Bringing the Outdoors In

&

The Indoors Out

with

5 Minute Field Trips

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General Ideas

- Scavenger hunts: all grades and subjects, from simple to complex. Vary this activity by using photography to 'capture' items rather than removing from their natural setting.

- Looking closely: use magnifying glasses to go on an open-ended hunt, just see what you can see!

- Create a school yard eco-calendar: temperature from last year, bloom date of dandelions, flowers, migrating birds in spring and fall, ice forms on water, snowfall, thunderstorms.

- Create an outdoor classroom: all you really need is a place for students to be comfortable during the activity or lesson.

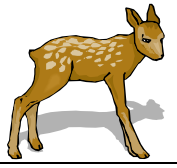
Kindergarten

Unit	My Ideas	Your Ideas
Trees 	*practice tree vocabulary on a living tree *bring items from a tree inside for further examination: trunk, needles/leaves, branch, root, etc. *create patterns with found leaves based on colour, size, etc. *adopt two trees: coniferous and deciduous. Observe each tree during the seasons, compare and contrast.	
Colour 	*find each colour in nature. This may be difficult! *collect objects with different shades of the same colour: gray rocks, yellow leaves, etc. Create a 'colour line' from light to dark.	
Paper 	*explore a tree to find out which part makes paper. Discuss what would happen if leaves were added, different colour trees, etc. *add to your design project using elements found in nature. Decorate paper cups or party hats with leaves and stones.	

Grade 1

Unit	My Ideas	Your Ideas
Characteristics & Needs of Living Things 	*find and discuss one-way and two-way relationships *create a vocabulary list. Take a walk to demonstrate each word. *Explore all the different vegetation forms on a nature walk. *In a natural setting, point out what people need to survive. Compare this to what animals need to survive. *Take a walk, discuss how to respect the environment with specific examples of what to do and what not to do.	
The Senses 	*close your eyes to discover a natural being: a tree, flower, etc. Describe how it feels, smells, etc *activate all senses outside, one at a time. *collect objects from nature. Classify them according to texture.	
Characteristics of Objects & Materials 	*collect leaves, pebbles, other natural objects for classifying *Explore an outside object using sensory observations: tree, metal bike rack, wooden post *walk around the school or community. Try to find evidence of positive waste management.	
Daily and Seasonal Changes 	*observe and record evidence of change in plants, leaves. Adopt a tree to observe, re-visit several times in the year *identify items that follow predictable patterns and cycles *look for evidence of seasonal changes: flocking birds, cool air, icicles, tracks in snow, growing buds, busy insects, etc. *in one day, go outside several times to observe how shadows change.	

Grade 2

Unit	My Ideas	Your Ideas
Growth & Changes in Animals 	*observe and record measurable changes in a volunteer animal *in a natural area, identify the foods that animals can use. Classify these foods. *To reinforce the life cycle, showcase and discuss a plant's life cycle.	
Properties of Solids, Liquids & Gases 	*Create a word list. See how many items you can observe outside. *Investigate how solids take up space on a larger scale. Use buckets of water and rocks, for example. *Identify liquids found in your area naturally: water, sap, etc *Demonstrate liquid states by observing a water source in fall/spring, winter, on a foggy morning, etc.	
Position & Motion 	*demonstrate object relativity with natural elements: slope of a hill, behind a tree, above the grass, etc *Observe insects in the school yard. Do they spin, bounce, jump, etc? *Continue teaching about friction with outside elements: shoes on concrete, sandpaper on grass, etc. *observe your school yard play structure in terms of motion: planes, axles, etc.	
Air & Water in **Environment** 	*Find concrete examples of vocabulary words near the school. This can be like a scavenger hunt for examples. *find 5 pieces of evidence of moving air outside. *Visit the same place in the school yard several times in a month. Observe and identify how water is present: dew, fog, ice, snow, rain, etc.	

