



SIMPLE MACHINES CAMP

Grades: 4-6



Students: 30

Contact Hours: 12+ hours

The camp includes 12 days of activities, each designed to last about one hour. Use one lesson a day, clump them together into larger blocks or break them apart to be worked in one at a time throughout the course of a school year.

Recommended Settings:

- Summer camps
- Classrooms looking for hands-on science and engineering lessons
- After-school programs

Pricing Options:

- Full *Simple Machines Camp*: \$1295
- Print curriculum only: \$295
- Digital curriculum download only: \$129

Materials:

The camp comes with a bound Instructor Guide, 8 bound Student Build Books, a digital curriculum download and all the supplies needed for 12 days of activities:

- Tubs with lids: 4
- Inserts for organizing parts: 8
- Rubber bands: ¼ lb
- Universal II fischertechnik® kits: 8

Print curriculum includes 1 Instructor Guide and 8 Student Build Books.

Digital curriculum download comes with Instructor Guide only, which includes master copies of all student pages.

Logistics & Storage:

Kits are shipped in sturdy tubs for easy organization and storage.

Shipping Availability:

Check with a PCS STEAM Program Specialist for shipping options.

Highlights:

- Hands-on introduction to mechanical engineering
- Includes both step-by-step builds and open-ended engineering challenges to scaffold student experimentation
- fischertechnik parts last for generations

Curriculum Topics:

- Day 1 - Building Skills
- Day 2 - 1st Class Levers
- Day 3 - 2nd Class Levers
- Day 4 - 3rd Class Levers
- Day 5 - Wheel and Axle
- Day 6 - Fixed Pulleys
- Day 7 - Moveable Pulleys
- Day 8 - Inclined Planes
- Day 9 - Wedge
- Day 10 - Worm Gear
- Day 11 - Complex Machines
- Day 12 - Design the Ultimate Machine

Assessment:

Informal, with optional challenges each day.

Training Available:

Professional development webinar training is available. Talk to a PCS STEAM Program Specialist for more information.



Alignments & Standards

Habits of Mind:

16 “thinking habits” developed by Art Costa and Bena Kallick to empower students to succeed in a 21st century learning environment.

- Applying Past Knowledge to New Situations
- Creating, Imagining, Innovating
- Managing Impulsivity
- Persisting
- Striving for Accuracy

21st Century Skills:

A set of widely-applicable abilities essential for success in the information age.

- Creativity and Innovation
- Critical Thinking and Problem Solving
- Initiative and Self-Direction
- Productivity and Accountability

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Next Generation Science Standards*

- NGSS 3-5 ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
- NGSS 3-5 ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

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Common Core State Standards for English Language Arts

- CCSS.ELA-LITERACY.RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

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