Animal Coverings

Different kinds of animals have different body coverings. Animals with backbones (vertebrates) include 5 major groups based on observable features including body covering, among other characteristics. Fish have skin covered with wet scales, Amphibians have bare skin that is usually moist or wet. Reptiles have skin covered with dry scales. Birds have skin covered with feathers. Mammals have skin covered with hair (fur). Animals without backbones (invertebrates) are extremely diverse in form, and have many different kinds of body coverings. Most arthropods, the group to which horseshoe crabs and insects belong, are covered by exoskeletons. An exoskeleton is a hard outer covering made of a hard, semi-transparent substance called chitin. This kit helps learners explore why animals have body coverings, the animal groups and their various types of coverings.

**This kit is a nice complement to our Animals Inside Out exhibit.

Recommended audience: Ages 4 to adult

In this kit: The set includes a set of hides from rabbit, raccoon, fox, cow, beaver and bobcat. Several examples of coverings from fish, amphibians, reptiles, birds and invertebrates are also included. Learners observe basic properties of objects, use senses to gather information, compare and contrast differences in physical properties.

Animal Tracking Discovery Kit

Focusing on North American animals, learners are introduced to the basic structure of tracks and use of tracks to identify species and behavior. The animal tracking booklet (included) features an introduction to animal tracking, a basic animal track identification guide, directions for making casts and other classroom activities, field card master for documenting tracks found outdoors, plus a list of additional tracking activities.

**This kit is a nice complement to our Animal Scene Investigations exhibit.

Recommended audience: Ages 7 to adult

In this kit: Included are tracking stencils and track casting molds for 12 animals. Molding clay (such as Model Magic) or Plaster of Paris are recommended (not required) and are not provided.

Animal Skulls

Animal Skulls can tell us many things about creatures and how they survive in their natural environment. A few relatively simple observations of an animal’s skull can tell us what the animal ate, whether the animal was predator or prey, and which senses were most important to the animal’s survival. See what conclusions you can draw after close examination of the skulls provided in this kit.

**This kit is a nice complement to either the Animals Inside Out or Animal Scene Investigations Exhibit.

Recommended audience: Ages 7 to adult
**What you get:** Replica skull of bear, deer and cat; set of 3-5 “mystery skulls” from which learners can draw conclusions; rulers, and activity guide.

**Beebots**

Even the littlest learners can learn the basics of computer programming. Activities introduce basic logic, critical thinking, reading and map coordinates. Life cycle activities also included. The Beebots are self-contained with no assembly or laptops required.

**Recommended Audience:** Ages 4-8

**What you get:** 6 BeeBots with charging dock, Programming Cards, Game Play Mats, 6 15-cm rulers, and lifecycle information for the butterfly, the bee and the sea turtle.

**Biomimicry**

Biomimicry is innovation inspired by the study of nature and the use of those observations to improve applied STEM approaches. This kit includes a series of 12 STEM-related displays which reinforce the phrase "nature knows best!" Each 5” x 6” glass-topped display features an example of an important product that was inspired by careful observation of a plant or animal in nature. Some of these discoveries were the result of calculated research efforts while others were more or less stumbled upon by mistake. What these displays show is that nature expresses the basic principles of science, technology, engineering, and math (STEM) everywhere. The kit also comes with the game Extraordinaires Design Studio, which is designed to introduce the engineering design process and bring out the innovator in learners of all ages. The goal of the game is to design an item inspired by nature!

**Recommended Audience:** All ages

**This kit includes:** Extraordinaires Design Studio game, Biomimicry by Jane Beynus.12 biomimicry displays including: self-cleaning tile (beading of water on snail shells), strong yet lightweight building materials (honeycomb patterns), synthetic thermal insulation (down feathers), hook and loop fasteners like Velcro® (burdock seeds), hard composites (mother of pearl), reflective coloration (peacock feathers), Fastskin® fabric and boat hull coatings (shark skin studies), waterproof glues (beach mussels), strong artificial fabrics and fibers (silkworms), camouflage principles (caddisfly larvae, sphinx moths), reactive fabrics (pine cones response to humidity), and strong structural weaves (glass sponges).