Grade 3

Unit	My Ideas	Your Ideas
Growth & Changes in Plants 	*visit the same plant/tree/flower over a period of time, observe, record, chart, photograph growth & changes *in spring, use a stethoscope to listen to sap running inside a tree. *in September, put wool socks on over your shoes. Walk in a natural area, the socks will collect seeds. Sort, identify, even grow the seeds. *find natural examples of vocabulary list	
Materials & Structures 	*gather natural materials to investigate for bridge building, fasteners and strength *explore balance in nature – look at the symmetry of a tree, discuss why an unbalanced tree is standing, how various forces have affected items *observe shapes used in structures around the community. Compare/contrast these to shapes in nature.	
Forces that Attract or Repel 	*walk in a natural area to find evidence of gravity *use natural objects to test magnetic attraction. *use a compass around the schoolyard. Observe the effects on the compass when placed near a bar magnet.	
Soils in the **Environment** 	*have an outdoor conversation about what we know about soil. Seeing soil in use inspires a variety of responses. *collect soil samples from around the school, community, and in nature. Investigate and compare samples *with gloves on, dig into the soil. Observe insects that use the soil. Discuss how soil can be used. Try to identify as many insects as you can.	

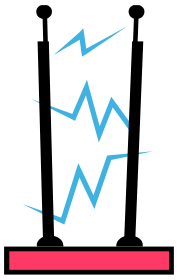
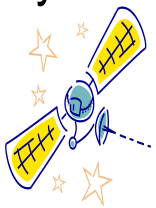
Grade 4

Unit	My Ideas	Your Ideas
Habitats & **Communities** 	*Find and discuss one-way relationships and two-way relationships near the school *look for an animal or bird home, or find an area that would be suitable. Observe nearby needed places: water, food course, hiding spots. Discuss how much area that animal actually needs. *find a comfortable natural setting to read and discuss plant and animal stories from various cultures	
Light 	*Use light meters to measure the amount of natural light needed in a certain habitat. Measure from a spider web, ant hill, flower, small bush, etc. Chart and discuss. *Find and list examples of energy both inside and outside the school. Discuss in a sharing circle. *Use natural objects to predict shadow size based on light source position.	
Sound 	*with closed eyes, listen to all sounds. Create and compare sound maps and chart. Repeat daily/weekly to notice differences and patterns. *when windy, place one ear against a tree and plug the other ear. Listen to all the creaks. *after observing sound in an area, create 'deer ears' by cupping hands behind ears. Observe new sounds. *use natural objects to enhance the design of a musical instrument.	
Rocks, Minerals & Erosion 	*collect a certain number of rocks from various areas in the community. Observe, classify, and compare areas. *go for an indoor and outdoor walk around the school to determine which materials are made from rocks and minerals. *observe local human activities which have changed the landscape.	

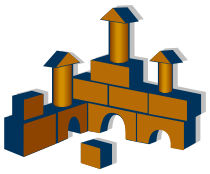
Grade 5

Unit	My Ideas	Your Ideas
Maintaining a Healthy Body 	*observe several different plants in a natural environment. Create invented but realistic food labels for each plant. *Compare body systems to a tree in the schoolyard. Which parts of the tree would be the skeleton? Nervous system? Muscles? Tendons? Skin? *Investigate local waste management processes. Visit any waste management site. Compare to the body's method of getting rid of waste.	
Properties of & Change in Substances 	*explore process: evidence of one action that produces a reaction *collect and investigate natural items, describe substances *Find examples of the changing states of matter near the schoolyard. Include physical and chemical changes.	
Forces & Simple Machines 	*visit the playground to see which simple machines are used. If there is a teeter-totter, experiments with different weights, distance from fulcrum, etc. *hunt around the schoolyard and community for wheel and axles, gear and pulleys, a wedge, etc. *use the playground to create and demonstrate a moveable pulley system, a created lever, a wedge, etc. Create a problem and let the students solve it for you using machines.	
Weather 	*record daily weather for 2 weeks. Include wind, temperature, clouds, etc at the same time daily. Each day, have students predict weather for following day based on evidence. *after designing their own weather instruments, test instruments outside daily for 1-2 weeks. Record observations. *Record an outdoor weather report in the morning. Broadcast it in your school. *Invite a hunter/trapper to your classroom to discuss experiences with weather.	

