

M C Escher

Maurits Cornelis Escher

17 June 1898 – 27 March 1972

Artist or Mathematician?

Illinois State Goals

STATE GOAL 25: Know the language of the arts.

- **Why This Goal Is Important:** Through observation, discussion, interpretation and analysis, students learn the “language” of the arts. They learn to understand how others express ideas in dance, drama, music and visual art forms. In addition to acquiring knowledge essential to performance and production, students become arts consumers (e.g., attending live performances or movies, purchasing paintings or jewelry, or visiting museums) who understand the basic elements and principles underlying artworks and are able to critique them.
- **A. Understand the sensory elements, organizational principles and expressive qualities of the arts.**
 - 25.A.4 Analyze and evaluate the effective use of elements, principles and expressive qualities in a composition/performance in dance, drama, music and visual arts.
 - 25.A.2d Visual Arts: Identify and describe the elements of 2- and 3-dimensional space, figure ground, value and form; the principles of rhythm, size, proportion and composition; and the expressive qualities of symbol and story.
 - 25.A.3d Visual Arts: Identify and describe the elements of value, perspective and color schemes; the principles of contrast, emphasis and unity; and the expressive qualities of thematic development and sequence.
 - 25.A.3e Visual Arts: Analyze how the elements and principles can be organized to convey meaning through a variety of media and technology.
- **B. Understand the similarities, distinctions and connections in and among the arts.**
 - 25.B.2 Understand how elements and principles combine within an art form to express ideas.
 - 25.B.3 Compare and contrast the elements and principles in two or more art works that share similar themes.
 - 25.B.4 Analyze and evaluate similar and distinctive characteristics of works in two or more of the arts that share the same historical period or societal context.

Illinois State Goals

STATE GOAL 26: Through creating and performing, understand how works of art are produced.

- **Why This Goal Is Important:** Students acquire skills to produce and perform dance, drama, music and visual art. They learn to use media, tools and technologies. They learn to shape ideas and emotions into sounds, images and actions. As students create and perform their own artworks and review the works of others, they become more imaginative, strengthen their problem-solving skills and learn to respond to the creativity of others. Creating and performing are at the core of the fine arts. Students also learn about the role of the artist (e.g., dancer, painter, actor, director, scriptwriter, musician).
- **A. Understand processes, traditional tools and modern technologies used in the arts.**
 - **26.A.2e** **Visual Arts:** Describe the relationships among media, tools/technology and processes.
 - **26.A.3e** **Visual Arts:** Describe how the choices of tools/technologies and processes are used to create specific effects in the arts.
 - **26.A.4e** **Visual Arts:** Analyze and evaluate how tools/technologies and processes combine to convey meaning.
 - **26.A.2f** **Visual Arts:** Understand the artistic processes of printmaking, weaving, photo-graphy and sculpture.
- **B. Apply skills and knowledge necessary to create and perform in one or more of the arts.**
 - **26.B.2d** **Visual Arts:** Demonstrate knowledge and skills to create works of visual art using problem solving, observing, designing, sketching and constructing.
 - **26.B.3d** **Visual Arts:** Demonstrate knowledge and skills to create 2- and 3-dimensional works and time arts (e.g., film, animation, video) that are realistic, abstract, functional and decorative.
 - **26.B.4d** **Visual Arts:** Demonstrate knowledge and skills that communicate clear and focused ideas based on planning, research and problem solving.
-

Illinois State Goals

STATE GOAL 27: Understand the role of the arts in civilizations, past and present.

- **Why This Goal Is Important:** The arts are a record of civilizations, past and present. Artists are influenced by—and influence—the times and places in which they live and work. As students learn through the arts about people and civilizations, they learn about others and themselves. Also, students learn about careers related to this goal (e.g., animator, curator, art historian, sound technician).
- **A. Analyze how the arts function in history, society and everyday life.**
 - **27.A.2a** Identify and describe the relationship between the arts and various environments (e.g., home, school, workplace, theatre, gallery).
 - **27.A.3a** Identify and describe careers and jobs in and among the arts and how they contribute to the world of work.
 - **27.A.4a** Evaluate how consumer trends in the arts affect the types and styles of art products.
 - **27.A.2b** Describe how the arts function in commercial applications (e.g., mass media and product design).
 - **27.A.3b** Compare and contrast how the arts function in ceremony, technology, politics, communication and entertainment.
 - **27.A.4b** Analyze how the arts are used to inform and persuade through traditional and contemporary art forms.
- **B. Understand how the arts shape and reflect history, society and everyday life.**
 - **27.B.2** Identify and describe how the arts communicate the similarities and differences among various people, places and times.
 - **27.B.3** Know and describe how artists and their works shape culture and increase understanding of societies, past and present.
 - **27.B.4a** Analyze and classify the distinguishing characteristics of historical and contemporary art works by style, period and culture.
 - **27.B.4b** Understand how the arts change in response to changes in society.

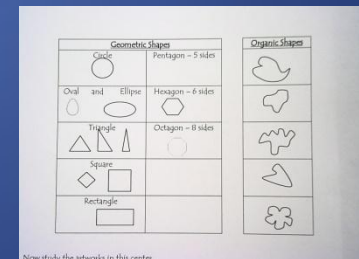
M C Escher Unit

Goals

Activities

Agenda

- Entrance Activity - In your sketchbook, draw a free form shape that has both geometric and organic features. Turn this shape into something. Be imaginative! Suggestions:
 - Divide up the space into foreground and background.
 - Include the outside line in the design.
 - Adjust the outer line if necessary.
 - Think in details!
 - No birds! No fish!



- Entrance Activity

- Color one of the shape designs you made on the previous days.

- Use your superhero coloring powers!

- Be artsy! Be creative! Be original!

- Use a color scheme.

