

# Our Solar System

## Teacher Facilitation Notes

### In General . . .

- Project the slide deck in edit mode—do not show it as a slideshow.
- Hide the speaker notes before projecting. (View/Show Speaker Notes)
- Hide the toolbar. (Click on the up arrow at the right end of the tool bar.)
- Call on students to read the various content shown on slides.
- For each investigation, assemble the needed materials for each group and place in a central location for ease of distribution.
- Duplicate copies of the data sheets for each student.

### Materials Needed:

Science notebooks, 1 per student

Pencils

Chart Paper

Markers

Planet Data Sheet

### Engage: Exactly Where Are You???

- Fill out the table as volunteers give the information. (Students may not know some of the answers; assist where necessary.)
- Read through and discuss the introductory information with the students.
- Watch the video “Hip Hop Astronaut”. If desired, let students stand up and dance to the music.
- Tell students that they are going to be hip hop astronauts as they explore our Solar System and the objects in it.

# Our Solar System

## Teacher Facilitation Notes, p. 2

### **Explore: Where is Each Unique Planet Located?**

- Read through the introductory paragraph with the students. Remind students that the planets are not usually lined up like they are in this diagram. They are usually spread out in their orbits around the sun.
- Go to the next slide (the Sun). Click on the image of the sun and follow the link to an internet page with information about the sun. Click on the labeled points to learn about the sun's surface. Scroll down to the table of Fast Facts so that the students can record this information on their data sheets. Record information on the slide, also.
- Divide the class into 6 groups. Each group is responsible for recording one piece of information in their science notebooks about each planet:
  - Surface
  - Planet from sun
  - Length of year
  - Length of day
  - Number of moons
  - Diameter
- Go to the next slide. Click on the picture of Mercury and follow the link to find out about the planet. Scroll down to the table of Fast Facts so the groups can record the necessary information.
- Have groups call out their facts as you add them to the Mercury chart. If desired, go to the KEY slide to make sure they collected the correct information.
- Have the students fill in the information on their planet data sheet.
- Continue in the same manner for the other planets.
- Once all of the planets have been explored, divide the class into groups of 2 or 3 so that there are nine different pairings. Assign each pairing the sun or one of the planets.
- Give each group a sheet of chart paper and some markers. Have the group create an anchor chart that illustrates the important information about the sun or their assigned planet.
- Let groups share their anchor charts with the class. Post them on classroom or hallway walls in the correct order.
- Discuss as desired.

# Our Solar System

## Teacher Facilitation Notes, p. 3

### **Explain Read All About It–Our Solar System**

- Call on volunteers to read each paragraph of the explanation slides.
- Emphasize the vocabulary terms as students read the passage.
- Have students orally answer the questions on each slide as you record the answers in the appropriate text boxes. OPTIONAL: Go to the answer key slides to check their answers as they are given. This reinforces correct answers and clears up any misconceptions or incorrect answers.
- Watch the video *Unicorn Noodles*. If desired, let students stand up and move to the music.
- OPTIONAL: Let groups or pairs of students come up with their own silly sentences to help them remember the order of the planets. They can share them with the class.
- Discuss as desired.

### **Elaborate: Modeling the Solar System**

- Call on volunteers to identify the planets in order from the sun. Record them on the slide as they are named.
- Have students study the pictures of the fruits and nuts. Let them infer which fruit or nut might represent each planet. Guide them in completing this as necessary.
- Go to the answer key and discuss the order and sizes of the planets.
- JUST FOR FUN: Open the calculator and figure out the ages of various people (including yourself, if you want!) on Mars using the directions provided on the slide.

### **Evaluate**

- Complete the vocabulary slide as a class.
- Let students complete the quiz independently.
- Discuss evaluation activities as desired.

# Our Solar System

Name: KEY

## Evaluation

1. A student recorded some information about one of the planets in our Solar System.

### Characteristics of a Planet

- It is made up mainly of gases.
- It rotates on its side.
- The length of its day is 17.24 hours in Earth time.
- It is the 7th planet from the Sun.