Grade 6

Unit	My Ideas	Your Ideas
Diversity of Living Things 	* find and discuss one-way and two-way relationships *give students a time limit to collect as many different leaves as possible, then categorize in as many ways as they can (size, colour, points, stem length, etc) *observe specific animals and insects. Discuss adaptations needed for survival. *find a place in nature to observe the five kingdoms of living things.	
Flight 	*observe flight in nature, large and small. Observe insects, small birds, large birds. Discuss concepts in nature used in flight technology. *find examples of flight in plants and trees: leaves falling, seeds blowing, etc. Discuss how these characteristics have been copied by humans. *Test and re-test a variety of kites on different days, comparing wind and temperature with flight success.	
Electricity 	*Address lightening safety around the community and in nature. Identify specific safe unsafe places to be. *collect natural materials to test as insulators or conductors. *after creating an electromagnet, take it outside to see if you can pick up any rocks in the schoolyard. Also, take a walk around the school to see which types of metal create a magnetic field (door handles, hinges, bike racks)	
Exploring the Solar System 	*Gather in a place where you can see satellite devices (cell tower, dish on the school). Discuss how these work on site. Introduce students to GPS. *view a satellite map (Google maps) of your area. Observe what is seen clearly and what is missing from the map. Follow a trail from the map. *In a natural setting, have students describe what would happen if the sun disappeared. Use specific terminology from previous study.	

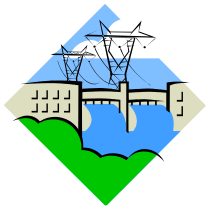
Grade 7

Unit	My Ideas	Your Ideas
Interactions within Ecosystems 	*find and discuss one-way and two-way relationships *find evidence of complex change: sprouting seed, cocoon, etc. *find evidence of simpler change: decaying plant or animal *reinforce needed vocabulary with specific examples in a natural setting	
Particle Theory of Matter 	*Observe allocations made for heating/cooling in the community: tar in sidewalk, hydro lines, docks, etc. *collect water samples from around the community (lake areas, pond, tap, rain). Test boiling points, discuss results. *Each student collects snow in a container. At timed intervals, record temperature. Create a graph, compare with entire class.	
Forces & Structures 	*Visit a structure in your community (bridge, dock). Identify how it is able to withstand natural forces. Observe any effects of force onto the structure. *Identify static, live, dead and dynamic loads around the school. Use a bicycle to demonstrate some concepts. *Challenge students to design a structure (tallest or strongest) using only natural objects they have collected.	
Earth's Crust 	*Collect rocks and minerals in the community. Describe using observations on lustre, cleavage, etc. *Near a water source, find evidence of erosion. *visit a local garden. Identify soil properties to make that garden successful.	

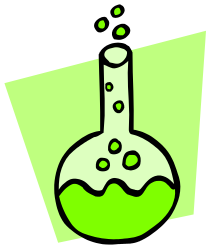
Grade 8

Unit	My Ideas	Your Ideas
Cells & Systems 	*use the Characteristics of Living Things chart to document several organisms in a natural area *collect several plant samples around the school. Use a microscope to compare and contrast samples. *In a natural setting, have students create an analogy of the planet Earth's systems. What would be the lungs, skeleton system, etc?	
Optics 	*collect and use natural elements to create colour dyes: dandelion stem, berries. *Explore reflection in the schoolyard and in a natural setting. Identify which sources produce a light reflection, and why. *use a camera to go on an optical treasure hunt: photographing various colours, natural examples of optic concepts.	
Fluids 	*challenge students to find an outdoor example of a newly learned term. *Use a variety of collected natural objects with different weights and volumes to explore mass & displacement. *Use natural objects to build penny boats.	
Water Systems 	*Find specific examples of the water cycle outdoors. *Visit a shoreline on a calm day. Observe the effects of erosion on the bank. Discuss ideas on how to prevent erosion. *visit your community's water filter system.	

