



LESSON PLAN

THE MOON AND ITS PHASES GRADES 3-5

SUMMARY

Learn characteristics of the moon such as relative size and surface features. Then demonstrate how the moon's phases are a result of its orbit around the Earth.

DURATION

One 50-minute class period.

PRE-ASSESSMENT QUESTIONS

Please see Discussion Questions located under the video. These can be discussed as a group or answered individually in student science notebooks.

MATERIALS

- Science notebooks (1 per student)
- Pencils

DIY Activity

- A light that can stand or clamp on a table
- A pencil
- A foam ball, white, 2-1/2" or 3"
- A camera or phone with camera



ENGAGE

Ask students if they have seen the moon recently. If they have, ask: What shape was it? Was it completely round? (Answers will vary.) Does anyone remember seeing the moon having different shapes? If so, describe some of those shapes. (Answers may be: crescent, half, partly full.) Ask the students to think why the moon would appear to us as having different shapes, then turn and share their ideas with a partner. Ask several students to share their thoughts.

Explain that those different shapes are called the phases of the moon, and that the moon appears in a consistent pattern of changing phases that takes about a month to complete. Explain that the class will learn about the moon and discover why the moon appears in phases in the activity they are about to do.



EXPLORE



WATCH THE *GENERATION GENIUS THE MOON AND ITS PHASES* VIDEO AS A GROUP

Stop at points in the video and discuss the facts about the moon. When the video gets to the DIY Activity, alert students to pay attention to how Zoe conducts her investigation because they will be doing it also. After Zoe shows her investigation, check for understanding and introduce the DIY Moon Model Activity. Divide students into groups of 2-4. Distribute activity materials.

See the DIY Moon Model Activity for further directions.



EXPLAIN

Now that students have created their own phases of the moon diagrams in their science notebooks, return to the *GENERATION GENIUS THE MOON AND ITS PHASES* video and watch it through the moon phase segment. Have students check in their teams if they conducted the activity correctly and if their diagrams show the same information. Have them label their diagrams with the correct moon phase name. Ask students to talk with their partner and explain why the moon has phases by describing the relationships of the moon, sun and earth. Finish watching the *GENERATION GENIUS THE MOON AND ITS PHASES* video. Use the Discussion Questions to review information learned in the video.



ELABORATE

The *GENERATION GENIUS MOON AND ITS PHASES* video explained a number of interesting facts about Earth's moon, other moons in our solar system, and about the United States' missions to the moon. Ask students to choose one or more of their areas of interest to research and create a presentation to inform the class of what they discover. Students can work in teams.



EVALUATE

Have students draw a diagram of the relative positions of the Earth, sun, and moon, placing the Earth and moon in the correct position to the sun to show each specific phases of the moon. Optional: use colored pencils, or paper cut-outs, for the diagram.



EXTENSIONS

- Recreate other activities from the *GENERATION GENIUS THE MOON AND ITS PHASES* video, such as the relative size demonstrations with the toy car and basketball/ping pong ball, and the moon crater demonstration.
- Contact a local astronomy club to visit with the class.
- Create a class calendar of the moon's phases through observation over a month.