**Bird Beaks and Bills**

The beak of a bird is an extension of its skull and is designed for feeding. Some beaks have evolved to specialize in feeding specific items. A duck, hawk, hummingbird and sparrow are all birds, but their beaks are very different due to their different diet. A duck has a wide flattened "bill" used for eating aquatic plants and mosses. A hawk has a sharp hooked beak used in tearing flesh from its prey or carrion. A hummingbird uses its long narrow beak to lap nectar from flowers and a sparrow has a small powerful beak used for picking berries and cracking seeds. As you will see, a bird's beak can tell you a lot about not only the diet, but also the lifestyle of its owner.

**This kit is a nice complement to our For the Birds Exhibit.**

**Recommended Audience:** All ages

**This kit includes:** Replica skulls from Toucan, Ibis, Great-horned owl, Spoonbill, and activity guide. **Handle with care.
Birds of a Feather

Two key features that differentiate birds from other animals are their feathers and their hard-shelled eggs. This kit explores both. **This kit is a nice complement to our For the Birds exhibit.

**Recommended audience:** Ages 7 to adult

**In this kit:** This kit contains seven different cleaned, infertile eggs that have been collected from domestic barnyard fowl (coturnix quail, ringneck pheasant, two different varieties/colors of chicken eggs, plus duck, goose and turkey). In addition, five different feather packets from domestic birds—over 50 naturally shed (not plucked) feathers—are also included. The feathers represent a variety of colors, species and feather types. All feathers are from domestic barnyard species. Additionally, a chicken lifecycle replica set, Birds, Nests and Eggs Take-Along book, three magnifying hand lenses (with protective slip case), and this activity guide complete the kit contents.

Bone Detective

Examine the specimens provided. Use the coloring sheets to identify the labeled portion of the skull, the Humerus and the Fibula bones. Learn about the relationship between length of an adult foot and estimated height. Using basic algebra, approximate the height of the people to whom each specimen belonged. Investigate how the anatomy of the hand changes as a person grows. Read more about how skeletal remains are classified in the Carolina Guide to Bone Forensics.

*This kit is a nice complement to our exhibit Investigate: Human Skeleton.

**Recommended Audience:** Ages 12-18+

**What you get:** Human Skull Replica with accompanying graphic, 1 Humerus with accompanying graphic, 1 Fibula with accompanying graphic, 1 skeletal foot replica, 1 skeletal hand replica, 1 wooden folding ruler, paper measuring tapes, The Bone Detective by Donna Jackson, Forensics (Bill Nye DVD), coloring sheets for skull, upper extremities, lower extremities, The Bone Detective, and activity guides.

Bugs' World

Learn about the anatomy of insects. Look at the “bugs” in the Insect or Not slide deck and determine which of them are insects and which are not. Examine each of the specimens provided using magnifying glasses; identify each specimen using the materials provided. Then, compare and contrast each specimen. Armed with new knowledge, go on an outing. Look for different types of bugs. Bring one back in the Petri dish and examine it before setting it free again.

**This kit is a nice complement to our Creepy Crawly Exhibit.

**Recommended Audience:** Ages 4-8

**What you get:** 17 specimens (12 small, 3 large, and 2 in jars), 2 magnifying glasses, Petri dish, Bugs World booklet, Fandex Field Guide, Insects by George McGavin, Insect Parts worksheet, Crawler Identification Sheet, and activity guides.
Bridge Building

Build 13 fully-functioning replicas of real-life bridges. The models demonstrate key bridge types, such as truss, arch, cantilever, beam, suspension, movable/ bascule, and cable stayed. If you’d like to explore the scientific, technical and design concepts further you are invited to use the DVD included.

