

# CURRICULUM LINKS

## 4

YOU KNOW THE ABILITIES AND INTERESTS OF YOUR STUDENTS BEST. USE THIS CHART TO FIND EXHIBITS, SHOWS AND FILMS THAT COMPLEMENT THE BC CURRICULUM FOR **GRADE 4** AS YOU PLAN A COMPLETE DAY AT TELUS WORLD OF SCIENCE.

	<b>ABERDEEN WORKSHOPS</b>	<b>SCIENCE WORLD WORKSHOPS</b>	<b>PETER BROWN FAMILY CENTRE STAGE</b>	<b>EXHIBITS</b>	<b>OMNIMAX(+) THEATRE</b>	<b>SCIENCE THEATRE</b>
	Located in Richmond	Included in admission to TELUS World of Science	Included in admission to TELUS World of Science	Included in admission to TELUS World of Science	Must be prebooked Add \$4.00 per person	Included in admission to TELUS World of Science
	Look for the Workshop Supplement included in your Field Trip Planner.			Please call 604-443-7500 or refer to <a href="http://scienceworld.ca">scienceworld.ca</a> for up-to-date showtimes for Science Theatre and OMNIMAX® shows.		
<b>HABITS &amp; COMMUNITIES</b>	✓				✓	✓
		Thinking Green			Beavers A Rainforest Adventure: Bugs!	Burns Bog - A Road Runs Through It
<b>SOUND &amp; LIGHT</b>	✓		✓	✓	✓	✓
		Turn The Light On Feel The Beat	Fire (1:20 pm)	Mitchell Odyssey Foundation Gallery: Eureka!	Pulse: A STOMP Odyssey	Project X - Light
<b>WEATHER</b>	✓				✓	✓
		Windy Weather			Ultimate Wave Tahiti	Wild Weather: Wind
<b>MUSIC</b>	✓				✓	
		Feel The Beat			Pulse: A STOMP Odyssey	

# 4

**WITH YOUR STUDENTS, DISCUSS YOUR SCHEDULE FOR THE DAY AND THE WORKSHOPS, SHOWS OR FILMS YOU PLAN TO ATTEND. DIVIDE STUDENTS INTO GROUPS WITH ONE ADULT ASSIGNED TO EACH GROUP. TRY THE FOLLOWING ACTIVITY TO KICK START YOUR STUDENTS' CREATIVITY.**

## ... BEFORE

### CURRICULUM LINKS

Light & Sound

Habitats & Communities

### THINK LIKE A SCIENTIST: MAKE A SOUND MAP

Sharpen your observation and interpretation skills.

#### What you need (for each student):

- » paper and drawing materials
- » indoor space and outdoor space

#### What to do:

1. Spread the students out around the space you're using.
2. Have each student mark an X in the middle of their page to indicate where they're sitting.
3. Set a timer for 5 minutes. During this time, no-one can talk!
4. Students record the sounds they hear around them and where the sounds are coming from. They can use doodles to represent the sounds, or short words or letters.
5. Have the students work with a partner and compare maps. Did they both hear the same things?

#### What's happening:

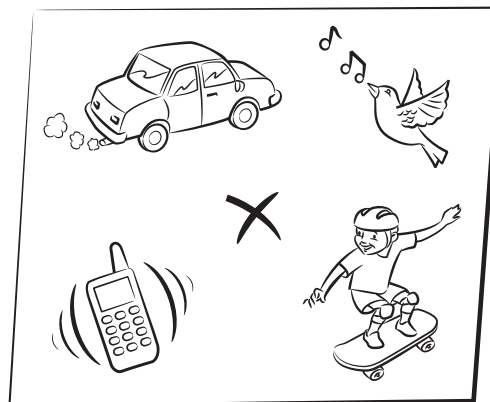
A sound map helps us become more aware of the sounds in our environment. It's a fun way to record observations and compare environments.

#### What to do next:

Repeat the activity outdoors.