Which planet was the student studying?

- A** Venus
- B** Mars
- C** Saturn
- D** Uranus
2. Which planet comes between the planets Earth and Jupiter?
- F** Mars
- G** Venus
- H** Saturn
- J** Pluto
3. Which of the following is the correct order of the inner planets, from closest to the sun to the farthest.
- A** Jupiter, Mars, Earth, Saturn
- B** Mercury, Venus, Earth, Mars
- C** Jupiter, Saturn, Uranus, Neptune
- D** Mercury, Mars, Earth, Venus

# Our Solar System

Name: KEY

## Evaluation

4. What object is at the center of our Solar System?

F Jupiter

**G** The Sun

H The Moon

J The Asteroid Belt

5. Which of the following is the correct order of the outer planets, from innermost to outermost?

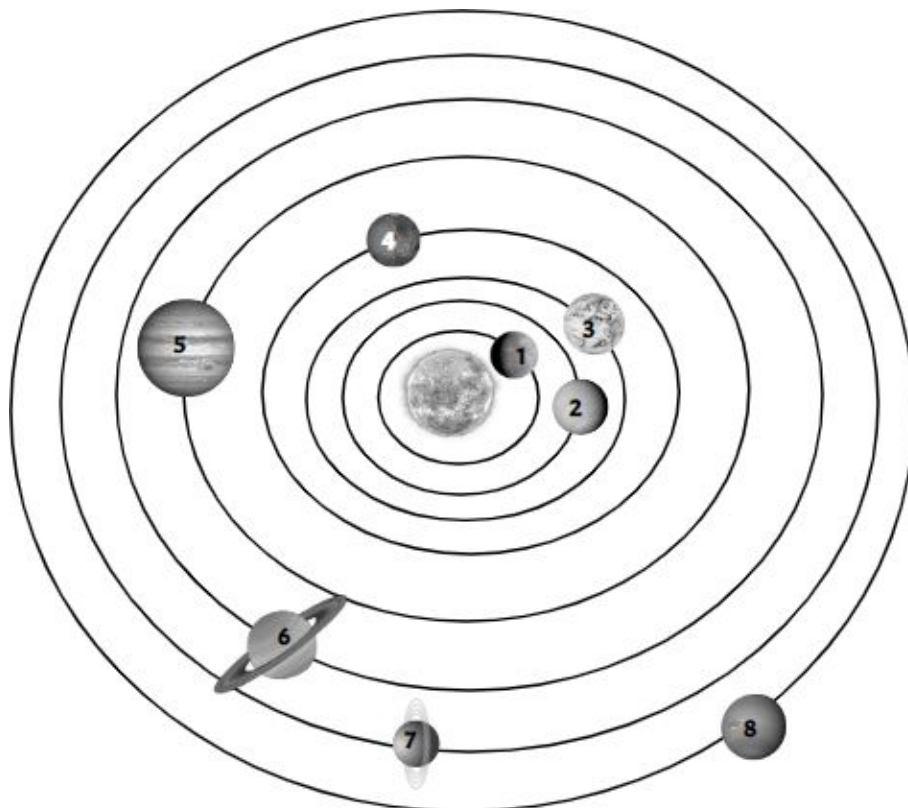
A Jupiter, Mars, Saturn, Neptune

B Neptune, Uranus, Saturn, Jupiter

C Mercury, Venus, Earth, Mars

**D** Jupiter, Saturn, Uranus, Neptune

6. The diagram shows the Sun and the orbits of the planets in our Solar System. (The sizes and distances are NOT to scale.) Write the name of each planet on the correct lines.



