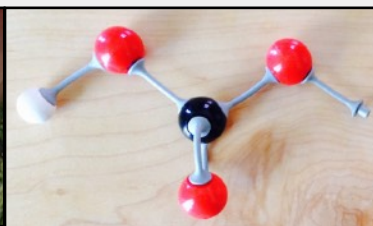


# ingridscience student workshop selections

## Biology

Topics	Activity selections
Needs, Features and Adaptations of Living Things	Live worm or wood bug study; optionally build a classroom habitat to look after. Animal adaptation lesson: choose from teeth, beaks, wings, fins, fur, feathers. Study plant structures and adaptations. Make gazpacho soup from plant parts.
Life Cycles	Choose plant activities on pollination, germination and growth, or seeds. Use a real deer skeleton to explore life cycles of the deer and life connected to it.
Biodiversity, Food Webs, Sustainable food sources	At the beach or in soil/pond water, construct a food web of living things discovered. Construct a food web from a real deer skeleton. Model fish traps and clam baskets.
Sensing	Select from hearing, touch, taste, smell, vision activities.
Organ Systems	Skeletal system lesson with real bone activities. Nervous system lesson with data collection activities. Clam dissection with comparison of its organs to ours.
Evolution and Natural Selection	Model how fossils are discovered in sedimentary rock. Lego evolution activity. Outdoor activities: natural selection game and camouflage challenge.



## Chemistry

Topics	Activity selections
Properties of Materials, Mixtures	Choose from properties to explore: stickiness, buoyancy, elasticity, conductivity. Make and test glues made from mixtures of solids and liquids. Indigenous use of materials for weaving, plant dyes and clam baskets.
Physical Changes, State changes and molecules	Make popcorn and understand how water changing state makes it pop. State changes in an epsom salt crystal painting.
Chemical reactions	Make mixtures with solids and liquids and discover chemical reactions. Make a soda drink and use molecular models to understand the chemical reaction. Set off a rocket or make Elephant's toothpaste with a chemical reaction.
Chemistry of Cooking	Make bread, scones or cake batter. Use molecular models to understand the chemistry of the dough or batter rising (note: may need an oven.)
Solutions and their separation	Epsom salt crystal painting or chromatography to show separation of components in a solution. Use red cabbage dye to investigate concentration and pH.
Heterogenous mixtures	Mix household chemicals to make heterogeneous mixtures. Explore colloids by making butter or oobleck.
Crystals	Understand crystal structure through crystal activity stations.

or request any K-7 topic

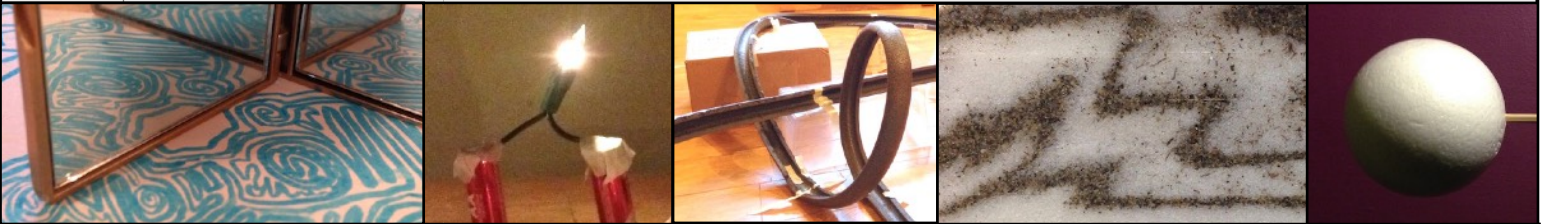
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## Physics

Topics	Activity selections
Motion, Forces and Newton's Laws	Use catapults, balancing toys or playground equipment to explore types of forces. Build and test bridges to understand the balance of forces in their structure. Focus on specific forces e.g. friction, magnetic force, air or water resistance. Explore Newton's Third Law with catapults, paper airplanes or rockets.
Sound and Light	Build a noise maker to understand how sound is made and explore pitch. Discover the properties of light through free-play light stations.
Heat	Make candle convection spinners and watch a beautiful convection demo. Use heat sensitive sheets to reveal heat radiation/conduction (note: need full sun). Investigate heat conduction through different materials.
Transformation and conservation of energy	Design foam roller coasters for marbles and discuss the energy transformations. Build a catapult or jumping toy; discuss the chain of forces and transfer of energy.
Simple machines	Experiment with everyday household levers. Free-play activity with pulleys.
Electricity and Electromagnetism	Freely experiment with wires, lights and batteries to learn about electric circuits. Build an electromagnet. Use motors to make spin art and buzz saws.



## Earth/Space

Topics	Activity selections
Weather and Seasons	Recreate lightning, frost and rainbows. Measure temperature and wind speed. Older students: design a rain gauge mechanism.
Sun, Moon and our Solar System	Model the Moon phases (note: need a dark space). Moon surface feature activities. Construct a scale model of either the Solar System or the Earth and Moon's orbits. Older students: model gravity assist (used to send probes across the solar system).
Learning from Starlight	Make a spectroscope to view light sources, then the Sun's spectrum. Learn how astronomers use starlight to study stars and the expansion of our universe.
Water Cycle	Set up a small-scale water cycle. Use water cycle terminology in an outdoor game.
Landforms, Erosion and the Rock Cycle	Build different mountain shapes from contour maps and play dough. Use sand and water to show how water erodes landscapes and forms river valleys. Model sedimentary rock formation and uplifting (optional: add in fossil discovery).
Sustainable practices, Climate Change	Design a wind turbine and understand the key design elements. Model Coast Salish seasonal round harvesting methods: fish traps and clam baskets. Demonstrate ocean acidification with water chemistry. Model an oil spill clean-up.

or request any K-7 topic

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