

# Moon Journals

Does the moon always look the same? How does it change over time? Use Chabot's moon journal to track and observe our moon. Can you figure out how it changes?

## Instructions

Print the pages below and assemble your moon journal by folding it in half from top to bottom, then again from left to right.

Or make your own moon journal! Be sure to include space for multiple days and observations. Example DIY journals are featured below.



Observe the moon and sketch what you see for a whole week. Try to observe the moon at the same time each night if you can.

## Extension

Pick one of the moons you observed. Can you write a story about the moon, or make an artistic interpretation of what you saw?

Can you make a model or sketch to show how the Earth moves around the sun, while the moon moves around the Earth?

Check out some of the videos below to learn more about the moon!

### Storybots "Time to Shine"

<https://www.youtube.com/watch?v=i235Y2HRksA>



## SUGGESTED MATERIALS

- Moon Journal
- Paper
- Pencil
- Markers, colored pencils, or crayons

### Stay Connected!

Share your moon journals with us by tagging @chabotSPACE on all platforms and using the hashtag #LearningLaunchpad

## For Grown Ups – What's Going On?

Our moon is a natural satellite. It's locked into **orbit** around Earth by Earth's gravity. As the moon orbits the Earth, the surface of the moon reflects light from the sun. The light from the sun illuminates the moon, allowing us to see it in the night sky.

Sometimes, the Earth casts a shadow on parts of the moon. When this happens, the light from the sun cannot illuminate the entire moon, instead it only lights up a portion. This causes **moon phases**, which are the different shapes the moon takes in the night sky.

# Moon Journals

Moon phases start with a **new moon**, when the entire moon is hidden by Earth's shadow. On these nights, it may appear that we do not have a moon. But we do! It's just hiding behind the Earth and is not visible to us. After the new moon, the moon slowly starts to come out from behind Earth's shadow. This is when we see the **waxing moon phases**. This means the moon is getting bigger, and moving towards a **full moon**, when we can see the entire moon illuminated in the sky. After the full moon, the moon starts to appear smaller, as it moves behind the Earth once again. This is when we see the **waning moon phases**, and the moon is heading towards a new moon again. This cycle of moon phases takes about 28 days to occur.

**TIP!** When you look at the moon, remember: *"If the light is on the right, the moon is getting bright!"* When the right side of the moon is illuminated, we're in the **waxing phases** meaning we're headed towards a full moon!

## What Are We Learning?

### Next Generation Science Standards

Completing this activity will satisfy the following NGSS Standards:

- **1-ESS1-1:** Use observations of the sun, moon, and stars to describe patterns that can be predicted.
- **3-PS2-2:** Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.
- **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.

### Next Generation Science Standards: Practices for K-12 Science Classrooms

Throughout this activity, learners of all ages will practice skills such as:

- Planning and Carrying Out Investigations
- Analyzing and Interpreting Data
- Obtaining, Evaluating, and Communicating Information

### Next Generation Science Standards: Cross Cutting Concepts

Completing this activity will help all learners understand the following about cross cutting concepts:

- **Patterns:** patterns in the natural world can be observed and used as evidence.
- **Systems and System Models:** related objects can be organized into systems, and we can use models to better understand these systems.

Use this journal to track and observe how the moon changes over 1 week.



# Moon Journal

Use the extra pages to continue tracking the moon for an entire month! What do you notice about the way the moon changes over time?



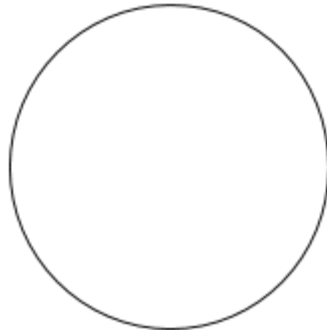
Can you match your moons to any of the moon phases below?

Did the moon look the same every night? How did it change during the week?

