

Moon Phase Loop

Track the Moon's repeating changes.

4.9 "Earth and space. The student recognizes patterns among the Sun, Earth, and Moon system and their effects. The student is expected to: collect and analyze data to identify sequences and predict patterns of change in seasons such as change..."

NAME _____

DATE _____

1 LABEL THE MODEL _____ Word bank below

Write one word-bank process in each numbered box. Then make the observations in Question 1 and use your records to follow the Moon's repeating pattern.

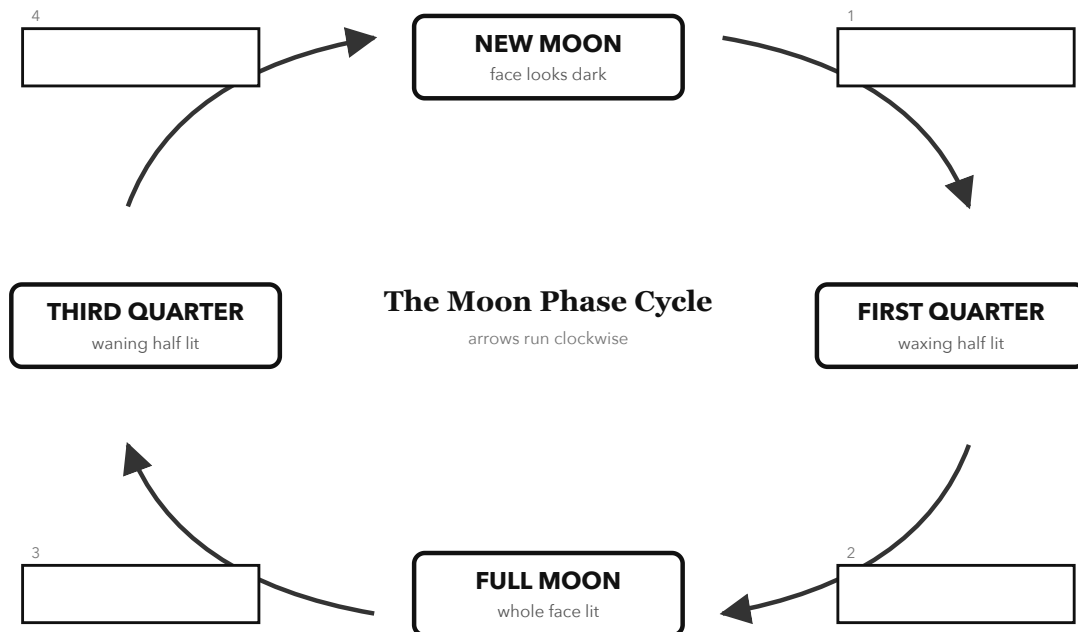
WORD BANK

Last orbit quarter to new moon

Moon travels first 1/4 orbit

Moon travels second 1/4 orbit

Moon travels third 1/4 orbit



2 RUN THE MODEL _____ Use your finished diagram

- 1** On four clear nights about a week apart, record the date, time, and a sketch of the Moon. Use the completed model to name the closest stage for each observation.

- 2** If you observe a FIRST QUARTER moon, which stage should you predict about a week later?

- 3** Start at FULL MOON and follow two arrows in the completed model. Which stage do you reach?

3 CHECK IT _____ Before you turn it in

☐ I wrote a process in each box.

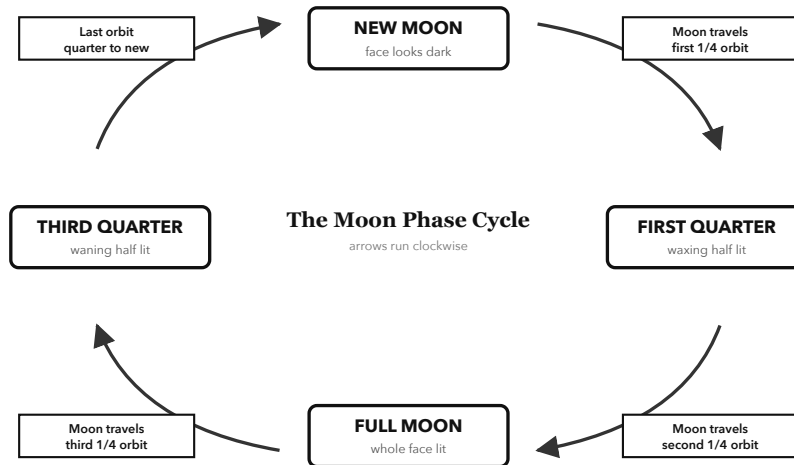
☐ I followed the arrows in order.

☐ I recorded Moon observations.

TEST THE MODEL

What is one part of the real Moon system that this four-stage model leaves out?

PART 1 • COMPLETED MODEL



PART 2 • RUN THE MODEL

1. **Answers vary. Each record should include a date, time, sketch, and closest stage.** (On four clear nights about a week apart, record the date, time, and a sketch of the Moon. Use the completed model to name the closest stage for each observation.)
2. **FULL MOON** (If you observe a FIRST QUARTER moon, which stage should you predict about a week later?)
3. **NEW MOON** (Start at FULL MOON and follow two arrows in the completed model. Which stage do you reach?)

TEST THE MODEL (SAMPLE ANSWERS)

- It leaves out the smaller phase changes between the four stages.
- It leaves out how clouds can block a view of the Moon.

The model shows four main Moon appearances in repeating order. Accept observation sketches and stage names that reasonably match the student's date and time records.