

DCI: Waves and Their Applications in Technologies for Information Transfer

1.PS4.A: Wave Properties

Sound can make matter vibrate, and vibrating matter can make sound. (1PS41)

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1.PS4.B: Electromagnetic Radiation

Objects can be seen if light is available to illuminate them or if they give off their own light. (1PS42)

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1.PS4.B: Electromagnetic Radiation

Some materials allow light to pass through them, others allow only some light through and others block all the light and create a dark shadow on any surface beyond them, where the light cannot reach. Mirrors can be used to redirect a light beam. (Boundary: The idea that light travels from place to place is developed through experiences with light sources, mirrors, and shadows, but no attempt is made to discuss the speed of light.) (1PS43)

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1.PS4.C: Information Technologies and Instrumentation

People also use a variety of devices to communicate (send and receive information) over long distances. (1PS44)

Science and Engineering Practice

Planning and Carrying Out Investigations

Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions. **Plan and conduct investigations collaboratively to produce evidence to answer a question.** (1PS41), (1PS43)

Science and Engineering Practice

Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomenon and designing solutions. **Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena.** (1PS42)

Science and Engineering Practice

Obtaining, Evaluating, and Communicating Information

Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information. **Read grade appropriate texts and use media to obtain scientific information to determine patterns in the natural world.** (1LS12)

Crosscutting Concept

Patterns

Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-ESS1-1), (1-ESS1-2)

Crosscutting Concept

Structure and Function

The shape and stability of structures of natural and designed objects are related to their function(s). (1LS11)