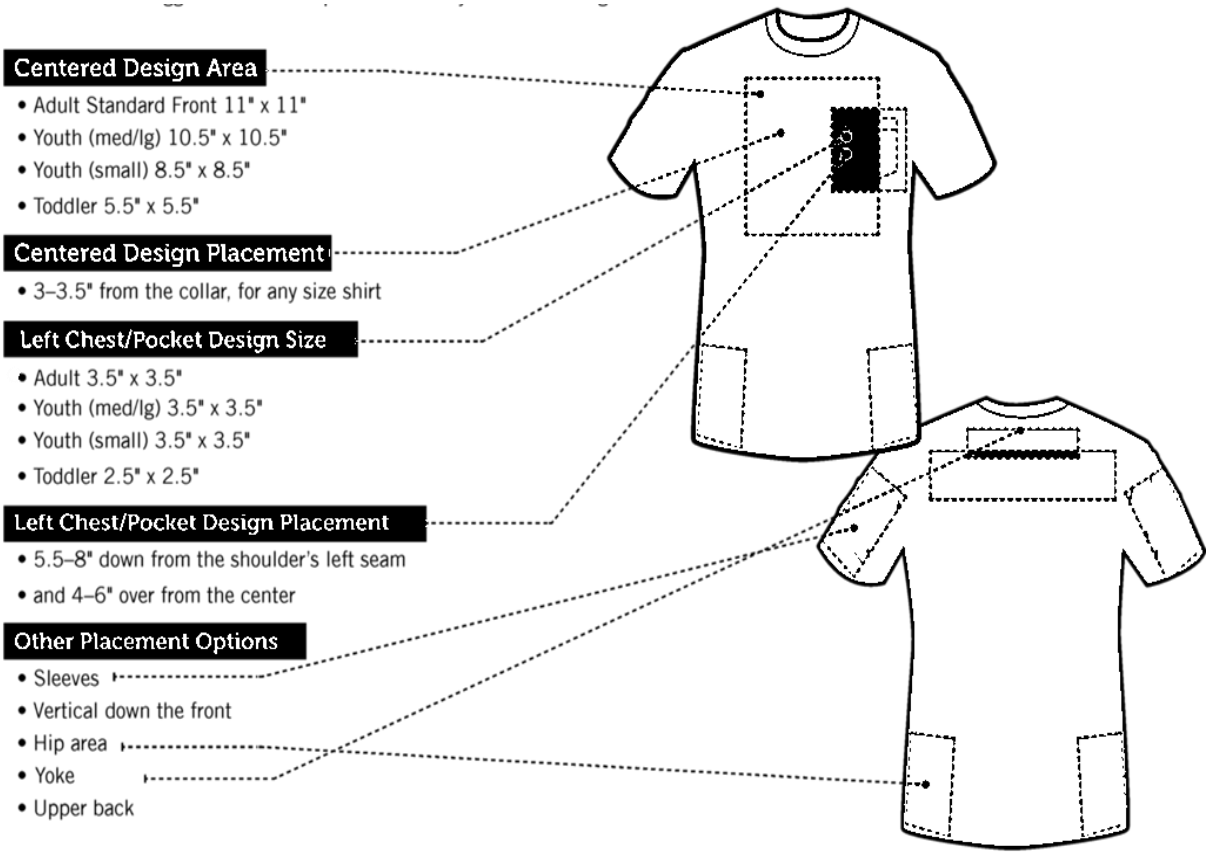
Naturally, we can also print on different areas of the shirt such as the sleeves and down at the bottom hem or off to the side, but this should give you an idea how we go about lining up your t-shirt printing.

LOGO POSITION



T-shirt Placement Guide

These are some suggested sizes and placement for your T-shirt designs.



Answer Key

Lesson 1

What I know
1. Screen printing
2. squeegee
3. suede
4. reducer
5. Inkjet film

Assessment
1. T
2. F
3. T
4. T
5. T
6. T
7. F
8. T
9. T
10. T

Lesson 2

Assessment
1. b
2. d
3. a
4. c
5. a
6. a
7. b
8. a
9. d
10. a

References

Garcia-Quinto et. al (2019), MAPEH in Action, The 21st Century Teacher's Resource Manual, Rex Book Store, Iloilo City

Links:
Icon Team Member, Emulsion & Capillary Film, (2014) retrieved on March 19, 2021 from (https://www.dynamicscreenprintingsupply.com/Emulsion-Film