- Mix your colors.

Who was M. C. Escher?

- Entrance Activity: Using a handout, design and color one shape in a circular tessellation.
 - Create an image for one section ($1/6$) of the circle.
 - You must stay within the lines, but the line should inspire and inform your image.
 - Include either a foreground and background – OR – multiple subjects in your shape (or both).
 - Add details.
 - No fish! No birds! No shoes! (Unless you are incredibly creative!)
 - Color the image with your best ‘Picasso’ coloring powers.
 - Color with a pattern.
 - Color with a color scheme.
 - Mix your colors. From now on for the rest of you life, do not ever use plain colors!
- Introduction to M. C. Escher
 - KWL

KLW

Name:
Date:
Advisory:
Block:

What I know.

What I learned.

What I wonder

- +1 for completing each section.
- +1 for open questions in 'wonder' section.
- +1 for multiple open questions in 'wonder' section.

____ / 5

Agenda

- Entrance Activity: Continue on one of your practice designs.
- Who was M. C. Escher?
- How can I make a tessellation?

Who was M. C. Escher?

What I already know...

- He was an artist...

What I learned...

- Basic biographical facts.
 - b. June 17, 1898 in Leeuwarden, Holland
 - D. March 27, 1972.
- Four brothers.
- Father was a civil engineer.

Questions I'd like to ask him....

- When and why did you become interested in art? What inspired you?
- Did your family approve of you being an artist?
- Who invented tessellations? How do you make a tessellation? How long does it take?
- How do you make a woodcut?
- How do you come up with your designs? Do you always use patterns? Was it an obsession?
- How do you have time to do all that artwork?
- Were your artworks in shows or museums?
- Can you tell me about your family?
- How did you die?

What is a tessellation?

- Entrance Activity: Group tessellation project. Color a tile as directed. Group these on the class paper. They must fit together without gaps or overlap.
- Class: Make the tile for your tessellation.

Tessellation Project



- Today you will create a tessellate (tile) out of an equilateral triangle.
- After you make the tile, trace it in your sketchbook, repeatedly, without gaps or overlap, to fill your paper to and over the edges.
 - In the center of your page, make a small dot.
 - Line your tile up with the dot. This is the center of your design.
 - Trace a circle around this center, the spinning point. You should have a collection of six copies of your tile that will fit together without gaps or overlap.
 - Then grow this circle by connecting circles around the edge.
 - You do not have to fill the whole page. I need to see one complete circle and the beginning of a second circle on the edge of that.
- Next class, you will create an image for your tessellate. Just like, Escher, your image must be animate. Then, consistently, across your page, color each of the six repetitions of this image using a pattern, color scheme and shading.
- Do not lose your tile!

How do I make a tile that will tessellate?

- **Precision:** The quality of being exact or accurate.
- First, you will have to make a tile. We will use an equilateral triangle.
- You will need a **precisely** cut triangle, a small piece of tape, scissors and a pencil.
- Follow the instructions **precisely!**
- Don't forget to put your name on the back of your tile when you are done. This will be collected at the end of class.
- Watch the video. I will pause it for each step.
- Next step, you will learn how to tessellate the tile



How do I tessellate?

- Hopefully, you made your tile by **precisely** following the directions.
- The next step is to trace your tile repeatedly and **precisely**, fitting it together with itself each time without gaps or overlap.
 - First, complete a circle. Find and mark the spinning point.
 - Then attach the next circle.  
 - Continue to and over the edge of the paper. Imagine that you are using only a section of a very large page.

Clean Up

- Make sure your name is on your tile.
- Your tile will be collected and kept for you.
- Put your sketchbook on the shelf.
- Leave the scissors on the table.
- Empty the pencil sharpener cup, but do not throw out the pencil sharpeners.

Agenda

- Announcements
 - If you were absent last class, you need to come in before the next class to catch up.
- Entrance Activity: Choose an Escher design from the circle table. Practice coloring using the following techniques:
 - With a pattern.
 - With a color scheme.
 - Using value –
 - With a range of color pencils – OR –
 - With graded pencils and a blending stick to shade.
- [Hint: the more of these techniques you combine, the more interesting your design will be.]
- Class:
 - Art Criticism of M. C. Escher's work - What defines an Escher?

