Welcome to NSTA’s Daily Do
Teachers and families across the country are facing a new reality of providing opportunities for students to do science through distance and home learning. The Daily Do is one of the ways NSTA is supporting teachers and families with this endeavor. Each weekday, NSTA will share a sensemaking task teachers and families can use to engage their students in authentic, relevant science learning. We encourage families to make time for family science learning (science is a social process!) and are dedicated to helping students and their families find balance between learning science and the day-to-day responsibilities they have to stay healthy and safe.

What is Sensemaking?
Sensemaking is actively trying to figure out how the world works (science) or how to design solutions to problems (engineering). Students do science and engineering through the science and engineering practices. Engaging in these practices necessitates students be part of a learning community to be able to share ideas, evaluate competing ideas, give and receive critique, and reach consensus. Whether this community of learners is made up of classmates or family members, students and adults build and refine science and engineering knowledge together.
Introduction
Many students (and adults!) have "black and light" thinking about celestial objects - we see the Sun in daytime and the moon, planets, and constellations at night. Images in children's trade books and textbooks seem to share this same thinking. But is it really the case? How many of us have really looked?

Today's task, *When do we see different objects in the sky?*, is a close adaptation of the formative assessment probe "Objects in the Sky", published in *Uncovering Student Ideas in Science, Volume 2: 25 More Formative Assessment Probes*. You can administer this probe with middle school students and then navigate to the Daily Do *Why can I see the Moon in daytime?* You might also administer this probe with elementary students. Early elementary students need opportunities to build toward understanding patterns in the motion of the Moon can be observed, described, and predicted and upper elementary students need opportunities to build on this idea and move toward an understanding that the orbit of the Moon around the Earth causes the patterns in the moon phases.

The *Why is my shadow always changing?* Daily Do provides guidance from Page Keeley, co-author of the books in the Uncovering Student Ideas series, on administering formative assessment probes with students.

Administering the Formative Assessment Probe
Share the "*Objects in the Sky*" formative assessment probe with students. Give students independent thinking time to identify which celestial objects are seen only in the daytime, which ones are seen only at night and which ones can be seen in both day and night. Ask them to explain their thinking using words, pictures and symbols. Bring the class back together.
Whether in a face-to-face setting or distance learning environment, you might share the formative assessment probe prompts using a digital tool like Kahoot or Quizziz (see Gameshow Classroom for a comparison of these and other similar tools). For example, a prompt might read:

**When can the Sun be seen in the sky?**
A. ONLY in the daylight  
B. ONLY at night  
C. BOTH day and night  

Point out places where the class is in agreement. Students will likely all agree the Sun can only be seen in the daylight. Students may have differing ideas about the Moon, the next-nearest star, and constellations. Assign students to small groups and ask them to share their ideas about the celestial objects the class was not in agreement about. You might use the following conversational supports:

**Speaker:** I think _____ because ______.

**Responder(s):** Can you give me an example of why you think that? OR What evidence is that based on?

Bring the class back together. You might ask students to respond to the prompts a second time and compare the results. Consider asking three students who changed their thinking why they changed their thinking:

- They originally had a different idea about what "counted" as daylight (dawn and dusk)
- They originally weren't sure what was meant by "next-closest star" or "constellation"
- Someone in the group had seen the Moon in daytime

Ask the groups to share which celestial object(s) they are not in agreement with (when it can be observed in the sky). Students will likely say the Moon and may say other stars. Ask students, "Because we can observe the Moon with our naked eye, should we investigate whether we can see the Moon in the daytime and at night first?"

Navigate students to the **Why can I see the Moon daytime?** Daily Do.

**NSTA Collection of Resources Today's Daily Do**
NSTA has created a **When can we see different things in the sky?** collection of resources to support teachers and families using this task. If you're an NSTA member, you can add this collection to your library by clicking **Add to my library** (near top of page).

**Check Out Previous Daily Dos from NSTA**
The NSTA Daily Do is an open educational resource (OER) and can be used by educators and families providing students distance and home science learning. Access the **entire collection of NSTA Daily Dos.**