**This kit is a nice complement to our Contraptions exhibit.**

**Recommended Audience: Ages 8-18+**

**What you get:** 7 complete K'nex Bridge Building Kits with Build Guides (207 pieces each), Facilitators DVD

Catapults

Explore the concepts of elasticity, energy and force as you build and test a ‘quick build catapult.’ Identify the variables that impact the catapult’s performance. Then, build a larger Viking Catapult. Engineering is an iterative process; test your design and refine so that your catapult is able to consistently launch a projectile to hit a specified target. Compare and contrast the two catapults. Investigate elasticity further by building an Egg Bungee (additional materials required).

**This kit is a nice complement to our Roller Coaster Physics and Contraptions exhibits.**

**Recommended Audience: Ages 8-18+**

**What you get:** 15 boards with pre-drilled holes, machine screws, hex nuts, wing nuts, washers, rubber bands of various lengths, cotton string, 15 ping pong balls, 15 protractors, measuring tape, hole punch, 70 dowels, 10 small cups, Quick Build Catapult instructions, Viking Catapult instructions, and activity guides.

Cells

Prepare slides of animal and plant cells. Study them through the lens of a microscope. How are they similar? How are they different? Examine 3-D models of animal and plant cells. Can you identify any of the cell parts in the animal and plant cells you prepared? Explore how fission (unicellular reproduction) works and how quickly bacteria can multiply. Build a cell model. Do some research on your own- what are some specialized types of cells in the human body?

**This kit is a nice complement to our Microworld Adventures and What's Making you Sick exhibits.**

**Recommended Audience: Ages 8-18+**

**What you get:** Plant cell model and diagram, animal cell model and diagram, microscope, disposable slides, cotton swabs, assorted materials for cell-model making (participants may take the model they build home).
Clean Hands, Healthy People

This kit introduces learners of all ages to the ways bacterial and viral infections are spread—and how many illnesses can be avoided with proper handwashing techniques. Children conduct their own experiments to determine hand-washing effectiveness. Older learners investigate issues of cross-contamination and food safety. Materials are age adjusted for the following age brackets: PreK-Gr 2, Gr 3-5, and Gr 6-12. As flu season approaches, you’ll be glad you got this kit!

**This kit is a nice complement to our What's Making you Sick exhibit.

Recommended Audience: Ages 4-18+

What you get: Glo Germ Lotion, Regular Lotion, Black Light, Glo Germ Powder, Gloves, Handwashing Timers, Plastic Spoons, Plastic Knives, Several Germ Specimens (Plush), and activity guides.

Climate Change

Tree rings give us insight into climatic conditions and patterns. Scientists have collected evidence that certain regions are experiencing shifts in climate (as seen in increased frequency and intensity of storm events in some regions and drought in other areas). These weather patterns are reflected in tree growth. This kit contains five tree rounds from each of five different species: juniper (tight rings typical of plants growing in arid areas), ponderosa pine (typical of conifers growing in areas with regular wet/dry seasons), sassafras (typical of plants growing in areas with longer annual wet and dry cycles), birch (light, poorly defined rings typical of trees growing under moist conditions), and oak (classic defined rings with ray pattern).

**This kit is a nice complement to our Eyes on the Sky exhibit.

Recommended Audience: Ages 7+

In this kit: In addition to the 25 tree rounds, the kit also contains magnifying glasses for reading rings, and an activity guide. All of the tree rounds, collected from branch trimmings, are oven dried and sanded on one side to make it easier to read the rings.

Color Science

Learners combine art and science as they experiment by adding droplets of primary color to the 24 mixing cups to create an amazing splash of rainbow colors. They will learn how scientists keep track of portions when they experiment with different materials in the laboratory. Then, learners will observe what happens when water jelly crystals (a unique polymer) is added to the colors they have made.

**This kit is a nice complement for younger learners to our Optical Adventures and Shapes and Colors exhibit.

Recommended Audience: Ages 4-10

What you get: 8 24-well mixing trays, color fizzers, test tubes with caps, pipettes, plastic cups, water jelly crystal, and activity guides.
Contraptions

Use uniform planks to create structures of your own imagination. Challenge yourself: create the tallest structure you can using only 20 planks; create a bridge as wide as you can with only 4 planks touching the table; create a 2-D representation of a real object; create a structure using spirals. Build the fastest chute you can and race against your friends. This kit works well for both STEM and STEAM activities.

