Grade: 2nd
Strategy: Questioning
Technique: Student Generated Questions
Text Type: Science

Why does the Moon change shape?

Aims of the lesson:

- Encourage the development of critical thinking skills.
- Promote meaningful questioning and exploration of the topic.
- Teach students how to effectively organize their writing.
- Actively engage students with the text to enhance comprehension.
- Facilitate discussions that result in complex, open-ended answers driven by student interests and choices.
- Support students in developing independence and confidence as learners.

If you look at the sky at night, you'll notice that the Moon doesn't always look the same. Sometimes it's round and bright, other times it looks like a thin slice, and on some nights, it's not visible at all. This happens because the Moon goes through different lunar phases as it orbits the Earth.

The Moon doesn't have its own light
Even though the Moon shines in the sky, it doesn't actually have its own light. What we see is sunlight reflected off its surface. Depending on its position relative to the Earth and the Sun, only part of the Moon is lit up and visible to us.

The phases of the Moon
The Moon goes through a cycle called the lunar cycle, which lasts about 29.5 days. During this time, it changes shape following this pattern:

- New Moon: We can't see it because the lit-up part is on the opposite side from the Earth.

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- First Quarter: We see the right half of the Moon lit up.
- Full Moon: The Moon looks completely round and bright.
- Last Quarter: We see the left half lit up.
- New Moon again: The cycle starts over.

Why does the Moon disappear sometimes?
When the Moon is in the New Moon phase, it seems to disappear because the Sun is lighting up the part we can't see from Earth. But it's still there, moving in its orbit.

Observe the Moon in the sky
If you look at the Moon every night, you'll see how it gradually changes shape. This cycle is very important for nature. Some species of animals depend on the Moon's light to hunt or move, and the ocean tides are also related to its gravitational pull.

Now that you know why the Moon changes shape, you can observe it and predict which phase it will be in the coming days!

Process phase 1: Planning (Teachers' perspective)
During this stage, the teacher has planned and prepared a suitable text for the reading.

Materials to support engagement include **visual aids** (pictures of the Moon in different phases, illustrations of the Earth and Moon, and images of the night sky) and vocabulary cards with key terms like "lunar cycle," "phases," "New Moon," "Full Moon," "gravity," and "orbit."
A framework to guide students in generating questions is also prepared, including prompts and question stems (e.g., "Why do you think the Moon changes shape?" or "How does the Moon affect life on Earth?").

Cognitive stage 1: Pre-reading (Students' perspective)
Students are introduced to the text through a fun **brainstorming activity**:

- Have you ever noticed the Moon changing shape in the sky?
- What do you think causes the Moon to look different every night?
- What do you know about the Moon's phases?
- How do you think the Moon affects the Earth?

Teacher ask students to create a **KWL chart.**

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Process phase 2: Teaching (Teachers' perspective)
The teacher reads the story aloud, pausing at key points to model and guide question generation.The teacher encourages students to ask their peers' questions aloud and discuss possible answers.

KWL chart:

Question Words	Student Questions	Student Answers
Who?		
Where?		
When?		
Why?		
What?		
How?		

E.g.

Who do you think studies the Moon?
Where does the Moon go when we can't see it?
When do you see the Moon as a Full Moon?
Why does the Moon change shape?
What do you think happens during the New Moon phase?
How does the Moon affect the tides on Earth?

Cognitive stage 2: During the reading (Students' perspective)
Students engage with the text by:

- Listening carefully to identify details that answer their thin questions.
- Reflecting on and discussing their thick questions in pairs or groups.
- Adding new questions as they hear more of the text..

Process phase 3: Feedback (Teachers' perspective)
The teacher walks around the students or pairs and supports their work with advice and feedback.

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Cognitive stage 3: Post reading (Students' perspective)
Creative Activity: "Create Your Own Lunar Cycle Story"
Students will create a short story about the Moon going through its phases, using their understanding of the lunar cycle. First, they will discuss the Moon's phases and how each one could represent a different part of an adventure. Then, they will plan and draw the Moon in each phase, writing a brief description of what happens during that phase. Finally, students will share their stories with a partner or small group. This activity encourages creativity while reinforcing their learning about the lunar cycle.

Ways of Communication:

- Interpretive (receptive) - students read the text and determine the relevant qualities of the characters.
- Interpersonal (mixed) - students work in groups and advise each other on the correct connection of the table.
- Presentational (productive) – the groups present to the class the answers they have indicated.

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