Earth's Place in the Universe Lesson 1: The Solve

Student Handout

I. Read Mosa Mack's Comic Mystery

Either on your own, in a small group, or as a class (your teacher will let you know), read Mosa Mack's Comic Mystery on the Sun-Earth System. Then, fill out the questions below. Include a page number in your answer as evidence of where you found your answer.

Name: _____ **Date: _____**

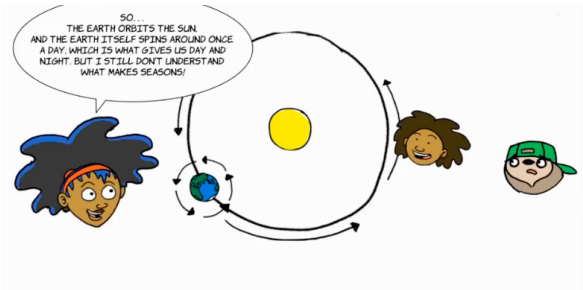
Comic Mystery Questions

1. What problem did Neve and his friends discover on the plane to New Zealand?

2. What season is it when Neve arrives in New Zealand?

3. Neve believes that the Sun circles around the Earth, making it colder or warmer. Why is he wrong?

4. Which is larger, the Earth or the Sun? Explain your answer.

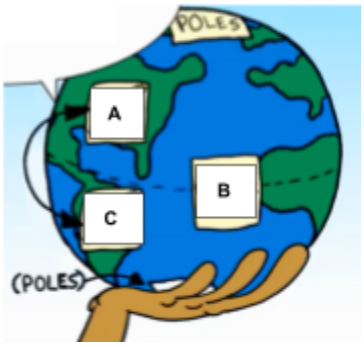


5. Finish Mosa's statement: The Earth orbits the _____.

6. Finish Mosa's statement: The Earth spins around once a day which gives us _____ and _____.

7. Look at the Earth Diagram shown in the comic. What part of Earth is shown by each letter?

Letter	Part of Earth
A	
B	
C	



8. Why is it warmer at the equator and colder at the poles?

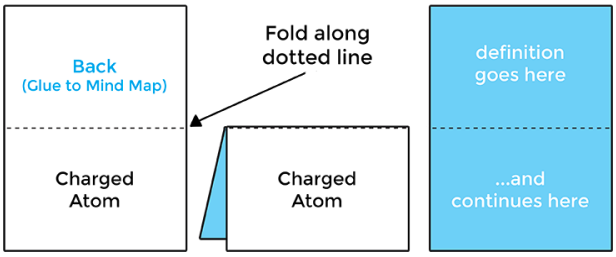
9. When it is winter in the Northern Hemisphere, what season is it in the Southern Hemisphere?

10. What did Mosa figure out? Why do we have seasons?

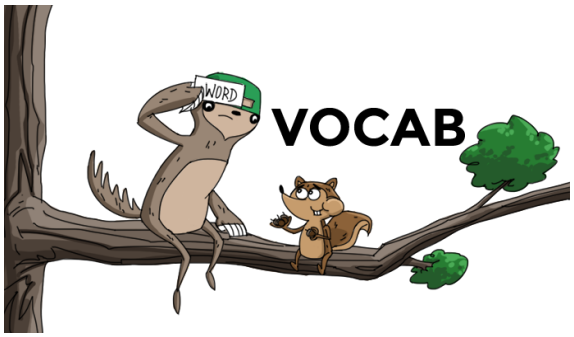
II. Vocabulary Activity

Complete the activity by following the instructions below, or complete it here online.

