

THE STANDARD

Reflecting Light & Vision

"Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen."

DCI

DISCIPLINARY
CORE IDEA

PS4.B • Electromagnetic Radiation

"An object can be seen when light reflected from its surface enters the eyes."

Seeing is a chain. Light starts at a source like the Sun or a lamp. It travels to an object, bounces off, and only then reaches your eyes. 4th graders connect those three parts: a light source, the object, and the eye. **Take away any one part and the object disappears.**

SEP

SCIENCE &
ENGINEERING
PRACTICE

Developing and Using Models

"Develop a model to describe phenomena."

4th graders don't just answer in words. They draw or build a model with arrows showing light traveling: source to object to eye. The model has to describe what is really happening, not just look nice. **A good arrow tells the whole story.**

CCC

CROSSCUTTING
CONCEPT

Cause and Effect

"Cause and effect relationships are routinely identified."

There is a clear cause and a clear effect here. The cause is light bouncing off an object and reaching your eye. The effect is that you see the object. No light reaching your eye means no seeing. **4th graders name which is the cause and which is the effect.**