**This kit is a nice complement to our Roller Coaster Physics or Gears exhibits.

**Recommended Audience:** Ages 4-18+

**What you get:** 350-400 wooden planks, 4 balls (2 blue/2 red), stopwatch, Build It/Invent It by Tammy Enz, Mistakes that Worked by Charlotte Jones, DVDs (Tunnels, Skyscrapers, Domes, Bill Nye’s Structure), Activity Guides.

Dinosaurs

This is a miniature dinosaur museum in a box! Examine the specimens provided. What can you tell about the dinosaur from the traces it left behind? Be a dinosaur dentist as you pay very close attention to the specimens of teeth provided. What can you hypothesize about the types of diets these dinosaurs likely had? Investigate the relationship between skull size and body length. Learn more about the dinosaurs that walked the planet (including those that lived right here in Texas) as you investigate the resources provided.

**Recommended Audience:** Ages 4-10

**What you get:** 16 Dinosaur Bones/replicas (e.g. Spinosaurus tooth, Allosaurus claw, Raptor class, T-Rex shed tooth, Tribolite fossil, Megalodon Tooth), Dinosaurs Alive! (DVD), DK Dinosaurs book, Dinosaurs for Every Kid by Janice Van Cleave, Mysteries of the Dino Dig by Pamela Rushby, Geologic Time Graphic, Dinosaurs in Texas guide, Identification and Boxing Guide, and activity guides.

Fingerprinting

Explore fingerprint basics and the three main classes of fingerprints: arches, loops and whirls. Using the ink pad(s) provided, ink your thumb or index finger and determine what type of print you have. Examine your print closely. Find at least 8 specific ridge characteristics on your print. Find out the class of fingerprints that others you know have; make a graph. Does the distribution of your acquaintances match the distribution in the general population? Play the role of science sleuth as you try to match fingerprint specimens.

**This kit is a nice complement to our Investigate: Human Skeleton or Microworld Adventures exhibits.

**Recommended Audience:** All Ages

**What you get:** 30 white balloons, 6 black ink pads, disposable gloves, 30 pens, fingerprinting brush, fingerprinting powder, clear plastic sheet for latent fingerprint lifting, tape, and activity guides. You will need wipes or access to a sink with soap and water.
Fossil Discovery

Use your keen powers of observation to describe each specimen in detail. Then, try to match the specimens to the pictures and descriptions provided on the laminated cards and in the booklet, Fossils: Discover the Past. Learn about how a fossil forms, step-by-step. Play the role of a geologist or paleontologist as you learn about the layers of the Earth and their relationship to time as you “dig the past.” Then, sort the boxed fossils provided using the sorting guide provided.

**This kit is a nice complement to our Rockin’ Out exhibit.

Recommended Audience: All Ages

What you get: 15 small fossil specimens (labeled) and one specimen showing a fossilized shell embedded in a rock, 2 magnifying glasses, box of fossils to sort with guide. How does a bone become a fossil? By Melissa Steward, DK Fossil book, Fossils: Discover the Past guide, informational poster, and activity guides.

Geology Rocks

Investigate the rock cycle. Make your own igneous, metamorphic and sedimentary rocks using crayons if you are able. Examine the rock specimens; see if you can determine which type of rock each specimen is. Using the mineral test kit provided, determine how hard each specimen is. Get outside and go on a geology walk- identify signs of geological activity in your own neighborhood.

**This kit is a nice complement to our Rockin’ Out exhibit.

Recommended Audience: Ages 4-10


Iron for Breakfast

Find real iron in breakfast cereal. Armed with a powerful magnet, discover and then explore the metallic iron in iron-fortified cereal. Compare the iron content of two different popular breakfast cereals. Explore how the liquid you use in the experiment affects how much iron you find.

