Earth Cycles Study Guide
SOL 3.8

Vocabulary

1. **Cycle** - a repeated pattern
2. **Sequence** - a series of events that occur in a natural order
3. **Sphere** - a body that has the shape of a ball or globe
4. **Rotate** - to turn
5. **Axis** - the imaginary line through the center of the earth
6. **Revolution** - the movement of an object around another object
7. **Orbit** - the path that an object follows as it revolves around another object
8. **Phases** - different shapes of the moon

Facts

- The seasons change because the Earth’s axis is tilted **toward** or **away** from the sun during its revolution around the sun.
- The Earth takes 365 1/4 days (1 year) to make one revolution around the sun.
- Day and night is caused by the earth’s **rotation**. When the earth **rotates**, it turns on its axis.
- One complete rotation occurs every 24 hours.
- The part of the earth is facing the sun has **daylight**, while the part of the earth facing away from the sun has **night**.
- The main cause of the tides is the gravitational attraction between the earth and the moon.
- There are four tides in a day; the tides follow a pattern of high, low and then repeats.
- The cycle of the phases of the moon occurs as the moon makes one revolution on its orbit around the earth.
- The shapes that we see follow a pattern. The moon goes through all of its phases every 29-\(\frac{3}{4}\) days.
- The light reflecting from the sun makes the moon appear illuminated.
- Between the new moon and a full moon, the moon is waxing. The lit area of the moon is increasing.
- From the full moon back to the new moon, the moon is waning. The lit area of the moon is decreasing.

Be able to recognize the 4 main phases of the moon as shown in the pictures below:

![New Moon](image)

In a new moon, the lit side is away from the Earth.

![Last Quarter](image)

![Full Moon](image)

In a full moon, we can see the entire lit side of the moon.

![First Quarter](image)

A gibbous moon is between a full moon and a half moon.

A crescent moon is part way between a half moon and a new moon.