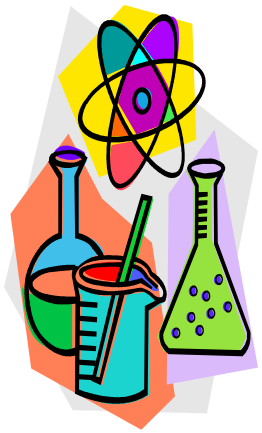
Grade 9

Unit	My Ideas	Your Ideas
Reproduction 	*In a natural setting, observe as many plants which use visible asexual reproduction as possible. *In a natural setting, have students identify which plants would be genetically modified, and for what purpose. Would they link characteristics?	
Atoms & Elements 	*Take a walk around and near the school. Identify any items that use any of the first 18 elements. *Find examples of physical and chemical changes in nature. *Walk around the community to find examples of chemical changes in urban settings.	
Nature of Electricity 	*Find several objects around the school and in a natural setting. See if these will relay a charge. *Visit a water source. Discuss the benefits and issues of bringing a hydroelectricity dam into or near your community.	
Exploring the Universe 	*For a period of 2 weeks, chart the position of the sun at different times of day. Compare the position results over the time span. *After researching was of searching for extraterrestrial life, identify and justify an area suitable for habitat by any life form.	

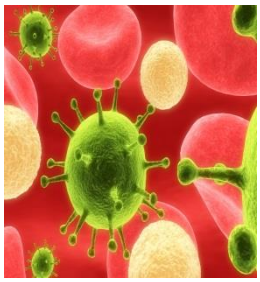
Grade 10

Unit	My Ideas	Your Ideas
Dynamics of Ecosystems 	*find and discuss one-way relationships & two-way relationships *use a natural setting to explain carrying capacity, limiting factors for specific animals *Identify and document the biodiversity of a set area. Use (and then remove) hunter's tape for the boundary.	
Chemistry in Action 	*explore process: evidence of one action that is a direct cause for another reaction *Challenge students to find direct evidence of non-reversible pollution in and around the community.	
In Motion 	*Focus on movement in nature: clouds, blowing wind, flowers that open or close, things that fly, run, or jump, water that flows, etc. *measure the flow of water using two set points, an orange, and a timer.	
Weather Dynamics 	*for 2 weeks, have students predict weather for following day based on specific evidence. Record daily weather including wind, temperature, UV index, highs & lows, etc. *measure radiation in various outdoor areas, both near the school and in nature. *find evidence of severe weather effects in your community.	

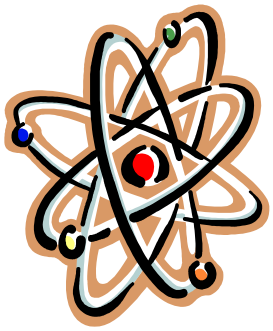
Grades 11 & 12

Unit	My Ideas	Your Ideas
Chemistry 	*look for evidence of chemical reactions: rust, growing crystals, etc *Use Kinetic Molecular Theory to describe and explain observed natural properties and processes *measure air pressure in various indoor and outdoor areas *participate in a local water supply tour, testing local water, and recommended treatments *experiment with solubility using a variety of collected water samples	

Grades 11 & 12

Unit	My Ideas	Your Ideas
Biology 	*look for signs of destruction or death in nature: fly in spider web, rock cracked by tree root, something burned. Have students explain why these are positive or negative, and which leads to new beginnings. Re-visit site to observe changes. *identify activities and locations for outdoor activity in your community. Link these to health and wellness. *identify life processes that are common to humans and observed plants. *compare the nutritional needs of local plants and animals to humans. In a natural setting, identify the nutritional types. *Explain how planet Earth maintains homeostasis *Explore 'survival of the fittest' in a natural setting	

Grade 11 & 12

Unit	My Ideas:	Your Ideas
Physics 	*Conduct a Safe Egg experiment: create safe containers, parachutes, etc so the egg is protected upon impact from a set height. *Use outdoor examples of wave use in the community. *create a theory of nature (true or false). Defend your theory, 'prove' it using the attributes of a good theory *Use outdoor objects & settings to explore kinematics, momentum, projectiles, centrifugal force & dynamics	

Resources

The Single Concept Field Trip

Clarke Birchard and Alan Crook

Adapted from *Pathways* 7:4, June 1994

Five Minute Field Trips

Teaching about nature in your schoolyard

Canadian Parks and Wilderness Society

Calgary Zoo

2002