

Mission: How does the color of a material affect how much sunlight it absorbs?

Age: 8+
Materials: \$8

Time: 45 min
(Set-up: 15 min | Activity: 20 min with wait time | Clean-up: 10 min)

NGSS Alignment of Sunlight Oven Activity

The information below may not include every area that this activity can be linked to NGSS concepts

Disciplinary Core Ideas

PS3.A: Definitions of Energy

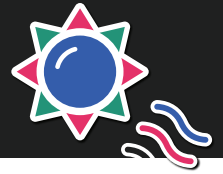
- 4th Grade
 - Energy can be moved from place to place by moving objects or through sound, light, or electric currents.
- Middle School
 - Temperature is a measure of the average kinetic energy of particles of matter. The relationship between the temperature and the total energy of a system depends on the types, states, and amounts of matter present.

PS3.B: Conservation of Energy and Energy Transfer

- 4th Grade
 - Light also transfers energy from place to place.
- Middle School
 - Energy is spontaneously transferred out of hotter regions or objects and into colder ones.

Performance Expectations

- 4-PS3-2: Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.
- 4-PS3-4: Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.
- MS-PS3-3: Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.



Crosscutting Concepts

Energy and Matter

- Grade 3-5
 - Energy can be transferred in various ways and between objects.
- Middle School
 - The transfer of energy can be tracked as energy flows through a designed or natural system.

Engineering and Science Practices

Constructing Explanations and Designing Solutions

- Grade 3-5
 - Apply scientific ideas to solve design problems.
- Middle School
 - Apply scientific ideas or principles to design, construct, and test a design of an object, tool, process or system.

Planning and Carrying Out Investigations

- Grade 3-5
 - Make observations to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution.