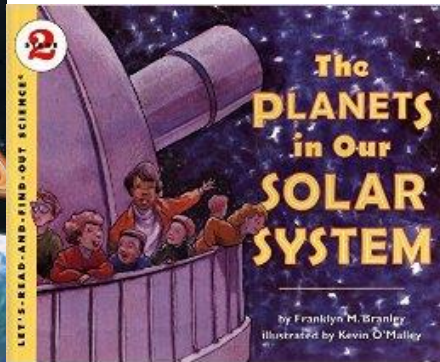
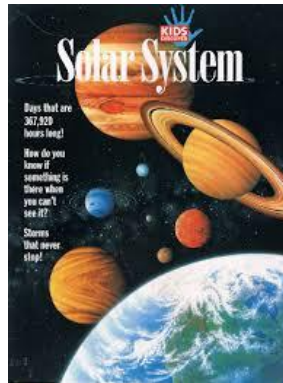
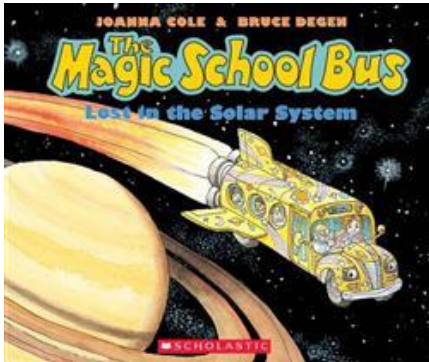


Solar System: 3rd Grade

Engage Explore Explain Elaborate Evaluate

E Engage with Books:



Engage with Media:

[The Scale: The Solar System](#)

[Solar System Song](#)

[The Planets](#)

S- Solar System

T- 3D Printing

E-Designing the solar system to scale

A-Drawing the solar system to scale

M- Measurement in millimeters

Curriculum Connections:

3.E.1 Recognize the major components and patterns observed in the earth/moon/sun system. 3.E.1.1 Recognize that the earth is part of a system called the solar system that includes the sun (a star), planets, and many moons and the earth is the third planet from the sun in our solar system. 3.

Geometric measurement: understand concepts of area and relate area to multiplication and to addition. 3.MD.5 Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units. 3.MD.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).

Vocabulary: Solar System, 3D,

I Can Statements:

I Can name all the planets

I Can tell you how many millimeters are in a centimeter

I Can tell you what planets are the biggest and smallest

I Can explain what 3D is

I Can put the planets in order

I Can download an STL File

I Can print an STL file on the 3D printer

E **First Day: Engage** (see above under engage)

E **Second Day: Explore**

- Have students go and explore the site below:
www.tinkercad.com
- Have students create a username and password (they also need a parent's email address)
- Have students do the tutorials under learn

E **Third Day: Explain**

Students write a paragraph on their planet. Have students find out how big their planet is and what planets are next to them on each side. Have students draw the solar system.

E **Fourth Day: Elaborate:**

- Put students into groups of 2 or 3
- Have each group sign into www.tinkercad.com using one computer per group.
- Go over what a plane is in geometry and have discuss how to use a plane and what it is for. Have them discuss how big each square is in the plane.
- Ask how many millimeters are in a centimeter.
- Have each group start designing their planet using Tinkercad.
- They should play around with the scale.
- Have each group decide and discuss how big each planet should be so they will be at scale.

Product:

A class model of the

E **Evaluation:** Is the class solar system to scale. Have students draw the solar system and include the sun.

Some groups may need to come in the morning to print. Try to have a group print each time you have a class.