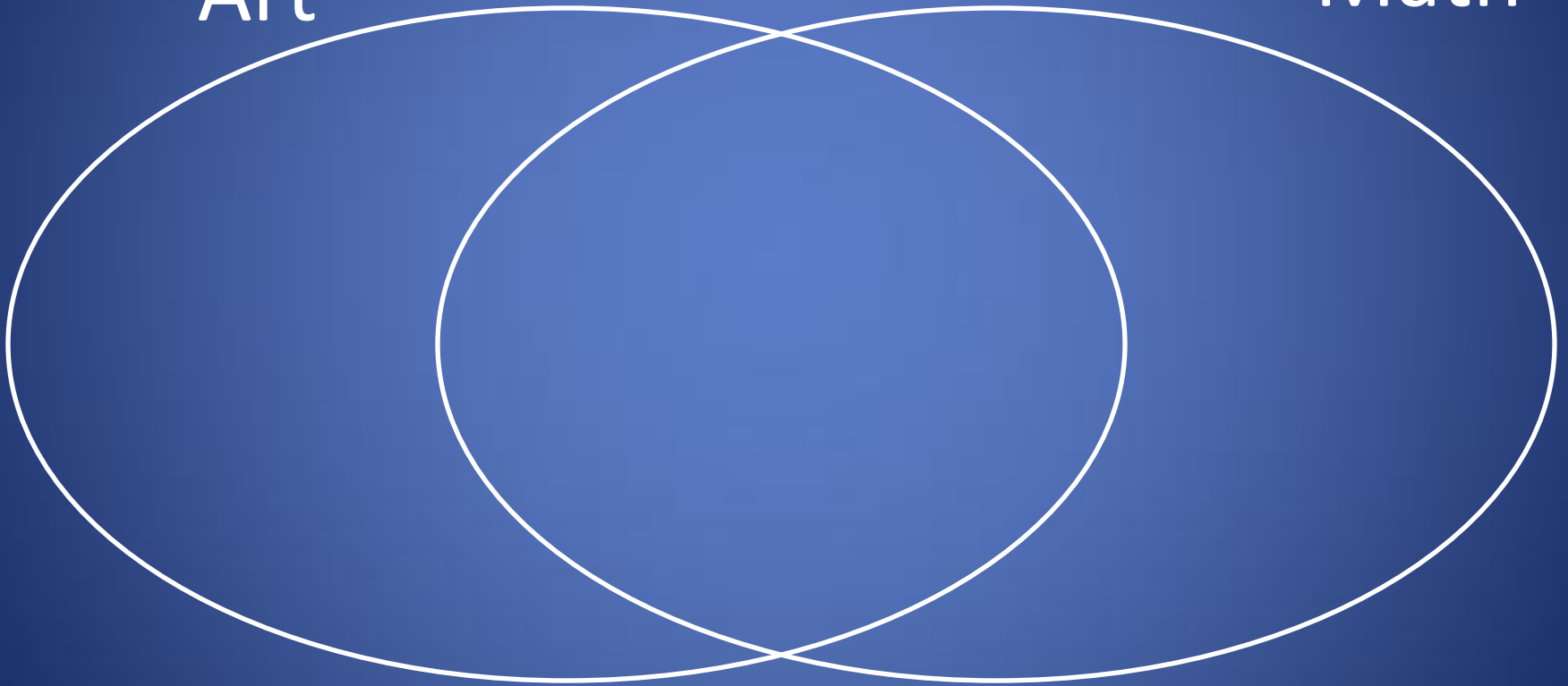
Agenda

- Art Criticism of M. C. Escher's work - What defines an Escher?
 - We will look closely at some of Escher's works to try to identify defining characteristics that we will mimic in our own artwork. Also, we will use these characteristics to build our rubric.
 - Was Escher a mathematician or an artist? Watch a [video](#) and complete a Venn diagram to compare .

Venn Diagram

Art

Math

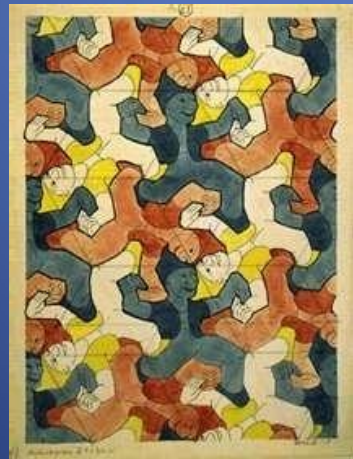
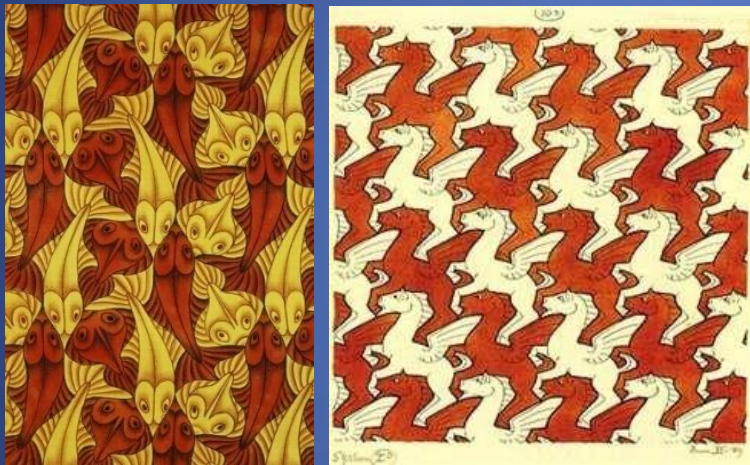


What defines an Escher?

- What defines an Escher? We will look closely at some of Escher's works to try to identify defining characteristics that we will mimic in our own artwork. Also, we will use these characteristics to build our rubric.
 - Escher was influenced by the Moorish tiles he saw The Alhambra in Granada, Spain.
 - Watch a short [video](#) about the Alhambra.
 - Watch a short [video](#) about Escher's fascination with the tiles in the Alhambra.
 - Look at some images to compare Escher's tessellations with Moorish tiles.
 - Complete a Venn diagram.

