Munartet Arts Integration Lesson

Lesson Topic: Geometric Shapes and Optical Illusions

Standards:

Math
2.G.1
• Identify triangles, quadrilaterals, pentagons, and hexagon.
• Recognize and draw shapes having specified attributes.

Art
2.4.4
• Uses art work to illustrate mathematical concept.
2.1.9
• Identifies variety of line in artwork.
2.3.6
• Uses the arts to express and present ideas.
2.2.4
• Names a selected artist.
2.4.9
• Demonstrates balance by evenly distributing elements.
2.4.10
• Emphasizes an object by contrasting it with its surroundings.

Instructional Outcomes:

By the end of the lesson, students will:
• Demonstrate an understanding of geometric shapes and their attributes
• Use the arts to express a mathematical concept
• Understand the importance of contrasting a geometric shape with its surroundings
• Identify the art work of M.C. Escher

Content:

Pre-requisite Knowledge:
* Students will have some understanding of geometric shapes.
* Students will know how to draw a straight line using a ruler.

Description of Concept/Skill:
* Students will create a complex pattern of colors that alternate from shape to shape.
* Students will practice fine motor skills by coloring within lines.

Generalizations/Laws/Principles/Attributes:
* Art can fool the eye and play tricks on you.

Connections to the real world:
* Exploring different perspectives

Materials:
• White paper
- Rulers
- Markers (Black & Colored Sharpies)
- Geometric Shapes such as triangles, quadrilaterals, pentagons, hexagons and cubes
- Artwork from M.C.Escher

<table>
<thead>
<tr>
<th>INSTRUCTIONAL DELIVERY</th>
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<tr>
<td><strong>Prior Knowledge:</strong></td>
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Students will be able to identify the different shapes they will be tracing for their art piece. Students will have some knowledge on M.C. Escher and his influence on integrating optical illusions into one of a kind master pieces.

| Engagement Strategies: |

Use this website to check out different optical illusions that play tricks on our eyes. [http://www.optics4kids.org/home/content/illusions/](http://www.optics4kids.org/home/content/illusions/)

| Instructional Sequence: |

Review Vocabulary for Geometric Shapes:
- Quadrilateral – a four sided figure.
- Pentagon – a five sided figure.
- Hexagon – a six sided figure.
- Triangle – a three sided figure.
- Optical Illusion – use color, lights, and patterns to create images that trick the brain.

After you have reviewed the vocabulary, display the PowerPoint below and discuss the ways optical illusions can be created on paper.

**Optical Illusions & Geometric Shapes**

After students have a solid understanding of how optical illustrations can be created, follow the sequence of steps below to create masterpiece.

- Draw lines up and down across the whole entire paper with a ruler and a pencil.
- Choose shapes and trace with a pencil over lines.
- Trace all pencil lines on paper with a sharpie.
- Color in the shapes and backgrounds with alternating colors.
<table>
<thead>
<tr>
<th><strong>Special Needs Learners</strong></th>
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<tr>
<td><strong>Accommodations:</strong></td>
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<td>If needed, you could pre-copy paper that already has lines drawn for student.</td>
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<td><strong>Enrichment:</strong></td>
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<td>Have students align color selection to season colors. You could also have students blend colors to create one as they complete this project as well.</td>
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<td><strong>Remediation:</strong></td>
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<td>There will not be any remediation for this lesson.</td>
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