

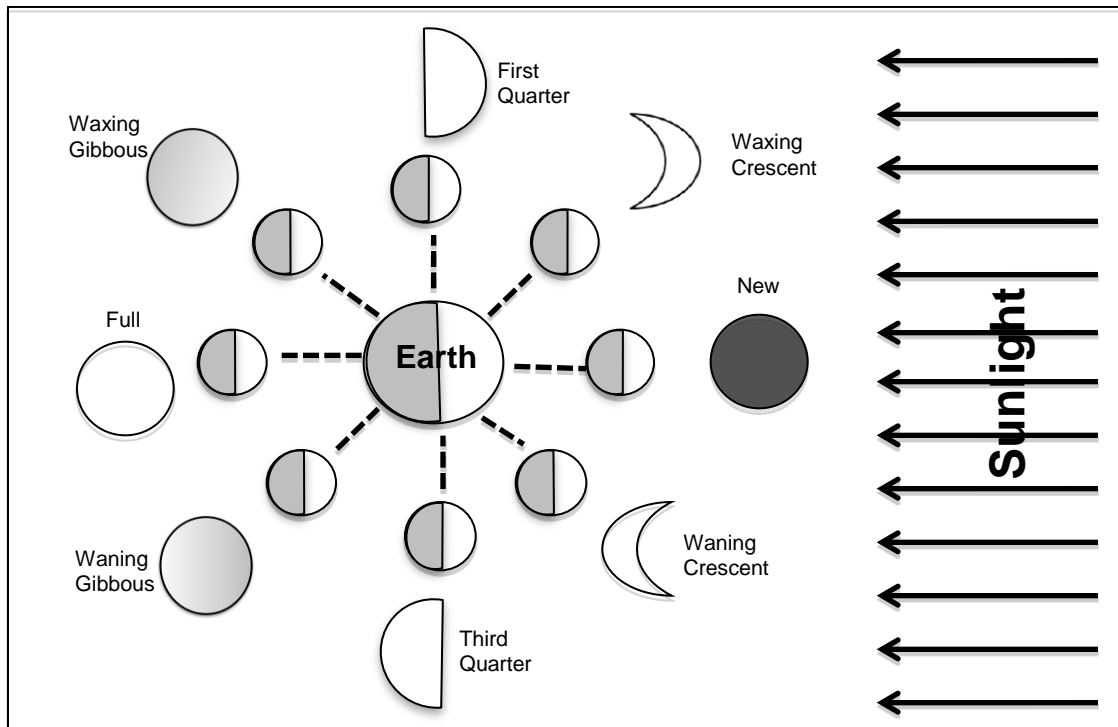


Name: \_\_\_\_\_ Date: \_\_\_\_\_ Group: \_\_\_\_\_

# MATH CONNECTIONS

## Part I: Moon Phases

The diagram below shows the position of the Sun, the Moon, and Earth at different phases during Earth's revolution around the Sun.



1. What is the ratio of full moons to the total number of moon phases?
2. What is the ratio of gibbous moons to non-gibbous moon phases?
3. A synodic period is the time it takes for the Moon to move to the same period as seen by an observer on Earth. The Moon's synodic period is about 29.5 days. How many first- and third-quarter moons should you see in 6 synodic periods?
4. What is the ratio of days in one synodic period per quarter?
5. What is the ratio of days in a year to days in a synodic period? What is the unit rate? What does this number represent? Why do you think this is not a whole number?