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Exhibit Inquiry
**Adventures
in Science**

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Exhibit Inquiry

Adventures in Science

Have students look for the following exhibits related to structures and mechanisms during their visit to the Ontario Science Centre:

Simple Machines

Where to go:

KidSpark Entrance (Level 4)
Keep the Ball Rolling
(The Rhoads Sculpture)



What it's about:

The Rhoads Sculpture involves many different simple machines that the children can put into action.

What to say and do:

- Follow the path of a ball as it goes through the sculpture.
- Find a ball that is traveling down a ramp. What is another name for this kind of ramp? (*Inclined plane*)
- How are the ramps used in the sculpture?
- Describe some ramps found at home and at school. What are they used for?
- Encourage students to complete the challenges listed around the sculpture.

Camouflage Wall

Where to go:

KidSpark (Level 4)
Camouflage Wall



What it's about:

Plants and animals use adaptations to help them survive in their environment. Camouflage is an adaptation that allows animals to blend into their natural environment to hide from predators.

What to say and do:

- Animals use colours and patterns to hide in their environments.
- Try on the different capes and stand in front of the different walls. Describe what you see.
- What animals can you think of that use camouflage? (*Arctic hare*)
- Describe how camouflage helps animals survive. (*Allows them to blend into their environment*)
- Try on a cape that makes you stand out. Why might an animal want to stand out? (*as warning to predators that it is poisonous*)

Exhibit Inquiry

Adventures in Science

Where to go:

KidSpark (Level 4)
Build a Coaster



Build a Coaster

What it's about:

We can store energy in an object by lifting it off the ground. When you let go of the object, gravity pulls the object down and the stored energy changes to moving energy.

What to say and do:

- Place a ball at the top of a ramp, and let it go. What happens to the ball? Try out the highest ramp, and then the lowest. Do you notice a difference?
- Find two coaster tracks that are side by side and have a race. Which ball do you think will win, and why? Try the experiment again. Are the results the same?
- Build a loop-the-loop into your track. Does the ball travel as far as before? What happens if you add more loop-the-loops?

Water Table

Where to go:

KidSpark (Level 4)
Water Table



What it's about:

Water is a source of energy that makes things move. It is the movement of water that produces energy. The movement of the water at the water table is powered by different sources. The energy produced by the moving water causes other devices to move.

What to say and do:

- What causes the movement of the water in the water table? (*Downhill movement, water pushing out of the jets in the side*) What kind of energy is created by the water? (*Kinetic/movement*)
- How can you create movement of water in the water table? (*Rotating the screw to move water uphill, pushing or pulling hands through water*) What causes water movement in real life? (*Tides, paddles in water, gravity*)
- What does the energy from the water allow you to do at the water table? (*Move a boat, rotate the water wheel*) What would happen to these devices if the water was not moving?

What other devices can you think of that use energy from moving water? (*Raft*)
What does the energy allow them to do? What happens to these devices when the water is still?

Exhibit Inquiry

Adventures in Science

Where to go:

KidSpark (Level 4)
Hot Air Balloon



Hot Air Balloon

What it's about:

When the air trapped under the balloon is heated, the force of the hot air rising picks up the balloon (and its riders!) for a floating journey. The balloon descends as the air cools and becomes denser.

What to say and do:

- What is happening to the air inside of the balloon when you turn on the flame? (*It gets heated. The air molecules move more quickly and the air expands, or becomes "lighter".*)
- Why does the balloon float? (*Because hot air rises.*)
- How do you make the balloon sink? (*Let the air cool. The molecules slow down, become more compact and "heavier".*)

Where to go:

Rain Forest (Level 6)



Rain Forest

What it's about:

The rain forest supports the plants and animals that live there by providing them with their basic needs.

What to say and do:

- What kinds of living things do we find in the rain forest? (*Kapok tree, Pothos vine, poison dart frogs*)
- Be on the lookout for the different animals that live in the rain forest. Why is the rain forest important to the animals that live there? (*Provides food, shelter, water, space*)
- There are different types of forests. Think about a forest you have been to. What kinds of plants and animals do you see in that forest? How are they the same or different than the plants and animals in the rain forest?

Resources

Adventures in Science

Vocabulary

Adventure	An exciting or very unusual experience.
Camouflage	Hiding by appearing to match or blend with the environment.
Discover	To see, get knowledge of, learn, find, or find out.
Energy	The ability to do work. Any source of usable power, such as fossil fuel, electricity, and solar radiation.
Experiment	Discovering something unknown; testing a principle or hypothesis.
Explore	To look into closely, scrutinize, examine. To travel over an area for the purpose of discovery.
Heat	The degree of hotness or temperature. A type of energy.
Living thing	Any thing that is able to eat, drink, breathe, grow, reproduce, move, produce waste and die.
Non-living thing	Any thing that does not share the characteristics of a living thing.
Ramp	A sloping surface connecting two levels. Also known as an inclined plane or simple machine.
Simple machine	Device that requires the application of only a single force to work (i.e. ramp, lever, wedge, gear, wheel, pulley, screw)

Internet Links

NatureShift
<http://www.natureshift.org/index2.html>

Kids' Planet
<http://www.kidsplanet.org>

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