



National Geographic Science provides a STEM solution.

With *National Geographic Science* your students will develop a deeper and richer understanding of Science, Technology, Engineering, and Math concepts.

National Geographic Science delivers resources for teachers and students to support STEM instruction and learning from Kindergarten through Grade 5.

Think Like a Scientist

Math in Science

Graphing Data

Scientists use graphs to organize, summarize, and analyze data. The kind of graph a scientist uses depends on the information he or she wants to show.

Line Plot A scientist observed the different kinds of birds in a field. She organized her data in a line plot. First, she made a column for each kind of bird she saw. Then, she placed an X in each column each time she saw that kind of bird.

Birds in Fletcher Field			
Robin	Goldfinch	Blue jay	Red-winged blackbird
X			X
X	X		X
X	X	X	X
X	X	X	X

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Think Like a Scientist

How Scientists Work

Designing Machines to Solve Problems

Scientists and engineers often design and build machines that solve a problem. Every machine does work, and usually this work makes tasks easier for humans. Sometimes, machines are designed to help people have fun! For instance, a machine can solve the problem of how to fit a 30-meter water slide in an area 6 meters wide and 9 meters long.

Most of the machines you use are compound machines made up of several simple machines. The simple machines work together so that the compound machine can do a job with the least amount of work.

A pizza cutter is a compound machine that solves the problem, "How can you slice a pizza with a diameter that is greater than the length of most knives?"

The spiral water slide is a compound machine that solves the problem of how to fit a 30-meter water slide in an area 6 meters wide and 9 meters long.

The pizza cutter is made up of a wedge and a wheel-and-axle.

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Think Like a Scientist

Science and Technology

Designing and Building Better Products

Scientists and engineers work together to improve the products we use each day. Scientists develop new materials that are stronger and more durable. Engineers test the designs of machines and electrical systems. Scientists also design products that help people take good care of their health, such as the toothbrush in the picture below.

A toothbrush is a simple product, but many people over hundreds of years were involved in designing it. Long ago, people used twigs, bird feathers, or animal bones to clean their teeth.

- This is a model of a siwak toothbrush, one of the first kinds of toothbrushes. It was made from tree bark.
- The electric toothbrush was designed to help people take better care of their teeth and gums.

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