Name: _____ Period: ____

# Spinning Round and Round

**Define it!**

Using your textbook, define the following terms. THEN, translate the definitions into your own words!

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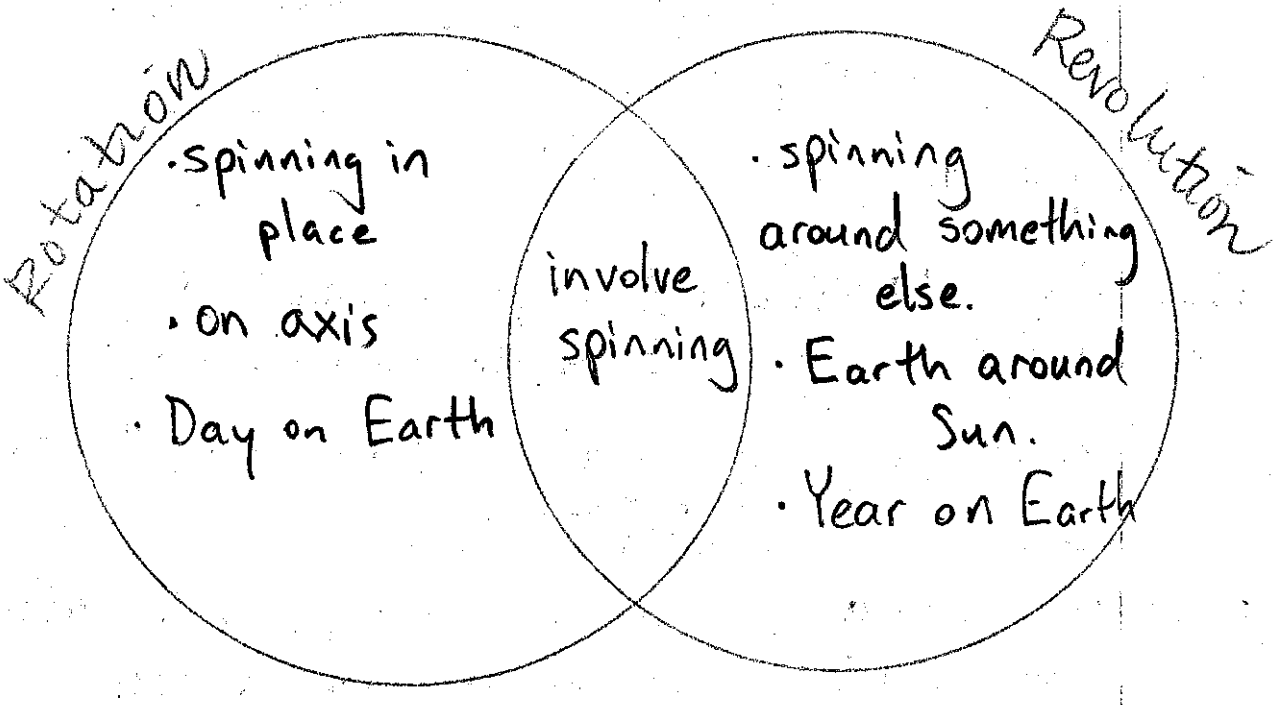
| TERM | BOOK DESCRIPTION | MY UNDERSTANDING & TEACHER'S DETAILS |
|---|---|---|
| Axis | An imaginary line that passes through Earth's center and the North and South poles, about which Earth rotates | -imaginary line through N+S poles.<br>-space objects spin on it.<br>-Earth's axis tilted 23.5° |
| Rotation<br>E,M,S | The spinning motion of a planet (and Sun) on its axis. | -space objects spinning in space on its axis.<br>-makes day + night (ccw) |
| Revolution<br>E,M | The movement of an object around another object. | -Earth around sun = 1 year (ccw)<br>-Moon around Earth = phases (ccw) |
| Orbit<br>E,M | The path of an object as it revolves around another object in space. | -space object's path around another object. |

Now, create a Venn diagram of the two concepts, rotation & revolution. One circle is labeled "Revolution" and one circle is labeled "Rotation".




**Act it out!** Work in groups of 4 to simulate the movement of the Earth, Sun and Moon. Assign each group member a role: Sun, Moon, Earth, Recorder. Perform each of the jobs listed below.

***SUN*** – stand in a central location & ROTATE in place
***EARTH*** – ROTATE on your tilted axis and REVOLVE around the sun (Real life: 365 rotations/1 revolution)
***MOON*** – ROTATE on your axis and REVOLVE around the Earth (Real life: 1 rotation/1 revolution)
***RECORDER*** – write down what you observe ***about each space object*** during the demonstration. Be sure your notes are thorough and accurate as you will be sharing these with your group members. Record them on a chart on the back.

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| OBJECT | Observation of movement |
|---|---|
| SUN | Rotates in place CCW |
| EARTH | Rotates quickly CCW and revolves CCW around the Sun. |
| MOON | Rotates slowly and tries to keep up while revolving around the Earth. |

*Return to your tables and be sure all group members have accurate information!

**Apply it!** Fill in the Blanks in the following paragraph!

The planets revolve around the sun. The Earth revolves around the sun once every year (365 days) The Earth rotates on its own axis every 24 hours. The Moon revolves around the Earth every 28.5 days and rotates once on its axis every 28.5 days.

**Reflect on it!** Answer the following questions in full sentences.

Compare and Contrast the motion of the Earth and the Moon.

Same: both revolve, both rotate | Different: E around S; M around E; E rotates more quickly (365/1 vs. 12/1)

Why do we only see one side of the moon?

Because it rotates and revolves at the same rate, the same side is always facing the Earth.

Do all planets revolve and rotate exactly the same as the Earth? Explain.

No. Although they all rotate and revolve, they are different distances from the Sun and are different sizes.

Why do you think we have a leap year every 4 years?

Because a rotation is not exactly 24 hrs. and a revolution is not exactly 365 days. Adding a day every 4 years gives the Earth a chance to "catch up."

**Reflect on it!** Bullet new information you discover while listening to What Makes Day & Night ↑ http://bit.ly/2iaWXEQ