Introduction to Garment Screen Printing, retrieved on March 19, 2021 from https://www.dynamicscreenprintingsupply.com/assets/docs/Introduction-To-Garment-Screen-Printing.pdf

https://www.facebook.com/forucoolmall/posts/154601462868192,

https://www.webfx.com/blog/web-design/t-shirt-screen-printing-introduction

https://www.instructables.com/Screen-Printing-3/

For inquiries or feedback, please write or call:

Department of Education - Bureau of Learning Resources (DepEd-BLR)

Ground Floor, Bonifacio Bldg., DepEd Complex
Meralco Avenue, Pasig City, Philippines 1600

Telefax: (632) 8634-1072; 8634-1054; 8631-4985

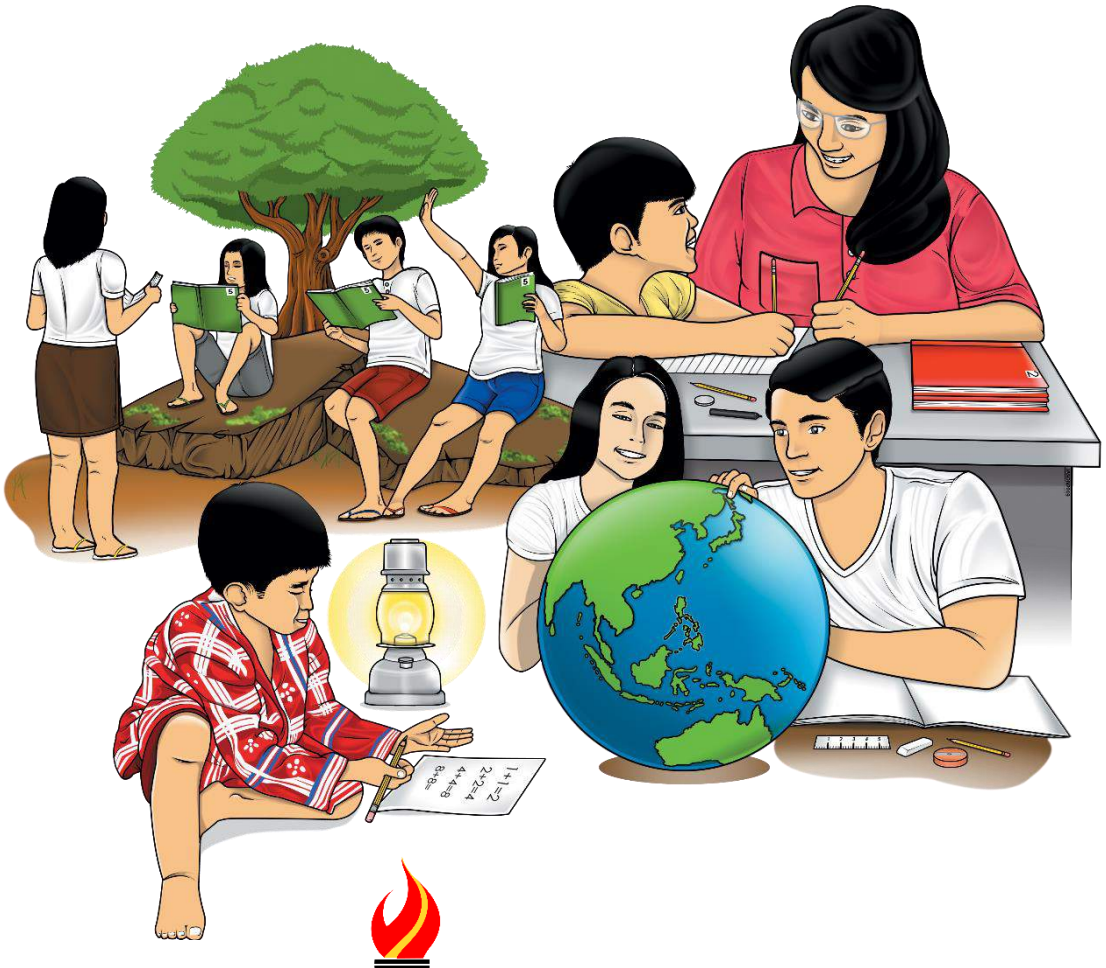
Email Address: blr.lrqad@deped.gov.ph * blr.lrpd@deped.gov.ph

6

DepED
DEPARTMENT OF EDUCATION

Arts

Quarter 3 – Module 3:
Basic Photography



ALTERNATIVE DELIVERY MODE
ADM

Arts – Grade 6
Alternative Delivery Mode
Quarter 3 – Module 3: Basic Photography
First Edition, 2020

