



# Revolving and Rotating

## Engage

**Materials:** toy top, fidget spinner and/or a yoyo

**What To Do:**

1. Use the toy that your teacher has provided and observe what it does.
2. What do you notice about how the toy works?

3. What do you wonder about how the toy works?

4. Stand beside your chair when your teacher tells you to. Spin around without moving around the room.

5. Are you always facing the same side of the classroom?

6. How is this motion like the toy you used?

7. While standing at your desk or table move around it in a circle. Be sure you are always facing the same side of the classroom.

8. What did you have to do as you circled your desk or table so that you always faced the same side of the classroom?

9. Move around your desk/table in a circle at the same time you are spinning in place. Be sure to count your spins.

10. How many times did you spin as you circled the desk/table?



## Explore

**Materials:** calculator

**What To Do:** Use the chart below to answer the questions.

## How Long is the Year?

Planet	Time In Earth Days
Mercury	88 days
Venus	225 days
Earth	365 days
Mars	687 days

Planet	Time In Earth Days/Years
Jupiter	4380 days or 12 years
Saturn	10,950 days or 30 years
Uranus	30,660 days or 84 years
Neptune	60,225 days or 165 years

## Questions:

1. Which planet has the shortest “year”? \_\_\_\_\_

2. How long is it? \_\_\_\_\_

3. Why do you think this is true?  
\_\_\_\_\_

4. Which planet has the longest “year”? \_\_\_\_\_

5. How long is it? \_\_\_\_\_

6. Why do you think this is true?  
\_\_\_\_\_

7. About how old would you be if you lived on Mercury?

\_\_\_\_\_  
(Hint: Divide 365 by 88 and then multiply your age by that number.)

8. How many Earth years would you need to live in order to be two years old on Neptune? \_\_\_\_\_

**What To Do:** Use the chart to answer the questions.

**How long is the Day?**

Planet	Day	Planet	Day
Mercury	59 days	Jupiter	10 hours
Venus	243 days	Saturn	10.5 hours
Earth	24 hours	Uranus	17 hours
Mars	25.5 hours	Neptune	16 hours

**Questions:**

1. Which planet has the shortest “day”? \_\_\_\_\_
2. How long is it? \_\_\_\_\_
3. Why do you think this is true? \_\_\_\_\_
4. Which planet has the longest “day”? \_\_\_\_\_
5. How long is it? \_\_\_\_\_
6. Why do you think this is true? \_\_\_\_\_
7. Which planet has a day nearest the length to Earth’s day?  
\_\_\_\_\_
8. Is a day on Venus longer or shorter than a day on Earth?  
\_\_\_\_\_
9. By how much? \_\_\_\_\_
10. Is a day on Mercury longer or shorter than a day on Jupiter? \_\_\_\_\_
11. By how much? \_\_\_\_\_
12. If you could live on any of the other planets which one, would you choose? \_\_\_\_\_
13. Why? \_\_\_\_\_  
\_\_\_\_\_

*Don’t Glue until your teacher tells you to.*

*Explain*

Moving Around the Solar System

Rotate

Revolve

Axis

Orbit



Watch the video called “The Earth Has a Perfect Orbit” at <https://www.youtube.com/watch?v=TUgavp6w1II>

Write down three facts from the video on the lines below.

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Watch the video “Day and Night Explained in One Minute” at <https://www.youtube.com/watch?v=1BTUXkZALIg>

Write down three facts on the lines below.

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*Elaborate*  
**What To Do:**  
1. Cut out the boxes below and classify them on the next page’s T-Chart as Rotation or Revolution

Creates the Day/Night Cycle	Takes 24 hours to complete on Earth.	Takes 365 days to complete on Earth.
Planet spinning on its axis.	Earth traveling in its orbit.	How we measure a day.
The movement of an object around another.	How we measure a year on Earth.	Planets do this around the Sun.

Name \_\_\_\_\_ period \_\_\_\_\_

# EXIT TICKET

## Revolving and Rotating

1. The time required for the earth to revolve around the Sun is - - -  
A. 24 hours  
B. 7 days  
C. 29.5 days  
D. 365 days
2. The time required for the earth to rotate on its axis is - - -  
A. 24 hours  
B. 7 days  
C. 29.5 days  
D. 365 days
3. Mercury has the shortest year of any planet in the solar system because --  
A. It is the smallest planet  
B. It is the largest planet  
C. It is closest to the Sun  
D. It is farthest from the sun
4. The spinning of the earth on its axis causes - -  
A. day and night  
B. the seasons  
C. a year to by  
D. the moon to change shape
5. The rotation of the earth around the sun causes ---  
A. day and night  
B. the seasons  
C. a year to by  
D. the moon to change shape

ROTATION

REVOLUTION