**This kit is a nice complement to our Rockin’ Out exhibit.

Recommended Audience: Ages 5-10

Included in this kit: Total cereal, Corn Flakes cereal, magnets, plastic zip top bags, and activity guide.
Kitchen Chemistry Lab

Put on your Chemist's hat. Try to match the list of chemical names for each item to their common household names. Explore the world of carbonation. Create a bubbly chemical reaction to inflate a balloon. Examine salt and sugar crystals under a microscope. Then, set up a lab to create your own crystals. Investigate the surface tension of water and observe how it is broken with soap. Test substances you typically find in a kitchen and determine which are higher in acidity or alkalinity.

**This kit is a nice complement to our Microworld Adventures exhibit.

**Recommended Audience:** Ages 4-10

What you get: Balloons, graduated cylinders, twine, cooking pan/pot, electric burner, salt, food coloring, paperclips, magnifying glasses, pipettes, disposable slides, measuring spoons, condiment packets, 8 clear cups, cotton swabs, goldenrod paper, Amazing Kitchen Chemistry by Cynthia Brown, Chemical Reactions (Bill Nye DVD), and activity guides.

Leaf Identification Kit

Using real leaf specimens and a key-guide, learners develop skill in identifying and classifying leaves by their shape, size, venation, margin characteristics, and positioning on the twig. Learners can then further explore leaf anatomy while creating beautiful leaf print art.

**Recommended audience:** Ages 4 to adult

In this kit: 13 different leaves, each individually carded, labeled and bagged. Also included are two sets of these same leaves, unidentified (for a total of 39 leaves). Also includes five different 4”-6” flexible vinyl leaf replicas (ash, aspen, elm, maple, and white oak) along with three washable block printing inks (green, brown, gold), a brayer, three plastic plates, a field guide to trees, and activity guides.

Light and Shadows

Examine the anatomy of a shadow. Learn what each part of a shadow is called. Investigate how an object's translucence effects how light passes through it as you attempt to make a dark spot light. Discover how water can bend light in the experiment, Light the Way with Lasers. Explore how lenses can bend light to help bring objects into focus. Then, make your own liquid lens and see how effective it is at magnifying fonts.

**This kit is a nice complement to our Optical Adventures exhibit.

**Recommended Audience:** Ages 4-10

What you get: desk lamp, 10 flashlights, aluminum foil, laser pointer, 3 sets of optical lenses (18 total), spool of wire, Light Optics (Bill Nye DVD), and activity guides. You will also need a white wall or screen to project on, pencils/pens, copy paper, salad oil, paper towels, water, bucket/sink and an empty 2-liter soda bottle.
LEGO Mindstorm Robotics (NXT)

Learn what makes a robot a robot as you progress through 4 builds using the parts provided in the LEGO Mindstorm Kits. Unit 1 introduces learners to chassis design and energy. Concepts of friction and traction are also explored. In Unit 2, learners build a basic three-wheeled robot and explore sensors. Unit 3 offers learners a more challenging build. In Unit 4, learners explore how robotics can be designed to move slower or faster using gears.

**This kit is a nice complement to our Raspberry Pi and Gears Exhibits.

**Recommended Audience**: Ages 8-18 (This kit contains numerous very small pieces)

**What you get**: 6 complete LEGO NXT Kits, Instructional materials for 4 complete units. No laptops are required for the units provided. Note: if you do not charge batteries in advance, you will need to provide AA batteries in order to operate the robots.

Macromania

This adventure kit introduces the use of stream macroinvertebrates such as dragonfly and caddisfly larvae as indicators of water quality. Teams are given a deck of macroinvertebrate cards representing one of three sites. Students then determine the water quality of their site by classifying the cards on sorting sheets. If your site has access to water, participants are encouraged to collect a water sample to view using the microscopes provided. Optional math, public speaking, writing, art, and card game extensions further emphasize the connections between land use and water quality issues.

**This kit is a nice complement to our Microworld Adventures and What's Making you Sick exhibits.

**Recommended Audience**: Ages 12 to adult

**In this kit**: Background information, cards, poster and sorting sheets for six teams, petri dishes, 3 microscopes, and facilitator’s guide.

Magic of Science- or is it physics in action?

