

# Moon Phase Loop

Track the repeating pattern of lunar phases.

**MS-ESS1-1** "Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons. Clarification Statement: Examples of models can be physical, graphical, or conceptual."

NAME \_\_\_\_\_

DATE \_\_\_\_\_

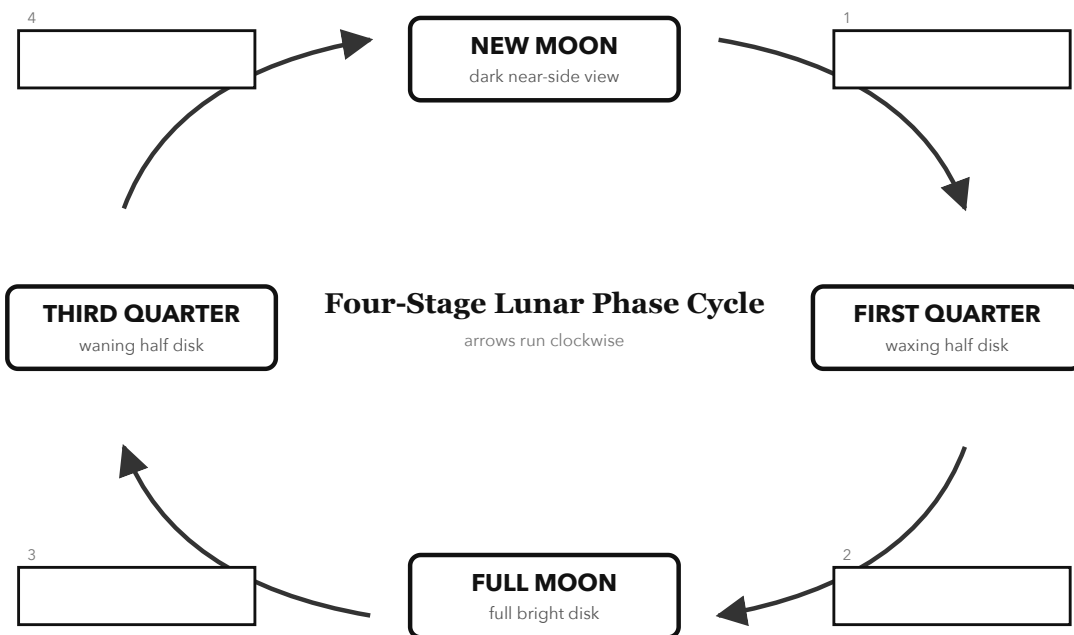
## 1 LABEL THE MODEL \_\_\_\_\_ Word bank below

Write one word-bank process in each numbered box. Follow the arrows to show how the Moon's appearance changes as it orbits Earth. Some processes are used more than once.

### WORD BANK

orbits Earth while waning

orbits Earth while waxing



## 2 RUN THE MODEL Use your finished diagram

1 Starting at NEW MOON, follow two arrows. Which stage do you reach?

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2 Which numbered boxes show waxing? What happens to the visible sunlit part of the Moon during waxing?

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3 If the Moon is at THIRD QUARTER, what stage comes next, and is the Moon waxing or waning along that path?

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## 3 CHECK IT Before you turn it in

☐ I filled all four boxes.

☐ I followed the arrows in order.

☐ I checked waxing and waning.

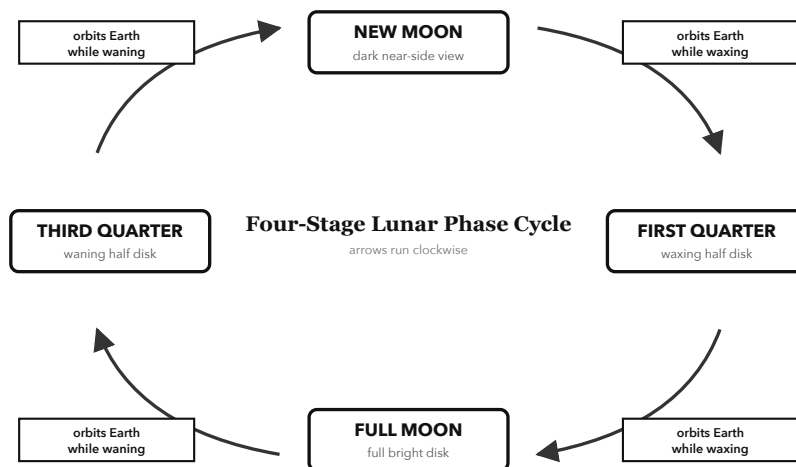
### TEST THE MODEL

Name one feature of the real Earth-sun-moon system that this four-stage model leaves out.

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## PART 1 • COMPLETED MODEL



## PART 2 • RUN THE MODEL

1. **FULL MOON** (Starting at NEW MOON, follow two arrows. Which stage do you reach?)
2. **Boxes 1 and 2. The visible sunlit part grows.** (Which numbered boxes show waxing? What happens to the visible sunlit part of the Moon during waxing?)
3. **NEW MOON comes next, and the Moon is waning.** (If the Moon is at THIRD QUARTER, what stage comes next, and is the Moon waxing or waning along that path?)

## TEST THE MODEL (SAMPLE ANSWERS)

- It leaves out the crescent and gibbous phases between the four stages.
- It does not show the Moon's tilted orbit, which makes eclipses uncommon.

Place the waxing processes on arrows 1 and 2, and the waning processes on arrows 3 and 4. This model shows four major phases, but the Moon's appearance changes continuously between them.