Published by the Department of Education
Secretary: Leonor Magtolis Briones
Undersecretary: Diosdado M. San Antonio

Development Team of the Module

Author:	Karen Joy T. Urquiola
Editor:	Rovie C. Abello
Reviewers:	Melany S. Nazareta, Rebecca Y. Ibarreta, Mahnnie Q. Tolentino, Hajji S. Tropa
Illustrator:	Gerry D. Almanon
Layout Artist:	Gerry D. Almanon, Edsel D. Doctama
Management Team:	Ma. Gemma M. Ledesma, Josilyn S. Solana Miguel Mac D. Aposin, Jose Niro Nillasca Elena P. Gonzaga, Donald T. Genine, Jerry A. Oquendo Dobie P. Parohinog, Mahnnie Q. Tolentino Rebecca Y. Ibarreta, Hajji S. Tropa, Rovie C. Abello

Printed in the Philippines by _____

Department of Education – Region VI – Western Visayas
Office Address: Duran St., Iloilo City
Telefax: (033) 336-2816, (033) 509 7653
E-mail Address: region6@deped.gov.ph

6

Arts

Quarter 3 – Module 3:
Basic Photography

DepED
DEPARTMENT OF EDUCATION

Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.

What I Need to Know

This module was designed and written with you in mind. It is here to help you master art. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course. But the order in which you read them can be changed to correspond with the module you are now using.

After going through this module, the learner is expected to:

1. Realizes that art processes, elements and principles still apply even with the use of technologies.
2. Understands concepts and principles of photography.
3. Identifies the parts and functions of the camera (point and shoot or phone camera).
4. Applies composition skills to produce a printed photograph for a simple photo essay.

Pre-test

Identify the elements or principles in the picture. Choose your answers below.

1. Which of the following principles is presented in the following example?

a. Emphasis
b. Contrast
c. Pattern
d. Harmony

2. Which of the following elements is presented in the following example?

a. Color
b. Texture
c. Shape
d. Line

3. Which of the following elements is presented in the following example?

a. Color
b. Texture
c. Shape
d. Line

4. Which of the following principles is presented in the following example?

a. Emphasis
b. Contrast
c. Pattern
d. Harmony

5. Which of the following principles is presented in the following example?

a. Emphasis
b. Contrast
c. Pattern
d. Harmony

What I Know

Read the story and answer each question. If the statement is true write TRUE but if the statement is wrong write FALSE.

MY MOBILE PHONE

Hello. I'm Kate. I want to write about my mobile phone. I got it from my parents for my birthday two years ago. I like it very much and I think it's sometimes good to have it in my bag.

I always keep it in my bag or in my pocket so my parents and my friends can always call me. It's got a calculator in it so I sometimes use it at school. I can use my mobile phone to connect to the Internet and look through the news or read emails. Isn't it fantastic?

Last year I was on a cycling holiday with my friend. We went cycling but the weather wasn't good. It was cold and windy. It started to rain and it got dark. Suddenly my friend fell off her bike and she broke her leg. At first I didn't know what to do but I thought about my phone. It was in my backpack so I called for help. After fifteen minutes a doctor arrived.

Sometimes people are not used on exploring their mobile phones which is a big problem because mobile phones plays a very important role in our daily life especially we are now in a digital world. Mobile phones can help us do our work easier and it helps us connected all throughout the world. I'm not crazy about my mobile phone but I feel safe when I have it with me.

_____1. Kate can't exist without her mobile phone.

_____2. She got her mobile phone in January.

_____3. She usually listens to music on her mobile phone.

_____4. There's a calculator in her mobile phone.

_____5. Her parents bought her the mobile phone two years ago.

Lesson 1 Phone Camera

Have you ever wondered that a **camera phone** is a mobile phone which is able to capture photographs and often record video using one or more built-in digital cameras? It can also send the resulting image over the telephone function. Today almost every mobile phone contains a camera. In principle, mobile phone camera is a sensor/camera module designed for use across a range of mobile phone handsets and accessories. It embeds high quality still camera functions and also supports rich video.

In this lesson you will learn about the basic functions of a phone camera. How to use a phone camera.

After using this module, you should be able to understand the concepts and principles of photography.

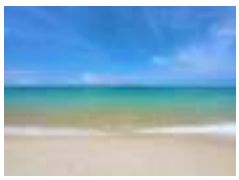
Are you ready to start? You may go now to the next page and begin Lesson I.