Explore the science behind “magic.” Try your hand at popping a balloon on a bed of nails; you be surprised at how hard it is! Learn about the properties of potential and kinetic energy as you examine two black rubber balls that look and feel the same—but behave very differently. Learn how inertia can cause 20 feet of beads jump to their fate. Observe the ‘impossible’ as you inflate a balloon inside of a bottle. Use a ‘magic’ wand to perform levitation tricks. Do these feats and more using the materials provided in our “bag of tricks.”

**Recommended Audience**: Ages 4-12

**What you get**: Balloons, Bed of nails, 2 black rubber balls, inertia beads, an impossible bottle, 2 fun flier wands with foil, Newton’s Cradle, Mirascope, and activity guides.
Math in Nature

An Italian mathematician published a book in 1202 that told of the discovery of a fascinating number sequence often seen in nature (0,1,2,3,5,8,13,21,34, and so on) where the sum of any two numbers in the sequence equals the next number. Using pinecones, this kit explores this sequence, discusses its relevance to science, math, and engineering, and offers suggestions for further investigations. This intriguing STEM kit is a great way to integrate biology with math and engineering!

**Recommended Audience: Ages 8 to adult**

**In this kit:** Kit contains six female pine cones, six pine branchlets, two pine cone halves, and a pine twig (all of which demonstrate Fibonacci sequences), plus a magnifying observation box containing small male pollen cones and a magnifying glass. Also includes the Fibonacci Activity Guide offering instructions, plus additional Fibonacci-related activities, glossary of terms and related internet links.

Pillbugs!

Because they are found just about everywhere, pillbugs, or roly-polies, are easily observed. These harmless creatures are isopods, related to lobsters, crabs, and crayfish, and are fascinating to study. This discovery kit contains everything needed to raise pillbugs except the pillbugs themselves, which can be found in abundance under rocks, logs, or damp debris in yards and schoolgrounds.

**This kit is a nice complement to our Creepy Crawly exhibit.**

**Recommended Audience:** Ages 4-12

**Included in this kit:** a 14” long x 8” wide x 6” tall observation container (with a perforated lid with access ports), The Pillbug Project, plenty of bark pieces for hiding, a bag of appropriate pillbug substrate materials for them to crawl around in, and magnifying glasses, and an activity guide. This kit is best used as part of longer STEM activity that unfolds over several days/weeks.

Polymers- Get slimed!

Introduce the concepts of changes in states of matter (from liquid to solid), demonstrate the process of cross-linking long chains of molecules, and explore the science of polymers. Start out by using polyvinyl alcohol (PVA) and borax to make slime. Then, use polymer to turn ordinary water into a white fluffy substance that looks like real snow. Introduces learners to the physical reactions, polymer science, and the environmental benefits of superabsorbents. Lastly, squeeze a long stream of Worm Goo into the activator solution and you will get an instant gooey worm. It’s a cross-linking reaction between sodium alginate and a solution of calcium chloride that happens the instant these two liquids mix.

**Recommended Audience:** All ages

**Included in this kit:** PVA solution and cross-linking solution, stir sticks, mixing cups, Insta-Worm Solution and cross-linking solution, superabsorbent polymer powder, petri dishes. Note that material is NOT to be discarded down the drain when finished.
Simple Circuits

Graffiti Research Lab was the first to introduce the world to this simple electrical circuit activity that learners of all ages enjoy. Combine LEDs with button batteries and magnets to create science art. Explore the interesting behavior of electrical flow, positive and negative leads, and open and closed circuits. Each learner will walk away with a closed circuit they’ve created that should last for several weeks.

**This kit is a nice complement to the Electrical Adventures exhibit.

Recommended Audience: All ages

What you get: 30 CR2032 batteries, 30 LEDs, electrical tape, magnets, and activity guide.

Snap Circuits

The electrical parts included provide learners with hands-on experience designing and building models of working electrical circuits. Snap together parts require no tools and ensure correct connections. Each kit includes 30 parts and instructions for over 100 projects including: a photo sensor, a flashing light, and an adjustable-volume siren.