Compare

M. C. Escher's Tessellations



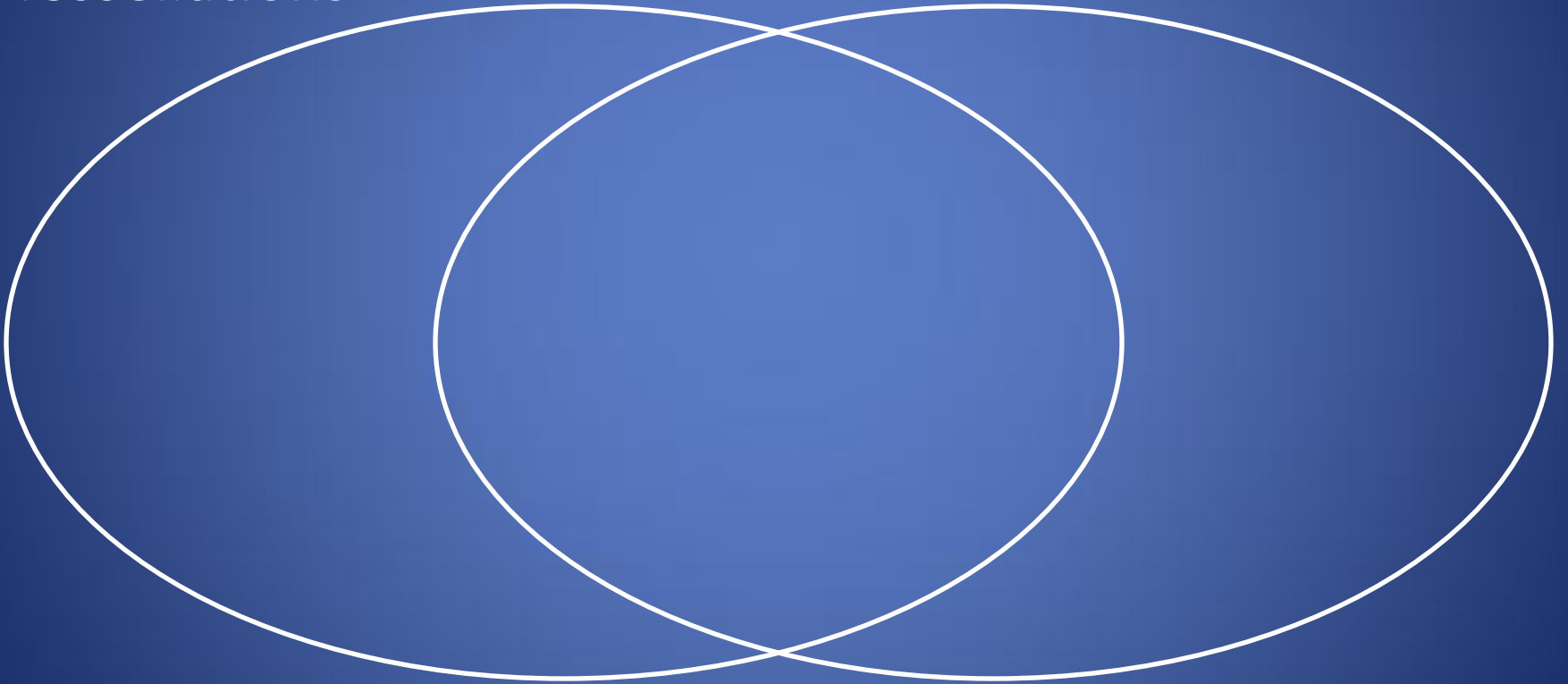
Moorish Tiles



Venn Diagram

M. C. Escher's
Tessellations

Moorish Tiles



What is my shape?

- Announcements
 - All late work is due by Friday, March 2.
 - We are low on color pencils. Please take care of the supplies. Any pencils left on the floor after you leave class will result in points off on your rubric. You may donate color pencils for extra credit.
 - Clean out the storage drawer.
- Entrance Activity
 - Finish your Escher coloring page if you have not already done so.
 - Sketch: Make up a mythical creature that lives in old shoes or in clean rain puddles.
 - If you finish all that, FREE SKETCH!
- Class
 - Review the [rubric](#) for your Escher project.
 - Blobs!
 - In your sketchbook, finish your practice tracing.
 - Once you finish the practice tracing, you may use that page to test out designs for your final project. You are required to show me at least three designs that meet the project criteria. Once your design is approved, you will receive a piece of good project paper.

What is that blob?

- Blob...? Not really an art term!
- Today we are working with **organic shapes**. Organic shapes are natural, free form shapes, like things you might see in nature: a cloud, a puddle, a leaf...
- The other kind of shapes are called **geometric**. We are not using geometric shapes today. Geometric shapes are shapes with names that are used in math, like circles, squares and triangles.
- Your tile was a geometric shape, an equilateral triangle, but now it is an unnamed organic shape.

Let's blob!

- Draw a blob. Turn it into something.
- Did you need to may add to it or change the line to make your idea work?
- Draw another blob. This time you may not add to it or change the line. Permanent rule! What is this one?
- Have your neighbor draw your blob. What is it now?
- This time make another blob for yourself, but include both straight lines and angles and curvy lines. Now what do you have?
- Watch as I show you some finished examples.
- Draw a blob. This time be extra careful to make sure that the image is inspired by the line. The line must be part of your image, not just a frame for your image.

Next class

- Turn copies of old tess into designs

Agenda

- Entrance Activity –
 - Finish your practice tracing of your tile.
 - Draw a critter that eats cell phones.
 - If you are done with that, free sketch.
- Class - There are two tasks that you need to work on today. You should be able to complete both.
 - In your sketchbook, create three designs for your tile.
 - Trace your tile across your page, perfectly, with no gaps or overlap.

How do I design my tile?

- In your sketchbook, create three designs for your tile. The requirements are:
 - Stay within the line of your shape. The line should inspire and inform your image.
 - Include either a foreground and background – OR – multiple subjects in your shape (or both).
 - Add details.
 - No fish! No birds! No shoes! No sombreros! No ghosts! No UFO's! No dresses. No stingrays. No mushrooms! Unless you are incredibly creative! These will be approved only rarely!
 - Do not describe what you plan to draw. You must draw it. I need to see your idea, not hear about it.
- Show me your three designs for approval and you will receive your good project paper. One per customer! [Extras will cost you cash and points.] Label your good project paper, small and lightly on the back. These will be collected at the end of class and saved in the drawer for you.
- IN PENCIL, Trace your tile across your page, perfectly, with no gaps or overlap. See me if you start running into problems toward the edges. Once your tracing is done, begin drawing the details in your image.

Clean-Up

- Close your sketchbook and pass it to the aisle. People at the end of the aisle can put the sketchbooks on the shelf.
- Sit at your seat. When the whole class is sitting:
 - Your project papers will be collected. Did you put your name on your paper?
 - Your tiles will be collect. Did you put your name on your tile?

