

Marvelous Moon Adventure!

Time Allotment: 45 Minutes

Student: Phoebe (Age 11)

Lesson Flow:

Introduction (5 minutes)

Ask Phoebe: "What's the most interesting thing you already know or wonder about the Moon?" Briefly chat about her current ideas. Introduce the goal: "Today, we're going on a Marvelous Moon Adventure to uncover the secrets of its changing faces (phases) and discover some cool facts!"

Activity 1: Phases on Paper (15 minutes)

- Using the books, look up the names and shapes of the main Moon phases: New Moon, Waxing Crescent, First Quarter, Waxing Gibbous, Full Moon, Waning Gibbous, Third Quarter, Waning Crescent.
- On a piece of paper, have Phoebe draw a large circle (representing Earth) in the center.
- Around the Earth circle, ask Phoebe to draw the 8 Moon phases in their correct order.
- Use colors! Maybe shade the dark parts grey or black and leave the lit parts white or yellow. Label each phase clearly with its name.

Activity 2: Why Do We See Phases? (10 minutes)

- Find a simple explanation in a book or explain: The Moon doesn't make its own light; it reflects sunlight. As the Moon orbits Earth, we see different amounts of its sunlit side.
- Maybe draw a quick diagram together: Sun on one side, Earth in the middle, Moon orbiting Earth, showing how the light hits the Moon from Earth's viewpoint at different points in the orbit.
- Key idea: The shape **we see** changes, but the Moon itself is always a sphere, half-lit by the Sun.

Activity 3: Moon Facts & Effects Hunt (10 minutes)

- Dive back into the books! Hunt for at least 3 cool Moon facts. Examples: How far away is it? Is there water? Has anyone walked on it? Does it have weather?
- Write these facts down on another sheet of paper.
- Discuss: How does the Moon affect Earth? Focus on gravity causing ocean tides. Briefly mention that while some stories talk about the Moon affecting mood or behavior, the main scientific effect we observe strongly is on tides.

Conclusion & Recap (5 minutes)

- Look back at the Moon phase drawings. Quickly review the names and order.
- Ask Phoebe: "What was the most surprising or coolest Moon fact you learned today?"
- Ask: "In your own words, why does the Moon seem to change shape?"
- Praise her drawings and participation!