

Conceptual Checkpoint 10 minutes

Inform students that they will complete a Conceptual Checkpoint to demonstrate their understanding of how the properties of an object affect how it appears with respect to an everyday phenomenon. Display the stingray photographs (Lesson 13 Resource).



Students should then write a response in their Science Logbooks (Lesson 13 Activity Guide) to the following prompt.

- ▶ **Stingrays camouflage themselves on the sandy ocean bottom, waiting for prey. Explain how the color of the stingrays and their use of sand makes them hard to see.**
 - *Some stingrays are tan and blue. The tan is close to the same color as the sand and the blue looks like shadow spots. This means that the stingray blends in with the colors of where it lives. When the stingray buries itself in sand, it blends in even more because it also has the texture of sand. The blue dots look like darker spots on the sand. This makes it hard to see and acts as camouflage in its surroundings.*



Conceptual Checkpoint

This Conceptual Checkpoint assesses student understanding of the Concept 2 Focus Question: **How do an object's properties affect how we see it?** Students will have varied responses.

Evidence

Students should demonstrate understanding of how the colors of the stingray and sand work together to make the stingray hard to see.

- The colors of the sand and the skin of the stingray are similar, allowing the stingray to blend in with the sand.
- The blue spots on the skin of the stingray mimic shadows on the ocean floor.
- When the stingray buries itself in the sand, the texture of the sand helps light reflect just as it would off the ocean floor.

Next Steps

If students have difficulty explaining how the color of the stingray or the properties of its surface reflect light differently, provide them with more experiences to study how different surfaces reflect light. Students can try shining light on different objects.

Land 3 minutes

Invite students to consider which questions from the driving question board have been answered. Read the questions from the driving question board aloud as needed. Remind students that answering some questions often leads to asking new questions. Inquire whether students want to add any new questions. Have students share their thoughts, and adjust the driving question board as needed.

Tell students that they will have the opportunity to apply what they know about light, sight, and conditions in the next set of lessons as they engage in the engineering process to consider the Phenomenon Question **How can you make Howland Island and the runway easier to find?**