**This kit is a nice complement to the Electrical Adventures exhibit.

Recommended Audience: 7+

What you get: 3 complete snap circuit boards with 30 parts each, and activity guides. AA batteries required but not provided. We recommend that learners work individually or in groups not larger than three; therefore, please consider your audience and request the number of kits needed to provide the desired level of interactivity.

Something Fishy

This kit affords individuals to learn 10 key facts about fish. Take an up close look at fish anatomy by studying the fish skeleton included. Then, investigate the form and function of three different types of fish: a young trout, a skate, and a grouper. Participants can make and take their own fish print with them.

**This kit is a nice complement to our Animals Inside Out exhibit.

Recommended Audience: Ages 7 to adult

In this kit: Includes three different fish (young trout, skate and grouper), three tubes of block printing ink (silver, blue, dark yellow), an ink brayer (rubber roller for spreading printing ink), three plastic plates for spreading ink using the brayer, descriptions of each fish, and complete directions. All materials are conveniently packaged in a useful storage box. Includes three saltwater fish (jack, opaleye, squirrelfish). Includes three different fish (green sunfish, young carp, young salmon)
Sound Factory

*Investigate different properties of sound. Make spooky sounds using the palm pipes. Then, use the palm pipes to make music. Using the materials provided, simulate thunder, make cups shriek, and make balloons scream. After you understand the basics of sound, compose your own music or develop a suite of sound effects and put on your own sound production.*

**This kit is a nice complement to our Listen Up exhibit.**

**Recommended Audience:** Ages 4-8


Squirrel Clues

Squirrels are adaptive animals known for their spunk and craftiness, from snatching bird feeder seed to thriving successfully in suburban environments. This kit explores squirrel behavior and adaptations through a closer look at one of their classic signatures: squirrel popsicles or chew cones.

**This kit is a nice complement to our Animal Scene Investigators exhibit.**

**Recommended Audience:** All ages

**This kit includes:** 12 squirrel-chew cones, 12 uneaten pine cones for comparison, a glass-topped display case (showing squirrel cones, pine cone scales chewed off by squirrels, and pine seeds), a pine cone sawed in half (to see where seeds are housed), wild nut shells cracked by squirrels, magnifying glasses for looking at chew marks, and an activity guide.

Squishy Circuits

*Squishy Circuits are a project out of the Playful Learning Lab at the University of St. Thomas. Our kit contains the materials needed for learners of all ages to create circuits and explore electronics using play dough. Learners will learn about conductive and insulative materials and electrical current flow. They will also be able to create as they experiment with series and parallel circuit design.*

**This kit is a nice complement to our Electrical Adventures exhibit.**

**Recommended Audience:** All ages

**What you get:** Recipes for both conductive and insulative dough (can be made in preparation of activity or as part of activity), battery packs, LED’s, motors, electrical buzzers, and activity guide. Unlike our Simple Circuits kits all materials provided are to be returned. AA batteries required but not included.
Straw Rocket Launcher

Explore the aerodynamics of rockets. Working individually or in teams, construct a straw rocket with the materials provided. Design the cone and fin you think will work best. Then, test your design by launching the rocket. Assess your design. Engineering is an iterative process, so incorporate what you have learned from your test into the next generation of design. What comes up, must come down! Parachutes and gliders may be used to return spacecraft to Earth. Using the activity guides provided and a bit of ingenuity, see if you can design an effective parachute and/or glider.

Recommended Audience: Ages 8-18

What you get: clay, bundle of straws, pack of index cards, straw rocket launcher (some assembly required), Space Exploration (Bill Nye DVD), and activity guides.

Take Apart Torso

Examine the human torso closely as you take it apart and put it back together again. Most of the organs in the model are part of either the body’s digestive or respiratory systems. Explore how enzymes help to break down food and learn the role of peristalsis in food digestion as you complete the Basics of Digestion activity. Investigate the role of bile in the experiment, Investigation Digestion. Using your own breath, explore some basics of respiration.