What's In

What are the elements of photography?

1. **Lines** – is a mark made by a moving point and it has a greater length than width. Directs the eye – horizontal, vertical, diagonal, curvy, zig-zag, etc. It also can be actual obvious lines or the borders or edges of shapes.





2. **Shape/Form** – a contained area. It can be GEOMETRIC (man-made) ex. Square, triangle, circle, etc. **Shapes** are 2-Dimensional and flat, example of this is circle. **Forms** are 3-Dimensional with height, width and depth. Example: sphere

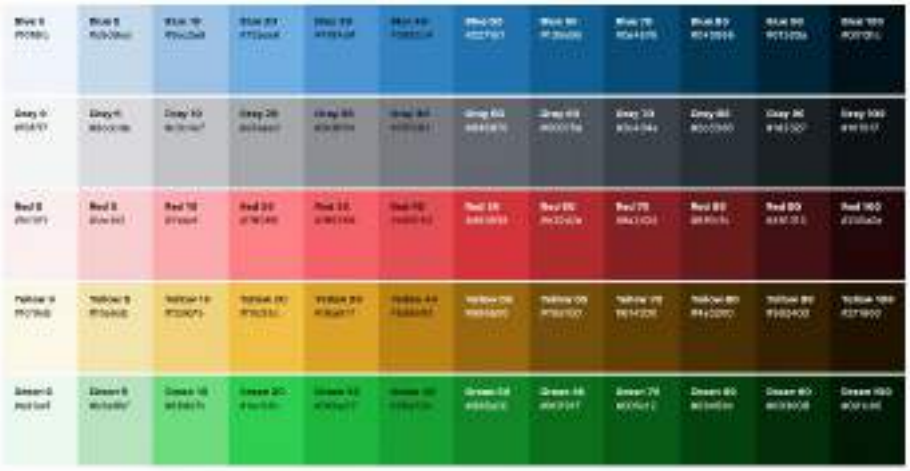


3. **Space** - the area used or unused in a composition. **Positive space** – the area the objects/subject takes up. **Negative space** – the area around, under, through and between.



4. **Texture** - it is the surface quality. It shows how an object feels, or how it looks like it feels. Example: rough, smooth, bumpy, gooey, sharp, etc.


5. **Color** - Artistic term is HUE. We need light to see color. Use color schemes to enhance appeal or make impact.



What are the principles of photography?

1. **Balance** - can be created by repeating the same shapes and by creating a feeling of equal weight.

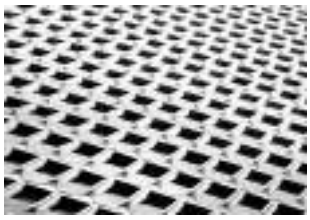
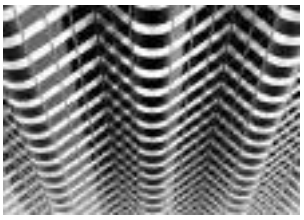


2. **Emphasis** - is how dominant something is in the photograph.



3. **Contrast** - comes in two forms for photography. It can be shown with tone, where light areas contrast with dark ones. It can also be shown with colors, where colors opposite one another on the color wheel contrast with one another. For example, blue contrasts with orange.


4. **Pattern or Repetition -** an element repeated throughout an image, it creates a pattern. **Patterns** are important because the human eye and mind naturally look for them.

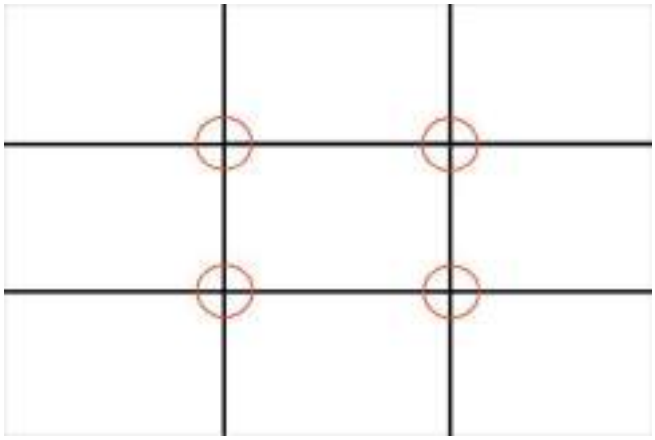



5. **Unity or Harmony** - the **unity** of a composition is how well everything goes together. That doesn't mean that it needs to be bland and dull. It just means that everything belongs and that if an element is out of place, that was what the photographer intended.