1. Mercury

2. Venus

3. Earth

4. Mars

5. Jupiter

6. Saturn

7. Uranus

8. Neptune

# Our Solar System

Name: \_\_\_\_\_

## Explore: Planet Data Sheet

**Directions:** Complete the information about the Sun.

Surface	Core Temperature	Surface Temperature	Location	Number of Earths inside	Diameter

**Directions:** Complete the information about each planet.

### Mercury

Surface	Planet Number from Sun	Length of Year	Length of Day	Number of Moons	Diameter

### Venus

Surface	Planet Number from Sun	Length of Year	Length of Day	Number of Moons	Diameter

### Earth

Surface	Planet Number from Sun	Length of Year	Length of Day	Number of Moons	Diameter

# Our Solar System

Name: \_\_\_\_\_

## Explore: Planet Data Sheet

**Directions:** Complete the information about each planet.

### Mars

Surface	Planet Number from Sun	Length of Year	Length of Day	Number of Moons	Diameter

### Jupiter

Surface	Planet Number from Sun	Length of Year	Length of Day	Number of Moons	Diameter

### Saturn

Surface	Planet Number from Sun	Length of Year	Length of Day	Number of Moons	Diameter

### Uranus

Surface	Planet Number from Sun	Length of Year	Length of Day	Number of Moons	Diameter

### Neptune

Surface	Planet Number from Sun	Length of Year	Length of Day	Number of Moons	Diameter

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## Evaluation

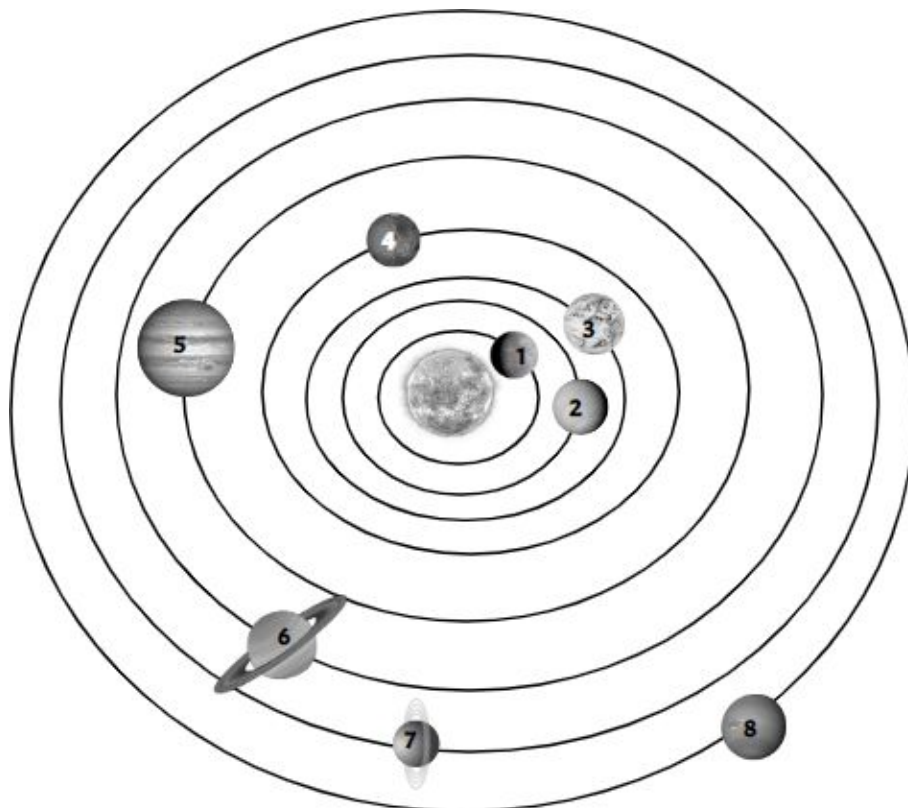
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- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_
- 4. \_\_\_\_\_
- 5. \_\_\_\_\_
- 6. \_\_\_\_\_
- 7. \_\_\_\_\_
- 8. \_\_\_\_\_