**This kit is a nice complement to our Investigate: Human Skeleton exhibit.

Recommended Audience: Ages 6-12

What you get: Take Apart Torso model with identification guide, 6 graduated beakers with thermometers, 1 room thermometer, 1 stopwatch, The Complete Human Body Book by Alice Roberts, and activity guides. Some additional items from the grocery store are required to complete the experiments.

Test Tube Adventures

Improve your scientific inquiry skills as you try to identify the course of a capless tube. Describe the characteristics of two different packing peanuts and draw conclusions based on your findings. Investigate the properties of Styrofoam. Explore states of matter, density, and the effect of gravity in one simple (but cool) experiment that uses common household materials. Put good lab practices into action when you wash each test—making sure they are spotless, residue free, and ready for their next set of experiments!

Recommended Audience: Ages 4-10

What you get: 30 “test tubes” with caps, color fizzers, Styrofoam balls, 2 types of Styrofoam peanuts, bottle brushes, test tube rack, and activity guide. Vegetable oil is required to conduct the experiments but is not provided.
Tracks, Scat and Sign Kit

Perfect kit for interpreting the clues that animals leave behind. Based on a collection of replicas (provided) and creative activities, budding naturalists learn the basics of interpreting animal sign, including tracks, trails, scat, and pellets.

**This kit is a nice complement to our Animal Scene Investigations exhibit.

Recommended audience: Ages 7 to adult

In this kit: Take Along Guide to Tracks, Scats, and Signs, three owl pellets (for investigating the clues that owls leave behind), three scat and three track replicas (adult coyote, raccoon, opossum), and a kit booklet that offers background information, and suggested field activities.

Tree Ring Discovery Kit

This kit contains resources needed to teach about the form, function and structure of trees. Includes a guide that shows you how to use tree rings to calculate the age of a tree or limb, determine climatic change and adaptation (through changing growth ring patterns), identify tree anatomy (heartwood, sapwood, cambium and inner/outer bark layers) and different growth patterns (tree ring irregularities, evidence of branching).

Recommended audience: Ages 7 to adult

In this kit: Includes reproducible student observation cards for analyzing individual tree rings; 5 each of six different (30 total) high quality tree rounds of western tree species; magnifiers, a field guide to trees, and instruction booklet with information, activities and blackline masters.

Weather or not?

This kit provides a number of experiments and hands-on activities that teach some basic ideas about weather. Make your own clouds and learn about the science behind their formation. Observe the process of sublimation as you observe ice turning from a solid directly into a gas. Study the rate of reaction as you experiment with different water temperatures. Simulate a tornado using the tornado tubes provided. Participants will also have the opportunity to make their own barometers, to measure air pressure, and anemometers, for measuring wind.

**This kit is a nice complement to our Eyes on the Sky exhibit.

Recommended Audience: All Ages

Included in this kit: Foot pump, 2 specialized 2-liter bottles, tubing, tornado tubes, ice melting block. 30 protractors, 30 ping pong balls, fishing string, rulers, balloons, plastic containers, and activity guides. Some easily procured materials, including dry ice, is required for one of the experiments but is not included.
X-ray Exploration (Specify Human or Animal)

Investigate the structure that holds up the body of humans. Using the set of X-rays provided, see if you can reconstruct a human body on the floor or table by placing each X-ray in the correct position in relation to other X-rays. Look at the shape and structure of each bone. Where can you find long bones? Short bones? Flat bones? How does the shape of each bone help that bone perform a certain function? (Note: an adaptation of this kit is also available for Animal X-rays. Please specify which iteration of the kit you want upon ordering.)

**This kit is a nice complement to our Investigate: Human Skeleton exhibit.

Recommended audience: Ages 4 to adult

In this kit: Light box, X-rays with identification guide, Skeleton by Alfred Knopf, Amazing X-rays by Paul Beck, Bones and Muscles (Bill Nye DVD), and activity guides. (Animal kit has slightly different content)

RESERVATIONS ARE ACCEPTED ON A FIRST COME, FIRST SERVED BASIS.

KITS MUST BE RETURNED WITHIN 30 DAYS OF RECEIPT UNLESS PRIOR ARRANGEMENTS HAVE BEEN MADE.