Perth Amboy Public Schools

William C. McGinnis Middle School

Teachers: Mrs. Tisch, Mrs. Wintemberg, Mr. Taras **Subject: Science**

Name of Unit: Solar System/Planets	**Anticipated Time Frame for teaching unit: One week**
♦ **Essential / Guiding Questions for the Week/Unit** (Fundamental themes or big ideas that provide meaning and coherence to the lesson being learned)**:** **1. How does the chemical composition of each planet relate to each planets color?** **2. What are the 8 planets and their relative distances from the sun for each planet?** **3. Create a hands-on, scale model illustrating the relative distances of each planet from the Sun.**	
Tier One and Two Vocabulary (word wall words): **Solar system, Composition, Planets, Scale, solid, gas**	**Link to other disciplines or technology: Math, Art, and Technology**
NJCCCS/NETS: 6.RP.A.3.d Use ratio reasoning to convert measurement units. **5.4.8.A.4** Analyze data regarding the motion of planets, comets, and moons to find general patterns of orbital motion. Art Standards: **1.3.5.D.1Work individually and collaboratively to create two- and three-dimensional works of art that make cohesive visual statements and that employ the elements of art and principles of design.** **1.3.5.D.4 Experiment with various art media and art mediums to create original works of art.**	**Materials: iPads, toilet paper, print outs of students' planet designs created on iPads, distance conversion scale, PS Touch app, Sketchbook Pro app, Dropbox** **Step by step instructions for arts integrated lesson may be found here: http://thehelpfulartteacher.blogspot.com/2014/01/studying-solar-system-use-art-and.html?m=1**

Date:

Whole Group Instruction

Science Objective: Students will learn the distance of each planet from the sun. They will also learn how the colors of each planet relate to their chemical composition.
Art Objective: Students learn how to use the graphic design apps Sketchbook Pro and PS Touch. Students will develop the technical and graphics design skills necessary to create visual representations of the planets using technology.

Procedure:

1) Students divided into 9 groups
2) Each group will be randomly assigned a planet (or the Sun)
3) Using iPads (using the Solar Walk app), each group will learn about assigned planet (student to student discourse) using a list of guided questions that they will need to answer.
4) Using iPads, each group will create a visual representation of their assigned planet, using the apps Sketchbook Pro and PS Touch. They will use the directions provided here: http://thehelpfulartteacher.blogspot.com/2014/01/studying-solar-system-use-art-and.html?m=1
5) Students' visual representations will be printed out and used to create a hands-on, scale model illustrating the relative distances of each planet from the Sun.
6) Students will use a mathematical scale model in order to kinesthetically demonstrate each planets distance from the Sun (using 1 sheet of toilet paper = 100,000,000 Km).

E.O.L.: Answered guided questions, filled in chart and completed group activity.

Art EOL: Completed student visual representations of the planets and sun in our solar system.

- E.O.L.: Evidence of Learning