The Rule of Thirds

The most basic of all photography rules, the rule of thirds, is all about dividing your shot into nine equal sections by a set of vertical and horizontal lines. With the imaginary frame in place, you should place the most important element(s) in your shot on one of the lines or where the lines meet. It's a technique that works well for landscapes as you can position the horizon on one of the horizontal lines that sit in the lower and upper part of the photograph while you're vertical subjects (trees etc.) can be placed on one of the two vertical lines.



How do I use the basic functions of a phone camera?

The camera in your smartphone allows you take photos and videos with ease. You can also use different camera modes to customise your shot or video.

The conditions in which you take your photo can also affect the image.

How do I open the camera app?

Find and tap the camera app on your mobile phone.

How do I take a picture?
With the camera app open, press the **capture** button to take a picture.

How do I record a video?
Open the camera app on your smartphone before following these steps:

1. Find the **word** or **icon** referring to video and press the **record** button (red circle) to start recording

2. Press the **stop** button (square) to finish recording

How do I switch between the front and rear cameras?
While using the camera app, press the **switch camera** button to switch between the front and rear cameras.

How do I zoom in and out?

To use the zoom function, touch the screen with two fingers:

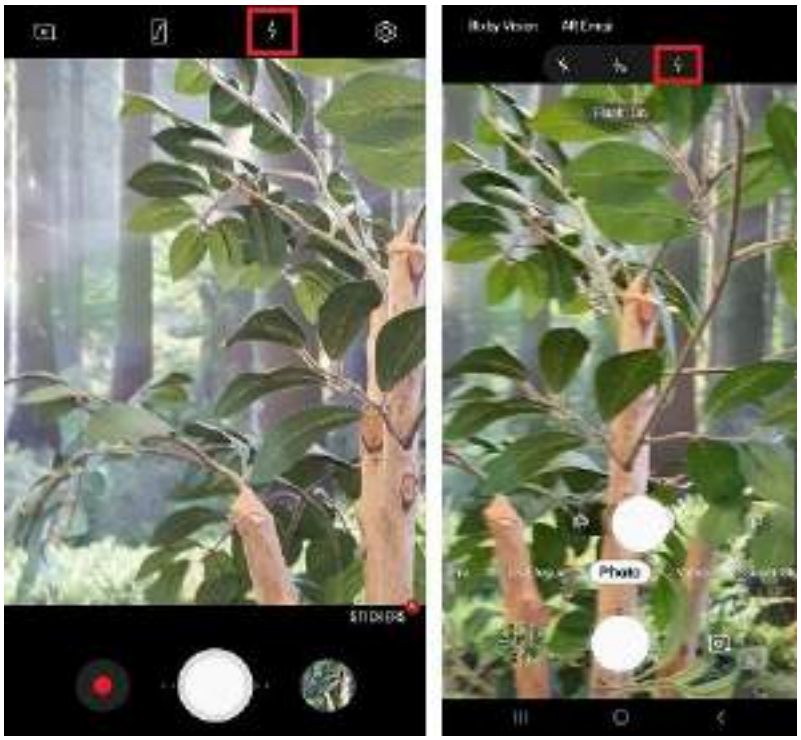
1. In swiping movement, spread your fingers apart to zoom in

2. Pinch together to zoom out

How do I turn on the flash?

In the camera app, the flash can be switched to *on*, *off* or *auto* using the icon that looks like a **lightning**.

Depending on your smartphone, you will either have to keep pressing the **flash** icon until it's turned yellow, or you'll have to select the **yellow flash** icon to turn the flash on.



Why is there a rattling sound when I shake my smartphone?

This sound is the camera lens shutter moving inside the barrel. It's a normal sound and it can happen when the smartphone is being shaken or vibrated. When you turn the camera on, the sound will stop as the shutter will be actively focused.

Notes to the Teacher

Assist the learners to understand the basic functions of phone camera.

What is It

Direction: Answer the following questions below. Write in the space provided the letter of the correct answer.