- coloring your image with your best 'Picasso' coloring powers.
 - Color with a pattern.
 - Color with a color scheme.
 - Use shading.
 - Mix your colors. From now on for the rest of your life, do not ever use plain colors.

November 17 and 18

- **Entrance:**

- Get your sketchbook and sit down. Your project will be returned to you.

- **Class:**

- I will pass out your projects if you gave them to me.
- I will walk around, row by row to sign your rubric. **Do not walk up to me!** I am looking for two things:
 - That you made the tile correctly.
 - That you have three sketches for your tile image.
- **Remember the requirements!**
- Same clean-up as last time.

- **Requirements:**

- You must stay within the lines, but the line should inspire and inform your image.
- Include either a foreground and background – OR – multiple subjects in your shape (or both).
- Add details.
- No fish! No birds! No shoes! No sombreros! No ghosts! No UFO's! No dresses. No stingrays. No mushrooms! Unless you are incredibly creative! These will be approved only rarely!
- **SHOW ME** for approval. Do not describe it to me. I won't listen!

Steps for Your Project Paper

1. Lightly trace the outline of your tile precisely across your page. Do not darken this outline. Later, you may decide to erase it.
2. Precisely pencil in the details of your image. Do not shade or color yet.
3. Choose a color scheme and pattern.
4. Begin to color your image. This is easiest to do systematically. For example, if every tile image has a sun in it, color every sun on your paper first.
5. The last step is to go back and try to add shading and mixed colors to your image.

Clean-Up

- Keep your project packet (tile, gold sheet, pink sheet, good copy) on your table at your seat.
- Put everything else away.
- Pick up stuff off the floor.
- Sit at your seat. When the whole class is sitting, I will collect your papers in the order of your assigned seats.

November 21 and 22

- **Entrance Activity**
 - Sit down and wait.
- **Announcements:**
 - Last class you should have...
 - Finished your three designs in your sketchbook and gotten my approval.
 - Finished tracing your tile across your good project paper.
 - Begun adding details to the good project paper.
 - Continue working. By the end of class today, you should have...
 - Caught up with the steps above.
 - Finished adding details to the good project paper.
 - Begun coloring.
 - If you are behind schedule, you need to come in outside of class.
- **Your projects are due at the end of the next class/beginning of the class after that.**
- **Class**
 - Color Schemes

Color Schemes

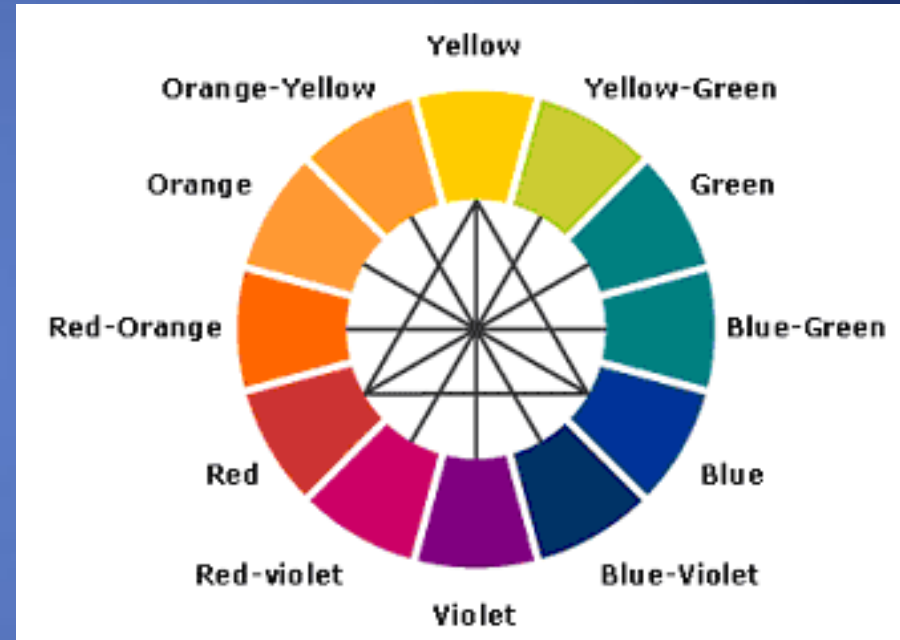
Color schemes are ways artists organize colors. Some colors work better together than others.

For this project, you need to color in a pattern, using a color scheme. This means that you should select a color scheme and then figure out how to vary it within each full circle (set of six tracings).



Color Schemes

- Primary Color Scheme
- Uses only the primary colors: red, yellow, blue
- Secondary Color Scheme
- Uses only the secondary colors: orange, green, purple
- Complementary Color Scheme
- Uses any two colors that are directly across from each other on the color wheel – right through the center.
- Warm Color Scheme
- Uses only the colors on the color wheel between red and yellow: red, red-orange, orange, yellow-orange and yellow.
- Cool Color Scheme
- Uses only the colors on the color wheel between green and purple: green, blue-green, blue, blue-purple and purple.
- Analogous Color Scheme
- Uses any three colors on the color wheel that are neighbors (next to each other so that they are touching).
- Triadic Color Scheme
- Any three colors on the color wheel that are part of an equilateral triangle.
- Monochromatic Color Scheme
- Uses only one color and versions of that color.
- Neutral Color Scheme
- Uses only black, white, gray, and brown, and versions of these.



