

Agriculture Kits:

The Afterschool Agriculture Kits are self-contained and require a minimum of additional items to complete the activities. There are four kits, and each kit has directions for 3-4 main activities. There are additional lessons in the back of each binder that can be used to expand the experience. Each activity provides a description of the Ag Skill, Life Skill and Education Standard involved, as well as amount of time needed and the suggested group size.

Farm Physics – Using physics to solve problems on the farm

- Eggs on the Move – How can you use physics to tell if an egg is raw or boiled?
- Flapping Chickens – How can you use physics to properly weigh a flapping chicken?
- Float Your Boat – How can crops be safely transported across water? Apply physics!
- Siphon Solutions – If a tractor is out of fuel, how can you get the fuel from the combine to the tractor? Physics can help you solve this problem!

Agriculture Gone Wild – Provides activities that explore just a few of the thousands of uses for corn, which is a renewable resource and a valuable Iowa crop.

- No-Drip Diapers – What keeps the baby's diaper from leaking?
- Carefree Corn Plastic – Can using corn to make plastic solve some environmental problems?
- Slippery Stuff – What happens when you use a surfactant, like lecithin from soybeans, on water?
- Grape Lightning – Did you know that grapes can light up your microwave?

All About Agriculture – Each of these activities tell students something about how farmers use science every day in practical ways.

- Cold Air & Fuzzy Mittens – What materials make good insulators from cold?
- Cycling Back to Nature – Are farmers recyclers?
- Making Mozzarella - How does milk become cheese?
- Papermaking – How many trees could we save if we made our own paper?

Mystery Agriculture – Students discover some interesting properties about food using science as inquiry.

- Sinkers and Floaters – Which foods float and which ones sink?
- Potato Power – Can a potato power a clock?
- Surprising Flavors – How many different flavors of popcorn can your team make?

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Iowa State University – Black Hawk County Extension and Outreach

Please contact Diane Wolfe at (319) 234-6811, Black Hawk County Extension Office, 3420 University Avenue, Suite B, Waterloo.

E-SET Kits

Amazing Human Machine:

This kit is designed to help organize a summer camp, after-school program or classroom unit on the human body. You can pick and choose activities depending on your personal comfort level with the material and the time you have. Each system requires about an hour to cover all the information and do the activities. There are introductory lessons that can be used with students followed by 1-2 main activities for each system. Also included are additional optional activities. Many supplies needed for teaching this unit are included, and a master list informs what additional materials are needed.

Exploring the Universe:

The wonders of the Universe will be yours to explore with this classroom resource kit with its focus on Astronomy. The kit contains a telescope (Meade ETX90), binoculars, star finders, resource books, activity books for all grade levels and links to online resources.

WONDERWISE Kits

WONDERWISE kits introduce girls, ages 8-12, to women who have made science their career. The kits provide a comprehensive instructional package that includes a video, activity book, and CD-ROM. Leaders and youth can explore the world of women scientists and discover together the fun of learning about science.

Sea Otter Biologist: Dr. Brenda Ballachey visits sea otters in Alaska and studies how they survived the Exxon Valdez oil spill. Observing otters in the wild takes her on some wild adventures under water, on the water, and up in an airplane. Her work as a wildlife biologist helps scientists learn more about the impact of environmental disasters on nature.

Rainforest Ecologist: Dr. Janalee Paige Caldwell explores the world of poisonous frogs in the Amazon. She treks deep into rainforests, lives in lean-tos made from trees, and counts and collects frogs and insects. Her work as an ecologist helps scientists learn more about the rainforest and the fascinating life it supports.

Pollen Detective: Dr. Margaret Bolick hunts for tiny grains of pollen in ancient bone beds. She also operates a rooftop lab that counts the number of pollen grains in the air. Her research on pollen helps scientists understand the important role this plant particle plays in our lives, including the way it pesters us with allergies.

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Fish Iowa!

A comprehensive module to teach basic spin casting, *Fish Iowa!* incorporates physical education; health; biology; geography; and family and consumer sciences into a program that focuses on fishing. It is designed for use in formal settings with middle school through senior high students, but easily adapts to non-formal programs such as camps, scout outings, etc. *Fish Iowa!* works with students with all levels of abilities. Materials are available to Iowa educators and youth leaders only through training sessions (one-on one) and workshops.

Choose MyPlate Portion Station Kit

This kit is designed to bring awareness to portion control as it relates to healthy eating habits. The activity teaches the participants about the importance of knowing how much is too much.

Elementary Engineering: Bridge Design Kit – Grades 3-5

Through this curriculum, students can develop skills (both life and science process skills) and content knowledge to prepare them to meet their future challenges. Science is applied to real-world problems through technological design. By studying design using a 5-step process, students gain an understanding of how technological objects and systems work and gain insight into the laws of nature. The culminating project of building a bridge involves the entire class.

Funtivities – Grades 4-6

Funtivities is a hands-on exploration of everyday science and math: 16 activities that let students discover, build and play. Students explore many exciting things about electricity, magnetism, air pressure, and math. They build electric circuits; change ordinary nails into magnets; lift heavy books using only air; figure out game strategies; and practice their skills of learning, keeping records and cooperating with teammates. They learn that science skills are used in almost everything they do.

“Down on the Farm” Lessons for Primary Grades

Engaging lessons and activities introduce Pre-K to 1st grade students to common farm animals, what they eat, and what foods and products they provide. Students will also learn what crops are commonly grown here in our community, on the farm and in our gardens.

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