_____ 1. Which of the following elements shows the area used or unused in a composition?
a. Space
b. Texture
c. Lines
d. Color

_____ 2. The following are considered as the principles of photography **except**?
a. Harmony
b. Texture
c. Balance
d. Pattern

_____ 3. Which of the following is the step on how to zoom in the camera?
a. Press the red button
b. Pressing the flash icon
c. Pinching your fingers together
d. Spread your fingers apart

_____ 4. The following are considered as the elements of photography **except**?
a. Color
b. Pattern
c. Shape
d. Line

_____ 5. Which of the following refers to dividing your shot into nine equal sections by a set of vertical and horizontal lines?
a. Elements of photography
b. Principles of photography
c. Rule of thirds
d. None of the above

_____ 6. Which of the following refers to the sound when you are shaking your phone?
a. Ringtone
b. Camera lens shutter
c. Notification LED
d. None of the above

_____7. Which of the following refers to a repeated element throughout an image?
a. Color
b. Pattern
c. Shape
d. Line

_____ 8. Which of the following is the step on how to zoom out the camera?
a. Press the red button
b. Pressing the flash icon
c. Pinching your fingers together
d. Spread your fingers apart

_____ 9. What do you call the principle which shows that something is dominant on the photograph?
a. Emphasis
b. Texture
c. Harmony
d. Color

_____ 10. What do you call the element which is a mark made by a moving point and it has a greater length than width.
a. Space
b. Texture
c. Lines
d. Color

What I Have Learned

What are the elements of photography?

1. Lines
2. Shape/Form
3. Space
4. Texture
5. Color

What are the principles of photography?

1. Balance
2. Emphasis
3. Contrast
4. Pattern
5. Harmony

Basic functions of phone camera

1. How do I open a camera app?
   a. From the home screen, swipe up to open your apps
   b. Select the Camera app
2. How do I take a picture?
   a. With the camera app open, press the capture button to take a picture.
3. How do I take a video?
   a. Find the word or icon referring to video and press the record button (circle) to start recording
   b. Press the stop button (square) to finish recording
4. How do I switch between the front and rear cameras?
   a. While using the camera app, press the switch camera button to switch between the front and rear cameras.
5. How do I zoom in and out?
   a. To use the zoom function, have the camera app open and touch the screen in two places:
   b. Spread apart to zoom in
   c. Pinch together to zoom out
6. How do I turn on the flash?
   a. In the camera app, the flash can be switched to *on*, *off* or *auto* using the icon that looks like a lightning.

What I Can Do

Tell a photo story

Direction: Choose a title for a photo story. You can use the following suggestions from the box.

A Beautiful Garden	A Lucky Day!	A Bad Day
A Good Day	A bit of advice	The Accident
Helping Someone	A good person	A lovely pet!

You are going to make a photo story for one of the titles. You have to discuss to discuss the title and work out a story that you can tell.

After you have taken your picture, you have to share your photos with the rest of the class. You may use the Microsoft Office Word or PowerPoint presentation.

Note: See to it that you apply at least two elements/principles on the photograph.

Lesson 2 Point and Shoot Digital Camera

Do you know what ~~is~~ a point and shoot digital camera is? A point-and-shoot camera, also known as a compact camera and sometimes abbreviated to P&S, is a still camera designed primarily for simple operation. Most use focus free lenses or autofocus for focusing, automatic systems for setting the exposure options, and have flash units built in.

Point-and-shoots are by far the best-selling type of camera, as distinct from camera phones. They are popular for basic photography by people who do not consider themselves photographers but want easy-to-use cameras for snapshots of vacations, parties, reunions and other events.

What's In

Directions: Match the names of each part of the camera into the picture.

Cursor Pad

Flash

Holder

Lens Zoom

LCD panel

Power

Shutter Release

What's New

What Is a Point and Shoot Camera?

A point and shoot camera is a pocket-sized, mostly auto-focus camera that is designed for simple photography. Point and shoot cameras may be called P&S cameras or compact cameras, due to their small size.

Features That Make Point and Shoot Cameras Attractive

One of the most attractive features of the point and shoot camera is the ability to point the camera at a subject and snap a picture. The camera does all the work from adjusting the exposure level to focusing the camera and deciding if ~~a~~ flash is necessary. That makes this type of camera a great choice for people who just want~~s~~ to take a quick picture without having to think through the settings.