November 21 and 22

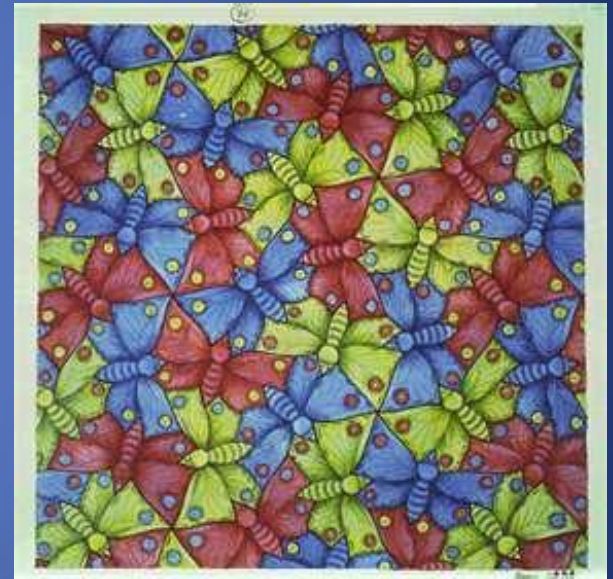
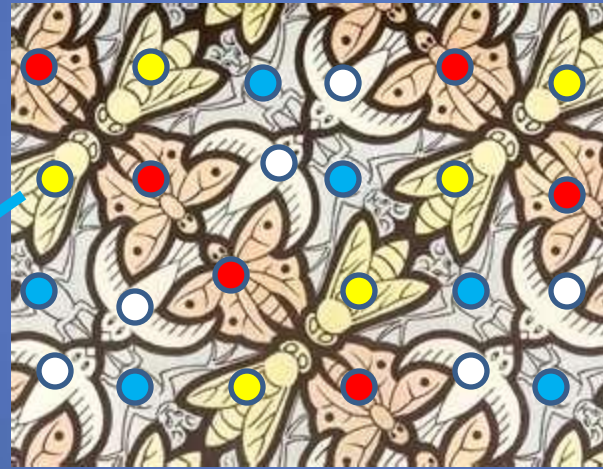
Clean-Up

- Keep your project packet (tile, gold sheet, ~~pink sheet~~, good copy) on your table at your seat.
- Put everything else away.
- Pick up stuff off the floor.
- Sit at your seat. I will collect the papers you are leaving here in the order of your assigned seats.
- You must take what you need home if you are not caught up.

November 23 and 28

- Entrance Activity – None.
- Chores: Clean out the drawer. All weavings returned.
- Announcements: Problems I am seeing...
 - You were supposed to make a shape and create three possible designs for it.
 - You were then supposed to use your shape that you made (not someone else's shape) and one of the designs that you created for it - the one that was approved - and only that one on your project paper. [Note: Only about three people out of 150 were approved to do a combination of the designs they made.]
 - If you are trying to use a shape that someone else cut or a design that someone else created (copying!!!) or drew for you, you have made a mistake and will lose major points.
- PROJECTS ARE DUE AT THE end of the next class.
 - A-Days – Tuesday, November 29
 - B-Days – Wednesday, November 30
- Class
 - Patterns – two ways to think about this...
 - Reminder – Use a color scheme!
 - Tip – start blending colors.

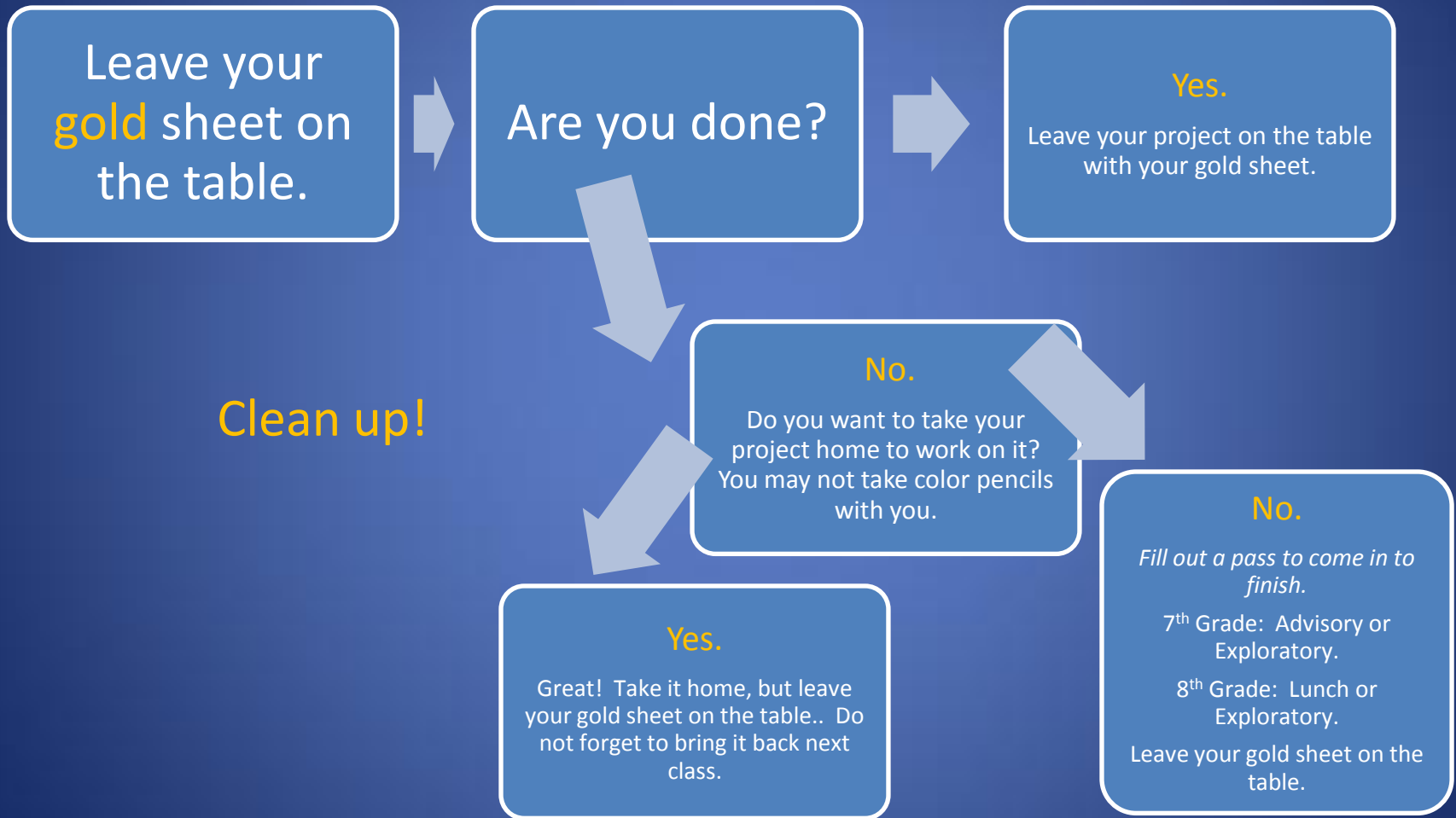
Color with a Pattern!