#### What to discuss:

- » Which sounds are human sounds and which are natural sounds?
- » What do you think the environment would sound like if there were no people around?



**CURRICULUM LINKS**

Light & Sound

**RESOURCES**

**Classroom Activities**

*Science Is*

by Sandra Bosak  
(Scholastic, 1991)

**References**

*Conceptual Physics*

by Paul Hewitt

*The Way Things Work*

by David MacAulay

**Sound**

exploratorium.edu/listen/index.php  
*Classroom & Online Activities*, short  
videos about sound and listening

**TRY THIS AT SCHOOL: KALEIDOSCOPE**

Make your own miniature Kaleidoscope exhibit to investigate multiple reflections.

**What you need (for each group of students)**

- » Two flat mirrors
- » Tape
- » Bead
- » Angle template (see below)

**What to do:**

1. Tape the two mirrors together to make a mirror 'book'.
2. Copy the angle template.
3. Line up the mirrors on the template so the angle between them is 120°. Put the bead between the mirrors. How many beads do you see? (you see 3)
4. Change the angle to 90°. How many beads now? (you see 4)
5. Repeat with 60° (you see 6), 45° (you see 8) and 30° (you see 12, if you can see inside!)
6. What happens to the number of images, as the angle between the mirrors becomes smaller? (The smaller the angle, the more images you see.)

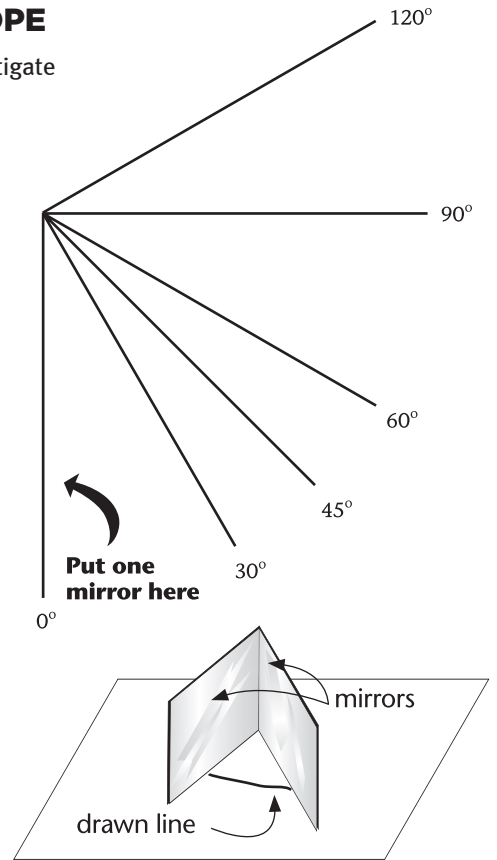
**What's happening**

When you look at your reflection in one mirror, you see light that has come from your face and bounced off the mirror.

When there are two mirrors, you see the light that bounces off one mirror, and also the light that bounces from mirror to mirror before coming back to your eyes. The closer the mirrors are together, the more reflections-of-reflections you see.

**What to do next:**

Draw a thick line, and put it in the mirror book as shown. With the mirrors at 120°, you should see a triangle. Identify the shapes you see with the mirrors at different angles.



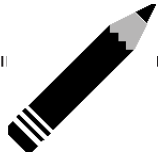
Go to the transportation exhibit.

What's the most efficient kind of transportation?

Where does its energy come from?

Go to the World View camera.

Draw something you see that has to do with transportation.



Take a friend to *You and Me*.

When the light is brightest on your friend, what do you see in the mirror?

Something I discovered today that I never knew before is...

I saw the

show at Peter Brown Family Centre Stage.

My favourite part was....

Go to the *Infrared Harp*.

What are the strings made of?

Go to the *Whapophone*.

Do long pipes make higher or lower sounds than short pipes?

Find the exhibit where pipes collect sounds. What's it called?