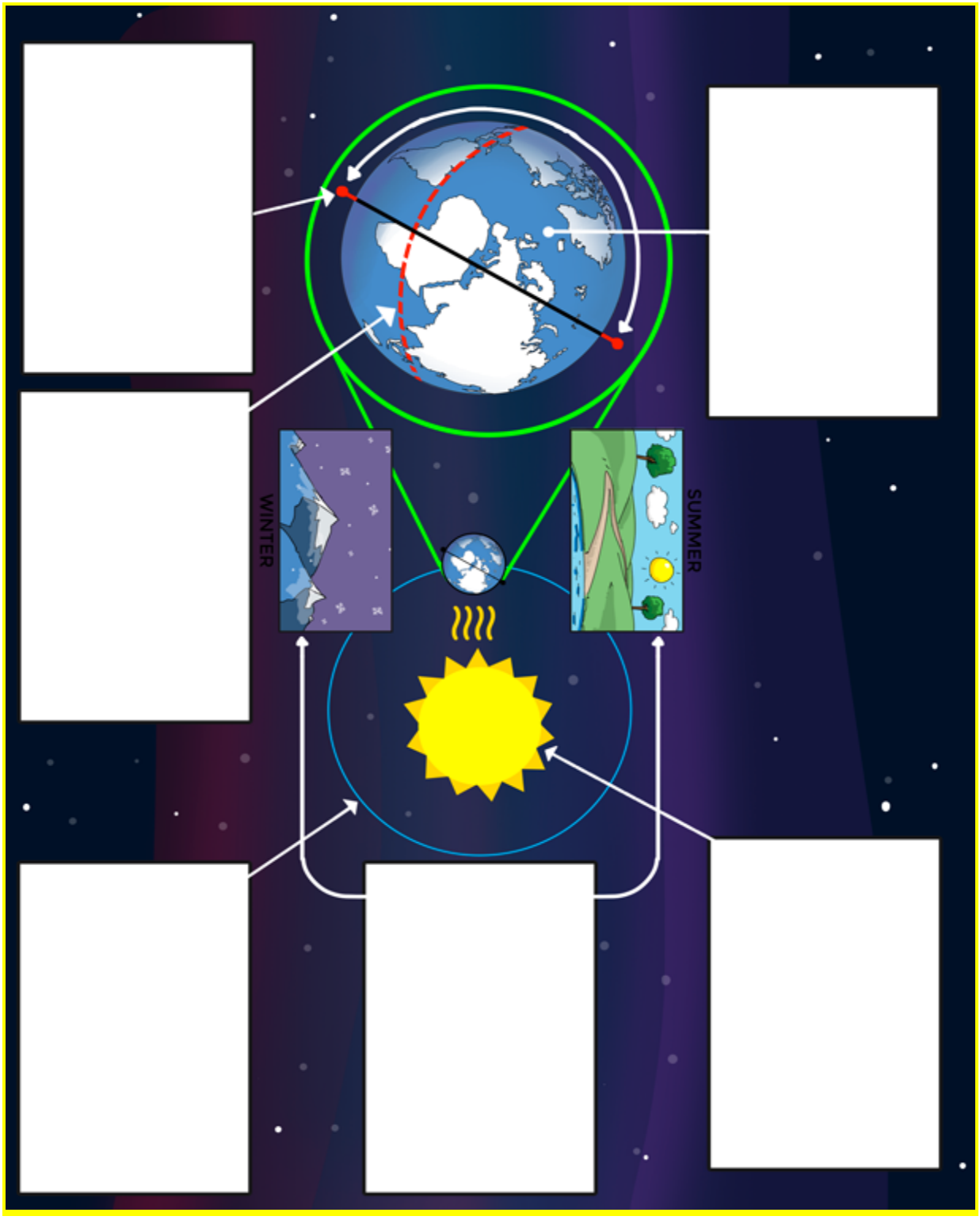
1. Using the materials at your table, cut out your vocabulary cards along the **solid lines**. Do not cut the dotted lines.
2. Fold the cards along the dotted lines.



3. Write the definition of each term on the inside of the card using the definitions below.
4. Use the clues from the Vocabulary Mind Map to place the cards in the correct location. Explain your thinking to your group as you go.
5. When you're ready to glue or tape, raise your hand so your teacher can check your Mind Map.
6. Use glue or double-sided tape to connect the back of the vocabulary card to the correct place on the Mind Map.
7. Discuss with your group:
    a. What does the Sun provide to Earth?
    b. What do you notice about the tilt of the Earth when it is summer in the Northern Hemisphere?
    c. How do the poles differ from the equator?



Mind Map:



Earth	Sun	Seasons
Poles	Equator	Orbit

Vocabulary

- **Earth**: the planet on which we live.
- **Equator**: region of the earth equally distant from both poles.
- **Poles**: either of the two points on Earth that are the northern and southern ends.
- **Season**: time of year marked by particular weather patterns and daylight hours.
- **Sun**: the star which provides warmth to Earth.
- **Orbit:** curved path that one object takes around another object.

III. Exit Ticket: Check for Understanding

Complete the exit ticket below, *or* you can take the quiz online!

Name: _____ **Date: _____**

1. As the Earth orbits around the Sun it:
    a. Stays in one position
    b. Rotates (spins) once a day

2. True or False: The Earth rotates (spins) once a day, causing day and night.
    a. True
    b. False

3. True or False: The Earth is bigger than the Sun.
    a. True
    b. False

4. In the summer there are ____ hours of daylight at the North and South Pole. In the winter, there are _____ hours of daylight at the North and South Pole.
    a. More, fewer
    b. Fewer, more
    c. Daylight hours are always the same at the North and South Pole.

5. All the following statements are true about the Earth, except:
    a. The Earth is round
    b. The Earth rotates (spins) on its axis
    c. The Earth orbits around the Sun
    d. The seasons are always the same in the Northern and Southern hemispheres on Earth.

6. Which of the following is true about the equator?
    a. It is always winter at the equator and there is a lot of snow.
    b. The sun hits the equator at an angle, making it cold.
    c. The sun hits the equator head on, making it warm.
    d. None of the above

7. The tilt of the Earth in its orbit around the Sun causes different _____ in the Northern and Southern hemispheres.
    a. Spinning
    b. Seasons
    c. Speed
    d. Color