November 29 and 30

- Entrance - None
- Chores: Clean out the drawer.
- PROJECTS ARE DUE AT THE end of class.
 - A-Days – Tuesday, November 29
 - B-Days – Wednesday, November 30
- Class: Work!

Clean-Up November 29 and 30



December 1 and 2

- Announcements
 - All previous late work, missing work, incomplete work, and corrected work is due by December 5.
 - Late tessellation projects are due by December 9.
- Entrance Activity
 - Complete a 'Reflection'. Echo with complete sentences. Use your best writing skills. Correct grammar! Correct mechanics! I will collect.
- Class
 - Mat tessellations.
 - Evaluate tessellations. If you are not done, turn it in anyway for points so far. You can finish or improve once it is returned to you. You are on your own from this point forward.
 - Tessellating regular polygons – why do some work?

Steps to mat your project

1. Pass your project to the end of the row. I will trim your project on the paper cutter.
2. When I call you, choose a piece of construction paper from the shelf sorter.
3. Use only two staples to attach the top two corners of your project to the construction paper that you selected.
4. Label - Name/Date/Block/Advisory/Number - on the back.
5. Evaluate using your rubric.
6. Turn in.

Why do some shapes tessellate?

- Use a set of regular polygons.
- Trace these in your sketchbook to see which ones tessellate.
 - Trace enough to prove or disprove.
 - Use multiple pages in your sketchbook.
 - Try them individually. For example, we know that squares tessellate – just look at the tiles of our floor.
 - Also, try them in combinations of two or more. Can a square tessellate in combination with any other shapes?

December 5 and 6

- Announcements
 - All previous late work, missing work, incomplete work, and corrected work is due by December 5.
 - Late tessellation projects are due by December 9.
 - All late, new assignments will be accepted until December 16.
- Entrance Activity
 - On your handout, answer this question:
 - We started our tessellation project with an equilateral triangle. We cut it, taped it back together and then traced it to fit so perfectly with itself, over and over, possibly to infinity. Why does this work? Hint: It is not magic!
- Class
 - Hang tessellations
 - Chart: Why do some shapes tessellate?

Regular Tessellations








A regular tessellation is a shape that will tessellate by itself.

Why do some shapes tessellate?

Write your theory here:

A triangle contains 180. Use this information to complete the table. Maybe this will help you figure out why some of the combinations of regular polygons tessellated and other combinations did not. Use your calculators (if you wish!) to do the computations required.

Name:
Date:
Block:
Advisory:

Regular Polygon: A multi-sides shape in which all the sides are an equal length and all the angles are equal.	Did this shape tessellate? (Yes or no.)	How many sides or angles are in this shape? (Hint: There are an equal number of sides and angles.)	How many triangles can be drawn from one vertex in this shape?	Formula: Number of Triangles x 180 = Totals number of degrees in interior of the whole shape.	Formula: Total Number of Degrees / Number of Angles in the shape = Number of degrees in each interior angle.
Equilateral Triangle 					
Square 					
Pentagon 					
Hexagon 					
Octagon 					
Decagon 					
Dodecagon 					
Formula					

Semi-Regular Tessellations

A semi-regular tessellation is a set or combination of polygons that will tessellate together repeatedly.

There are eight semi-regular tessellations. Use a set of polygons to trace and test. Can you find them. What are they?

Now... Why do you think these shapes tessellate? Hint: It has to do with the sum of all of the angles that meet at any single vertex. Use the chart from the other page to calculate these totals. Write your theory here:

- Eight Semi-Regular Tessellations
 - There are four pairs of shapes that will tessellate.
 - Two of the pairs are able to tessellate in two different patterns.
 - 1.
 - 2.
 - Two of the pairs can tessellate only in one way.
 - 1.
 - 2.
 - There are two trios of shapes that will tessellate.
 - 1.
 - 2.

Semi-Regular Tessellations

A semi-regular tessellation is a set or combination of polygons that will tessellate together repeatedly.

There are eight semi-regular tessellations. Use a set of polygons to trace and test. Can you find them. What are they?

Now... Why do you think these shapes tessellate? Hint: It has to do with the sum of all of the angles that meet at any single vertex. Use the chart from the other page to calculate these totals. Write your theory here:

- Eight Semi-Regular Tessellations
 - There are four pairs of shapes that will tessellate.
 - Two of the pairs are able to tessellate in two different patterns.
 1. Triangle + Square
 2. Triangle + Hexagon
 - Two of the pairs can tessellate only in one way.
 1. Triangle + Decagon
 2. Square + Octagon
 - There are two trios of shapes that will tessellate.
 1. Triangle + Square + Hexagon
 2. Square + Hexagon + Dodecagon

Semi-Regular Tessellations

A semi-regular tessellation is a set or combination of polygons that will tessellate together repeatedly.

