

THE STANDARD

Speed & Energy

Use evidence to construct an explanation relating the speed of an object to the energy of that object.

DCI

DISCIPLINARY
CORE IDEA

PS3.A · Definitions of Energy

The faster a given object is moving, the more energy it possesses.

Energy of motion is simple. The faster something moves, the more energy it has. A marble barely rolling has a little. The same marble flying down a ramp has a lot. No formula needed. **Students just connect "it moved faster" to "it had more energy."**

SEP

SCIENCE &
ENGINEERING
PRACTICE

Constructing Explanations and Designing Solutions

Use evidence (e.g., measurements, observations, patterns) to construct an explanation.

4th graders aren't told the answer and asked to repeat it. They gather evidence, like how far a cup slid or how many blocks fell, and use it to build an explanation. **The skill is pointing to what they actually saw and saying what it proves.**

CCC

CROSSCUTTING
CONCEPT

Energy and Matter

Energy can be transferred in various ways and between objects.

Here's the idea students carry out the door: energy doesn't disappear, it moves. When the fast marble hits the cup, its energy of motion transfers to the cup and the cup slides. **More speed means more energy to hand off.**