Before Taking Your First Shots

1. Learn Your Modes

Before going out for your first photo shoot with your point-and-shoot camera, take several minutes to read the manual and to examine the settings that your camera comes with. Most point and shoot cameras have a variety of shooting modes for different situations. Knowing which are available to you beforehand can save you a lot of time, as well as ensuring that you get the perfect picture when the opportunity arises. Here are a few examples:

- **Portrait Mode**: This is best used whenever you're taking a picture of someone's face, or several people in a close group. This setting creates a soft lighting effect and can add a soft blur to the background. Use this setting on subjects to make them pop from their surroundings.
- **Night Mode**: While this is not available on all cameras, this mode allows you to take night shots without needing a tripod. The camera takes a series of photos using a fast shutter and then assembles them into one shot, resulting in a crisp image with enough light that would otherwise be available only with a longer shutter speed and a tripod.
- **Snow or Beach Mode**: This mode compensates for white backgrounds, like snow-filled streets or bright sunlight on the sand, without other details being too dark.
- **Miniature or Diorama Mode**: Also known as *tilt-shift*, this mode makes the subject appear to be a miniature model. It's done by keeping the subject in focus while adding a soft blur to parts of the background.

2. Get a Memory Card or Two

Check your camera for a small slot that will accept a memory card, or check your owner's manual. Most cameras today use micro SD cards for extra storage. This is an inexpensive way to ensure that you always have room for a few extra thousand photos. You may not notice the speed when taking photos, but you should see a difference when uploading photos to your computer. If your camera has a larger SD slot, remember that most micro SD cards come with an adapter so you can use them too.

3. Check the Image Quality

At their default settings, many point-and-shoot cameras take low-quality photos with small file sizes. This is a good setting if you haven't added an SD card yet, or if you are just posting photos to Facebook, which reduces large photos anyway. However, if you want to print copies of your pictures, you will want to use larger image files with higher resolution. Besides the standard JPG file format, many good point-and-shoot cameras can shoot in RAW mode. While RAW files take up a lot of storage space, they give you the highest quality images. In fact, RAW files aren't even photo files at all, but contain the raw image data that JPGs and GIFs use to assemble an image. Note that you will need a RAW image editor to process these files.

Taking Great Photos

1. Stabilize your camera

Even under normal lighting situations, the slightest shake of your hand can make your photos blurry. When you take a photo, hold your camera firmly with both hands and keep as still as possible before taking a picture. Keeping your elbows against your chest does a lot to reduce camera shake. If the camera has a viewfinder, rest the top of the camera against your brow to make the camera even more stable. If there is a steady object close by, like a wall or a pillar, lean your arm against it when taking a shot.

Use a tripod for long-exposure shots.

Taking photos without a flash in low-light situation would force a camera to use slower shutter speeds, so keeping your camera stable is essential. Brace yourself as well as possible and breathe steadily. Begin inhaling just before pressing the shutter button and exhale until the shot is complete. With some practice you can actually get shots just as sharp as someone using a tripod. The screw hole on the bottom of many point-and-shoots will probably fit on most tripods. There are also miniature tripods designed just for point-and-shoot cameras that are portable and extremely flexible.

2. Pre-focus before you take a shot

Focusing a camera can steal precious seconds from taking the perfect shot. The camera can take even longer to focus if it has been turned off or gone into sleep mode. You can eliminate most of the waiting time by pre-focusing your camera before

taking the shot. To do this, point the camera at your subject and press the shutter button half-way down. The camera will make some noise as it focuses and when it stops, release the button.

For action shots, like when you're waiting for someone to cross the finish line, pre-focus on any object close to where the person will be – including a spot on the ground — before they arrive. Even if the person isn't exactly where you expected them to be, the camera will take much less time to adjust the focus a short distance than it would a longer distance.

3. Use the flash sparingly

Few good pictures ever come from a built-in camera flash. Not only does the flash tend to wash out details and cast dark shadows behind your subject, it can wear down your battery and cause frustrating delays as the camera waits for the flash to charge before engaging the shutter.

In times when you can't avoid using a flash, try diffusing its light by taping a small piece of tissue paper over it. In some cases this may make the photo slightly less bright than what you intended, however it's much easier to brighten a photo than it is to darken an overexposed shot, either with an image editing program or by using the camera's own image editing options.

4. Avoid using digital zoom

When you need to get close and personal to your subject, step in as close as you can first and use the optical zoom second. Using the digital zoom on a point-and-shoot camera will always give you an inferior photo. This is because the digital zoom basically crops and expands your photo as you take the image, which most cameras allow you to do after you take the shot anyway. So using a 2x digital zoom uses half the pixels as a normal shot, while a 4x digital zoom reduces the pixels by four times.

5. Adjust the white balance

White balance is often distorted when shooting indoors.

If you have ever taken a shot indoors and found everything looks yellow or blue, you've experienced an issue with white balance. Most good point-and-shoot cameras give you an option to adjust the white balance for your shot. For a custom white balance, just adjust the setting under the same light that will illuminate your shot until the image on the screen looks good to your eyes. There should also be several settings that change the white balance for you. Settings like day light, cloudy and fluorescent change the white balance for the situations they name. Tungsten is one you may not be familiar with — use it when you are indoors with a lot of incandescent lights to remove the yellow hues.