There are eight semi-regular tessellation patterns. What are they?

- Eight Semi-Regular Tessellations

- Pairs

- Two ways

1. Triangle + Square
2. Triangle + Hexagon

- One way

1. Triangle + Decagon
2. Square + Octagon

- Trios

- Triangle + Square + Hexagon
- Square + Hexagon + Dodecagon

M. C. Escher

- <http://www.youtube.com/watch?v=pk3mnZwBnZw>
- <http://www.youtube.com/watch?v=h8I78JdKxBs&feature=related>
- <http://www.youtube.com/watch?v=h8I78JdKxBs&feature=related>

Tessellation Rubric

Name:
Date:
Block:
Advisory:

Category	5 Points	4 Points	3 Points	2 Points	1 Point
Craftsmanship and Skill	<ul style="list-style-type: none"> •Tile cut and taped correctly. •Tile traced without gaps or overlap, to and over the edge of the page. 	<ul style="list-style-type: none"> •Gaps and overlap (errors) are not obvious or significant enough to detract from the artwork. •Tracing goes to and over the page. 	<ul style="list-style-type: none"> •Gaps and overlap are noticeable, but not significant enough to detract from the adequate success of the finished artwork. •Tracing does not go to and over the edge of the page. 	<ul style="list-style-type: none"> •Gaps and overlap are noticeable and significant enough to detract from the success of the finished artwork. •Tracing does not go to and over the edge of the page. 	<ul style="list-style-type: none"> •Tessellate not cut and taped correctly. Trimmed or taped with gap or overlap. •Tessellate not submitted. •Tracing not finished.
Tile Design and Duplication on Project.	<ul style="list-style-type: none"> •Planned carefully with at least three <u>different</u> sketches. •Image meets all requirements. •Tile is a detailed image that includes foreground and background or a grouping of subjects. •Details of your image design are skillfully duplicated, consistently, and without errors in each tile across your whole page. 	<ul style="list-style-type: none"> •Tile is a detailed image that includes foreground and background or a grouping of subjects. •Image details are duplicated, with minor errors that do not detract from the artwork. 	<ul style="list-style-type: none"> •Tile is a simple image that includes foreground and background or a grouping of subjects. •Image details are duplicated, with some errors that do detract from the artwork. 	<ul style="list-style-type: none"> •Minimum planning. •Tile is a very simple image and is neither foreground with background, nor a grouping of subjects. •Image details are duplicated, with some errors that do detract from the artwork. 	<ul style="list-style-type: none"> •Not finished.
Effort and Perseverance	<ul style="list-style-type: none"> •Work is as complete as possible. •Pride in work is evident. •Effort beyond what was required. •Always on task. •Focused. 	<ul style="list-style-type: none"> •Used class time well. •Generally on task. •Some socializing, but generally working hard. •A little more effort would've resulted in an outstanding project. 	<ul style="list-style-type: none"> •Work needed more attention. •Project lacks 'finish' and 'polish'. •Too much socializing. 	<ul style="list-style-type: none"> •Minimum effort. •Work suffered. Student did not complete as much as possible due to the amount of time off task. 	<ul style="list-style-type: none"> •Off task the majority of the time. •Work suffered and shows that student did not apply self. •Not finished.
Group Participation and Attitude	<ul style="list-style-type: none"> •Followed all procedures. •Voluntarily cleaned up supplies and materials. •Helpful. •Did not waste materials. 	<ul style="list-style-type: none"> •Did not always follow procedures. •Cleaned –up at clean-up time. •Did not waste materials. 	<ul style="list-style-type: none"> •Needed reminders to participate in class clean-up time. •Did not waste materials. 	<ul style="list-style-type: none"> •Needed frequent reminders to clean-up – OR – Did not clean up every time. •Did not waste materials. 	<ul style="list-style-type: none"> •Use materials improperly. •Frequently did not clean up. •Made and left a mess. •Wasted materials..
Challenge: Creativity and Originality of Coloring	<ul style="list-style-type: none"> •Design is original and connects with other knowledge. •Each image is colored individually, skillfully, and consistently with detail. •Nothing or minimal details left white or blank. •Design utilizes pattern(s) and color scheme(s). •Coloring is done skillfully with both and shading and mixed and blended colors. 	<ul style="list-style-type: none"> •Design is an original twist on a common image. •Each image is mostly colored individually, skillfully, and consistently with detail. Inconsistencies do not detract from overall success. •Nothing or minimal details left white or blank. •Design utilizes pattern(s) and color scheme(s), but not shading. Colors are not mixed and blended. 	<ul style="list-style-type: none"> •Design is a common image. •Most images are colored individually, with a little detail. •Nothing or minimal details left white or blank. •Design utilizes pattern(s) or color scheme(s), but not both. 	<ul style="list-style-type: none"> •Design is unoriginal. •Coloring is across multiple images, not done individually. •Image looks finished, but lacks color. Part of image intentionally left white, but should've had color. •Coloring is random or without variation due to pattern. 	<ul style="list-style-type: none"> •Not finished. •Colored across the page, hastily or carelessly done. •Too much left blank or white.

TOTAL = ____ /25 Points. = ____ %

Comments:

[] Missing.

Congratulations!

- You have finished the unit on tessellations!

Clean Up

- Secure your tile into your sketchbook.
- Put your sketchbook away.
- Your project paper will be stored in our class drawer. The class should make a stack on the front counter. I will put the stack in the drawer. Students are not allowed in the drawer.
- Pick up color pencils and any other supplies from the floor or you will lose points on your project.
- You will not be dismissed until **everyone** is sitting in their assigned seat.
- Once you are sitting in your assigned seat, I need your attention for two minutes to wrap up class.