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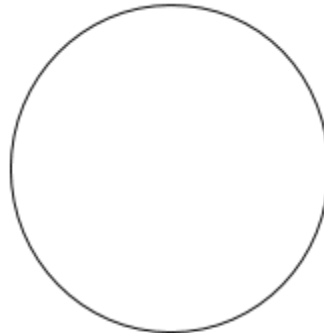
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Day 1



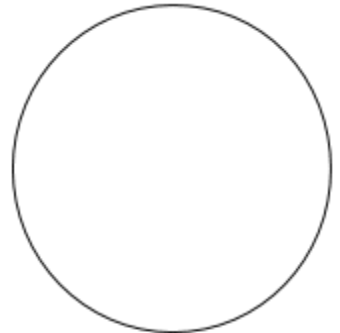
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Day 2



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Day 3

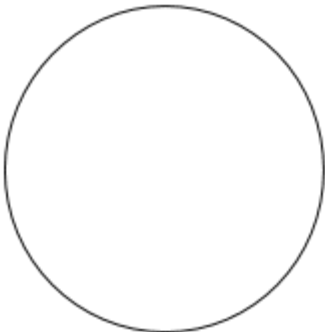


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Using the circles as your guide, sketch what you see when you look at the moon. Try to make your observations at the same time each night.

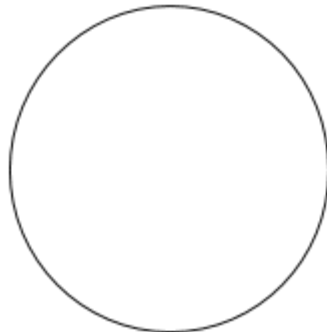
At the end of the week, answer the questions on the back of this journal.

Day 4



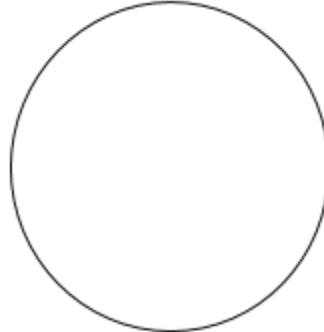
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Day 5



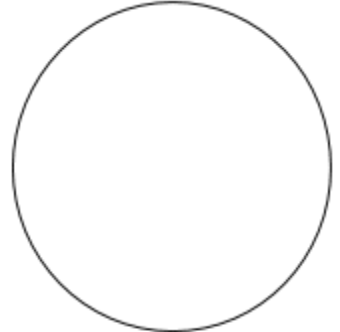
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Day 6



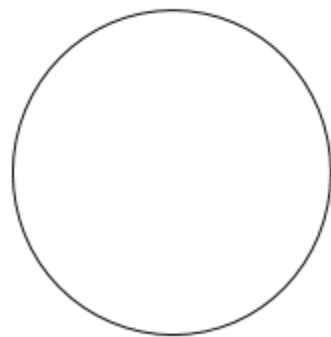
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Day 7

