Science/ Art Integrated Lesson Plan

Neptune Township Public Schools
Gables Elementary School

Pointillism: It's More Than Meets the Eye

Teachers: Ms. Poll and Mr. Bowden

Grade Level: Grade 4/5

Standards:

5.3.4.A.3 - Essential functions of the human body are carried out by specialized systems: i.e., Nervous System

RL.5.10 - All students will read and comprehend complex literary and informational texts independently and proficiently.

1.3.P.D.2 - Create two and three- dimensional works of art while exploring color, line, shape, form, texture, and space

1.3.2.D.1 - Create two and three dimensional works of art using the basic elements of color, line, shape, form, texture, and space, as well as a variety of art mediums and application methods

Objectives: As a result of this lesson, students will understand and describe the interaction of parts of a system and how it carries out everyday life activities. They will be able to explain how the eye takes in information from the electromagnetic spectrum and sends the information to the brain for processing. Students will then examine how artists have used pointillism and optics to create colors from many small dots of pure color. Finally, students will create a pointillism painting of the eye.

Prerequisite Knowledge: knowledge of the electromagnetic spectrum

Materials:

- Brown bag with cards including descriptions of the parts of the eye
- SMARTboard or computer
- Enlarged copy of the eye
- Video- Bill Nye "The Eye"
- White paper
- Paint stamp
- Markers

Procedure:

1. Divide the students into groups of 4-6 in which each group will receive a bag containing descriptive cards of the parts of the eye.

2. Students will be instructed to order the parts of the eye from the outermost to innermost.
3. Students will be developing their own conversations without further instruction from teacher and will be recording their findings in their notebooks.

4. Following the activity, students will lead a discussion about the parts and functions of the eye. They will compare their responses with each of the other groups coming to a consensus about the correct answer. (Formative Assessment)

5. After students have verified their responses they will take part in utilizing a SMARTboard drop and drag activity to check their answers. They have the opportunity to self-check and self-correct.

6. Students will then complete a diagram of the eye with the parts labeled correctly followed by a 3-minute clip of "Bill Nye the Science Guy- EYE" video.

7. Students will be giving the opportunity to discuss what was observed and share any new concepts in a list on the board. This will lead into the art section of the lesson.

8. Students will view a 3-minute clip of "Bill Nye the Science Guy- EYE" video. Utilize "turn and talk" to discuss what was observed. Share any new concepts in a list on the board.

9. Students will be shown an up close image of Seurat's La Parade de Cirque. Students will pick out the colors they see and as the image gets smaller guess what the image is. This will lead into a presentation about Pointillism, it's history, and how the technique is still used today in modem times.

10. Students will be shown an image of a pointillism painting of an eye. The image will be split into 24 even pieces and students will be given 1 out of 24 pieces of the puzzle to paint.

11. Each image will be number coded from 1-7 with each number representing a color. Students using the pointillism technique will paint small dots of color in each image. After each student is done the students will put all 24 images together to form one big image.

12. Students must clean up 5 minutes before class is over. Students will work on pairs to put their own materials back to where they came from.

Assessment:

Using the diagrams they have created, students will complete a process writing explaining what happens to light as it enters the eye. They will incorporate the proper vocabulary as well as functions for each part. They will also use the technique of pointillism correctly by using small dots and choosing the correct colors for each numbered section.

Optional Alternatives:

This lesson can be used to integrate many mathematical concepts such as fractions, area, gridding, and perimeter.

Students can illustrate and label the eye

Students can learn about optics and how our eyes receive light

Students can create flip-books or eBooks to describe the process of color differentiation

Students could draw their individual images on their own