

Lesson 9: Why do we sometimes see different things when looking at the same object?

Navigation

Turn and talk



1. What kinds of things did you see at home as when you took photos or made observations of windows during the day and night?
 - What was the light like on both sides during the day? At night?
 - How is this similar to or different than our box system and the dolphin clip?

Our Model Ideas

With your class



2. The first question we are trying to answer is:

Why do the scientist on Side B only see the dolphin on Side A, but the dolphin on Side A only sees itself?

3. On *Representing Side B*, annotate the Key to explain what each symbol represents.

Revisiting Sides A and B

With a partner



4. Using *Side A and B* and *Representing Side B*, draw what is happening with light moving in the system and particularly, what happens at each point. Use the symbols from the Key in your drawing. Then, answer each question for each point.

Explaining the System

On your own



5. Use your model to explain:
 - Why do the scientist on Side B only see the dolphin on Side A, but the dolphin on Side A only sees itself?
 - Why would the scientist on Side B see the dolphin and see themselves if we turned on a bright light on Side B?

Navigation

With your class



6. One-way mirrors are not everywhere, but we see this effect alot. Can we explain it?



Explain your Observations from Home

With a partner



7. Look closely at the pictures you took of a window during the day and at night.
8. Use the class consensus model to construct an explanation of what is happening that changes what we see through the window from day to night.
 - Use pictures, symbols, and words.
 - Make your drawings and explanations clear.
 - Be ready to share with a partner.

Peer Feedback Protocol

With a partner



9. Give and receive feedback from your partner using this protocol:
 - As one person presents their model and explanation, the partner listens carefully.
 - Partner provides feedback on the presenter's ideas that can help improve the representation.
 - Your feedback should give ideas for specific changes or additions the person can make.
 - The presenter should listen carefully, ask questions, and decide which revisions can be made.
 - Then switch places.

Final visit to the Driving Question Board

With your class



10. As we review our DQB, let's account for our work:
 - If we did not answer this question or any parts of it, put a ?
 - If our class answered some parts of this question, or the ideas we developed helped us to see how I could now answer some parts of this question: ✓
 - If our class answered this question completely, or the ideas we developed helped me see how I could now answer this question completely: ✓ ✓

Another Interesting Phenomenon

With your class



11. Some people put one-way reflective film on their homes to keep them cooler. Why would they do that?