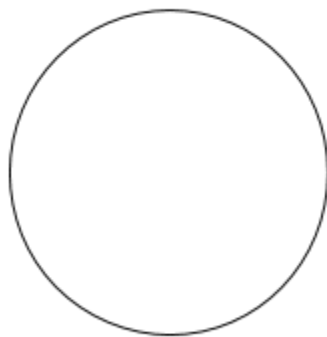


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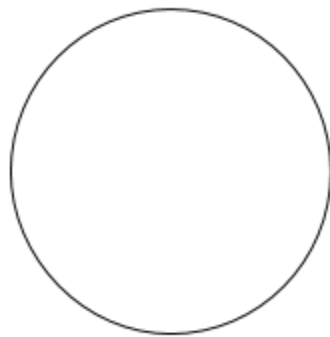
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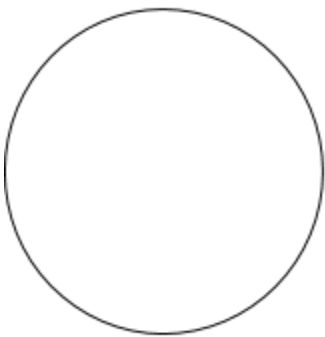
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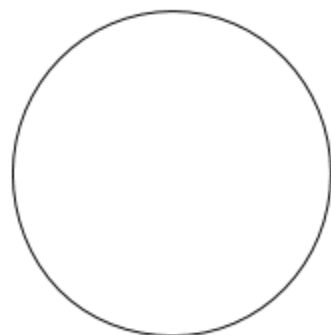
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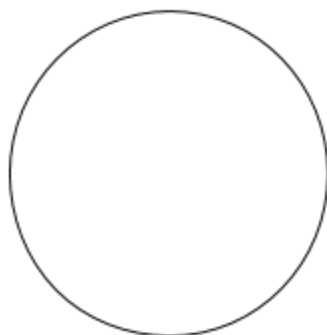
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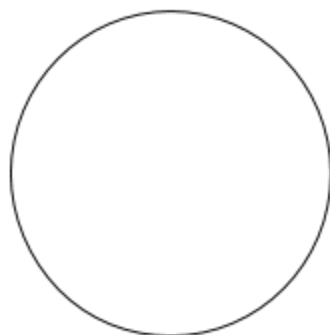
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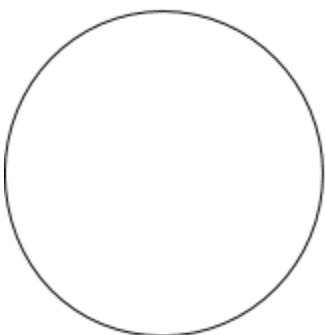
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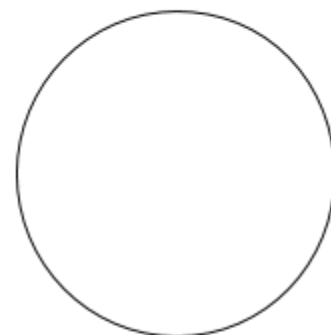


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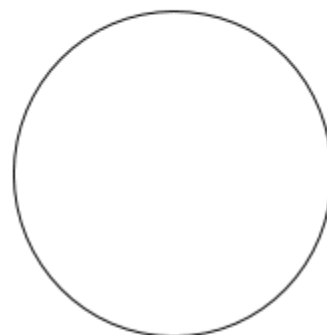


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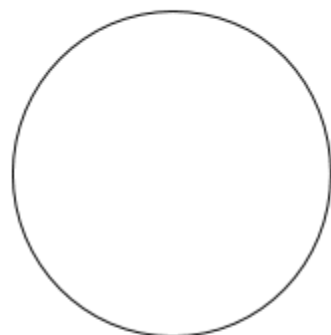
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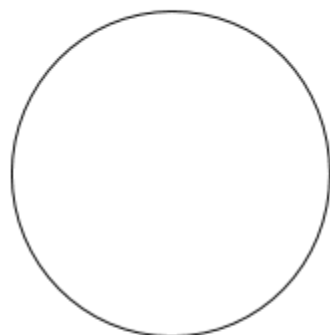
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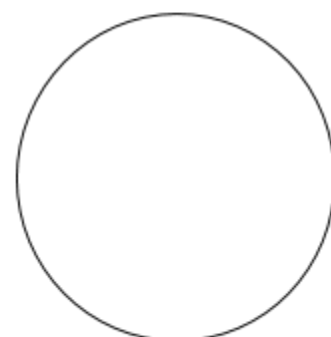
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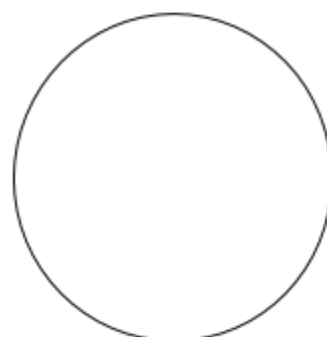
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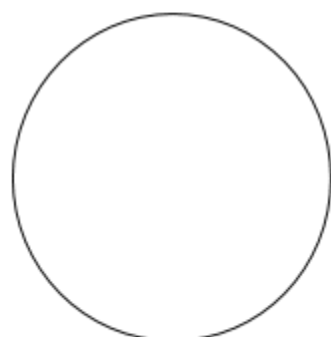
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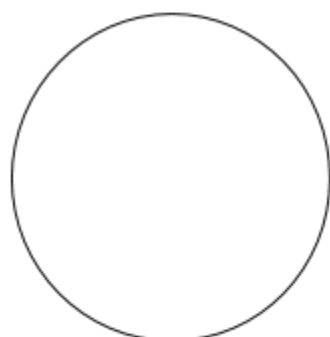
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