



# How Waves Move

## How can waves move in different ways?

Predict how the waves will move in each case.

### My Predictions

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### My Observations

Draw and label diagrams of the coiled spring toy in Step 1 and Step 2.

Step 1	Step 2

Draw and label diagrams of the waves produced by the rope.

Step 3	Step 4

### Create Explanations

1. How can waves move in different ways?

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2. Compare how the coiled spring toy looked at rest in Step 1 with Step 2.

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3. Compare how the rope looked in Step 3 with Step 4.

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# Scattered Light Waves

## How does Earth's atmosphere affect light waves?

Predict what you will see when you view a light beam from different positions.

### My Predictions

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### My Procedure

Describe how you plan to model the effects of air on light waves.

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## My Observations

Draw a picture of your model.

Compare how the light looks when viewed from the side with how it looks at the other end. What colors do you see?

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## Create Explanations

What did you learn?

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# Reflection or Refraction

## How can you demonstrate reflection or refraction?

Predict how your test will cause light to react and what you will see.

### My Predictions

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### My Procedure

Tell how you will use the materials to make your demonstration and how it will work.

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## My Observations

Draw what your demonstration looked like. Draw more than one picture if you need to show steps. Write a sentence under each picture that tells what it shows.

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## Create Explanations

What did you learn?

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# Energy

1. There are many places in the Bible where God is referred to as light. Use a Bible concordance (alphabetical list of topics) to see if you can find two verses that tell us that God is light.

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2. Why do you think God compares Himself to light in so many places in the Bible?

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## 1. Day and Night Sounds

Some animals are active during the day, while other animals are active at dusk or at night. Take a walk with your family around the neighborhood once during the day and once at dusk or at night. What sounds do you hear? How are the sounds different during the day and at night? How do you think animals use sound? Discuss what you hear with your family. Together, look on the Internet or research at the library to learn more about animals in your neighborhood, and any special ways they use sound.

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## 2. Transparent, Translucent, and Opaque

Go on a scavenger hunt with someone in your family to find objects around the house that are transparent, translucent, and opaque. Collect the items and sort them into groups of transparent, translucent, or opaque. Draw pictures of the sorted objects, take a photo of them, or video your labeled categories. Explain what the difference is between each of the types of materials.

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Parent Signature: \_\_\_\_\_ Date: \_\_\_\_\_