# Moon Phase Loop

Track one orbit and its changing view.

**4.6.c** "the causes for the four major phases of the moon and the relationship to the tide cycles; and"

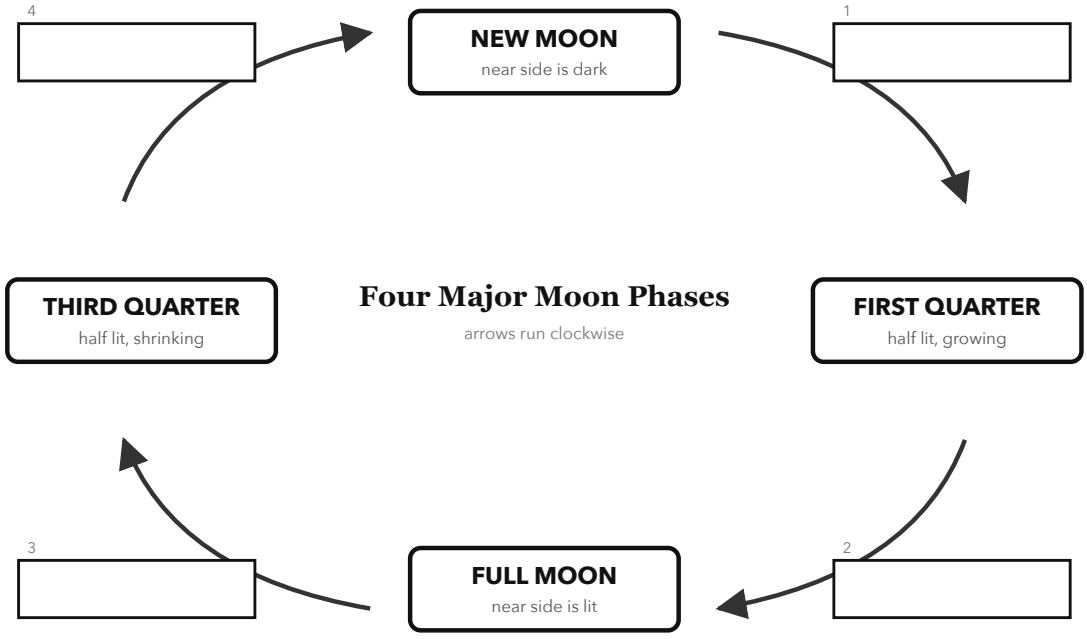
NAME _____ DATE _____

## 1 LABEL THE MODEL

Word bank below

Write one process from the word bank in each numbered box. Follow the arrows to show how the Moon moves from one phase to the next.

**WORD BANK** completes one orbit | moves 1/4 orbit | reaches 1/2 orbit | reaches 3/4 orbit



## 2 RUN THE MODEL

Use your finished diagram

1. Starting at FIRST QUARTER, which phase comes next in the cycle?

2. Spring tides happen at the new moon and full moon. Neap tides happen at the first and third quarters. Which model stages match each type of tide?

3. What repeated motion makes the four moon phases happen again and again?

## 3 CHECK IT

Before you turn it in

- [ ] I put the four phases in cycle order.
- [ ] I used each process from the word bank once.
- [ ] I can connect moon phases to tide types.

**TEST THE MODEL**

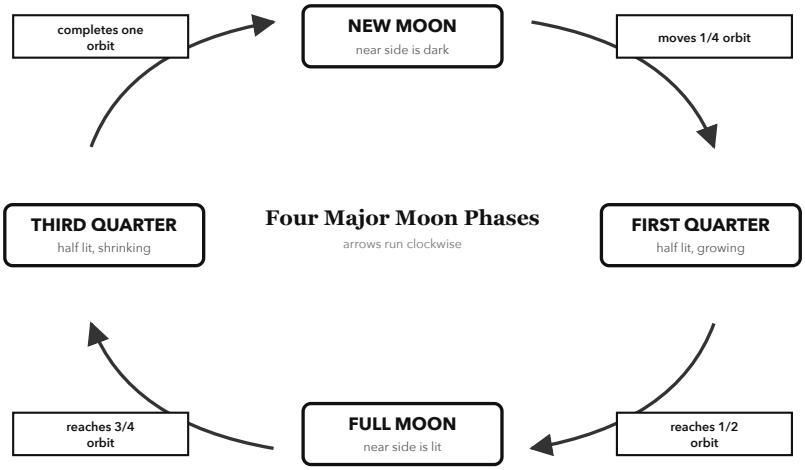
What is one part of the real Moon and tide system that this model leaves out?

**ANSWER KEY**

# Moon Phase Loop

**GRADE 4 · 4.6.c**

## PART 1 · COMPLETED MODEL




## PART 2 · RUN THE MODEL

1. **FULL MOON** (Starting at FIRST QUARTER, which phase comes next in the cycle?)
2. **Spring tides: NEW MOON and FULL MOON. Neap tides: FIRST QUARTER and THIRD QUARTER.** (Spring tides happen at the new moon and full moon. Neap tides happen at the first and third quarters. Which model stages match each type of tide?)
3. **The Moon orbits Earth.** (What repeated motion makes the four moon phases happen again and again?)

## TEST THE MODEL (SAMPLE ANSWERS)

- It leaves out the Sun's effect on tides.
- It leaves out the Moon's exact position around Earth.

The process labels show the Moon completing one orbit around Earth as the phase cycle repeats. Spring tides occur near new and full moons, while neap tides occur near first and third quarters.