

Why the Moon Changes Shape

The Moon looks different every night. It is not the Moon that changes.

4 min read

Before you read

- **reflect** — to throw light back
- **orbit** — the path one thing takes around another
- **crescent** — a thin curved shape
- **phase** — one of the shapes the Moon seems to take
- **calendar** — a way of counting the days



A crescent moon above the peaks of the Andes mountains in Peru

¹ High in the mountains of Peru, the night sky is very clear. There are few lights and little cloud. The Moon looks close enough to touch.

² Watch it for a month and it seems to change shape. Thin, then half, then full and round, then thin again.

³ But the Moon never changes shape. It is always a ball of rock.

⁴ The Moon makes no light of its own. It reflects light from the Sun, the way a window reflects the sun in the morning.

⁵ The Sun lights up one half of the Moon. The other half stays dark. That is always true.

⁶ The Moon travels around the Earth. That path is called its orbit, and one orbit takes about a month.



The Sun lighting one half of the Moon as it orbits Earth

⁷ As the Moon moves, we see the lit half from different sides. Sometimes we see all of it, and we call that a full moon. Sometimes we see only a thin edge, and we call that a crescent.

⁸ Nothing has changed except where we are standing to look.

⁹ The shapes are called phases.



The phases of the Moon in a row, from crescent to full and back

¹⁰ Farmers in the Andes have watched the phases for hundreds of years. The phases tell you how many days have passed, even with no calendar on the wall.

¹¹ Tonight, look up. Then look again in three nights. The shape will be different.

¹² The Moon will not be.

Part A

Choose the best answer

Circle the letter next to the right answer.

1. Why is the night sky so clear high in the mountains of Peru?

- A the Moon is closer there
- B there are few lights and little cloud
- C it never rains there at night
- D the mountains make their own light

2. Where does the Moon's light come from?

- A from inside the Moon
- B from the stars behind it
- C from the Sun
- D from the lights on Earth

3. How long does one orbit of the Moon take?

- A one day
- B about one week
- C about one month
- D one whole year

4. What is a crescent?

- A a thin curved edge of the Moon
- B the full round Moon
- C a shadow falling on the Earth
- D a very bright star

Part B

Write your answer

Answer in one or two sentences.

5. The passage says the Moon never changes shape. So why does it look as if it does?

6. How could the phases help a farmer who has no calendar?

Part C

Think deeper

There is no single right answer here. Say what you think, and say why.

7. The passage asks you to look tonight, and then again in three nights. What do you think you would see? What in the passage makes you think so?

8. The Moon looks like it is changing, but it is not. Think of something else that looks one way but is really another. What is it, and how did you find out?

Answer key

For parents and teachers

Part A

1. B — there are few lights and little cloud | 2. C — from the Sun | 3. C — about one month | 4. A — a thin curved edge of the Moon

Part B

5. Because the Moon moves around the Earth, we see its lit half from different sides, so a different amount of it is showing each night. Accept any answer that puts the change in our view rather than in the Moon.
6. The phases repeat in the same order and take about a month, so counting them counts the days. Accept: they can tell how many days have passed, or what time of month it is.

Part C

These answers vary. Mark the reasoning, not the answer.

7. A strong answer predicts a different shape and ties it to the orbit — the Moon keeps moving, so more or less of the lit half will be showing. A weaker answer says only 'it will look different' with no reason. Prompt with: why would it look different?
8. Any honest personal answer counts, as long as it says how the child found out. The skill being practised is because. Prompt rather than correct.

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