6. Be Creative and Have Fun

The more photos you take with your point-and-shoot camera, the better you will understand what works and what doesn't in different situations. When you get a new camera, it's a good idea to take it out for an afternoon and use different settings for the same photo so you can see how they affect each shot. Explore different compositions by taking photos from different angles and distances. Rather than having your subject centered in every shot, for example, place them near the side of the shot to give them context within their surroundings.

Whether you're using a cellphone, a point-and-shoot camera, using different angles almost always creates more interesting pictures. If you simply stand in front of the subject and take the photo at eye-level, the shot is usually uninteresting because that's the same perspective everyone has of everything they see. Squatting down to a low angle, or finding a safe way to get above your subject will create a photo that is more interesting because it comes from a perspective only toddlers and giraffes normally see.

Whatever your style is for taking photos, your point and shoot camera is a great, light-weight accessory you can bring anywhere. The quality and the range of features will almost always give you better, more memorable photos than what you could ever get with the camera on a smartphone.

What I Can Do

Tell me about your photos

Choose three photographs that you like from your own gallery and spend a few minutes on choosing and thinking about what you are going to explain why you have chosen those photographs. You may choose to use the Microsoft Office Word or handwritten.

What I Have Learned

What Is a Point and Shoot Camera?

A point and shoot camera is a pocket-sized, mostly auto-focus camera that is designed for simplicity. Point and shoot cameras may be called P&S cameras or compact cameras, due to their small size.

Features That Make Point and Shoot Cameras Attractive

One of the most attractive features of the point and shoot camera is the ability to point the camera at a subject and snap a picture. The camera does all the work from adjusting the exposure level to focusing the camera and deciding if a flash is necessary. That makes them a great choice for someone that just wants to grab a quick picture without having to think through the settings that will ensure the picture is perfect.

Before Taking Your First Shots

1. Learn Your Modes
    a. Portrait Mode
    b. Hand-Held Night Mode
    c. Snow or Beach Mode
    d. Miniature or Diorama Mode
2. Get a Memory Card
3. Check the Image Quality

Taking Great Photos

1. Stabilize Your Camera
2. Pre-focus Before You Focus
3. Use the Flash Sparingly
4. Avoid the Digital Zoom
5. Adjust the White Balance
6. Be Creative and Have Fun

Assessment

Write **YES** on the blank if the statement about photography is true and **NO** if it is not.

_____ 1. Portrait mode is best used whenever you're taking a picture of someone's face, or several people in a close group.

_____ 2. Can you use a digital camera without a memory card?

_____ 3. Point and shoot can refer to either cameras that use film or to digital cameras.

_____ 4. Do professional photographers use point and shoot cameras?

_____ 5. Most point and shoot cameras are not limited in how fast they can capture an image.

Answer Key

What I Know

1. False
2. False
3. False
4. True
5. True

What Is It?

1. a
2. b
3. d
4. b
5. c
6. b
7. b
8. c
9. a
10. c

Assessment

1. Yes
2. No
3. Yes
4. Yes
5. No

Pre-test

1. c
2. b
3. d
4. a
5. d

References

ePHOTOzine. 9 Top Photography Composition Rules You Need To Know. April 30, 2014. Accessed March 14, 2021. https://www.ephotozine.com/article/9-top-photography-composition-rules-you-need-to-know-17158

ballardgraphicdesign. Elements and Principles of Design in Photography. September 21, 2012. Accessed March 14, 2021.

https://www.slideshare.net/ballardgraphicdesign/elements-and-principles-of-design-in-photography

https://www.samsung.com/ie/support/mobile-devices/how-do-i-use-the-basic-functions-of-my-smartphone-camera/

https://en.wikipedia.org/wiki/Camera_phone

https://en.wikipedia.org/wiki/Point-and-shoot_camera

https://www.techopedia.com/definition/13068/point-and-shoot

For inquiries or feedback, please write or call:

Department of Education - Bureau of Learning Resources (DepEd-BLR)

Ground Floor, Bonifacio Bldg., DepEd Complex
Meralco Avenue, Pasig City, Philippines 1600

Telefax: (632) 8634-1072; 8634-1054; 8631-4985

Email Address: blr.lrqad@deped.gov.ph * blr.lrpd@deped.gov.ph