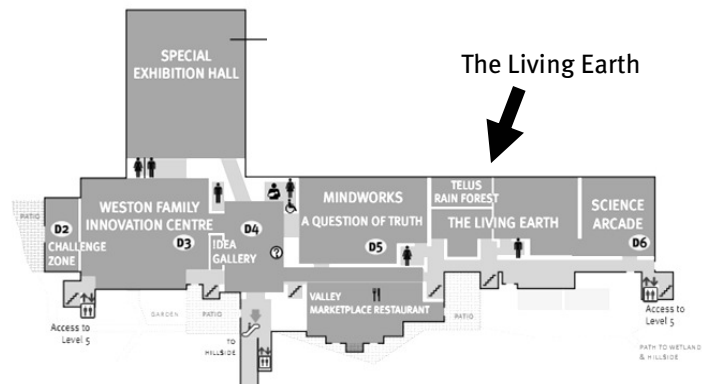


Grade 7 Activities for Exhibit Exploration: Interactions in the Environment

This worksheet will help guide you as you investigate our exhibits. If you have a camera, some questions can be answered by taking a picture. Otherwise, you may write your answers into the space provided.

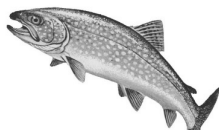
THE LIVING EARTH: Level 6

Time to Complete: 45 min



A. WATER AND AIR

- Find the **Great Lakes watershed map**.
Check off all species that *you* think belong to the Great Lakes watershed.



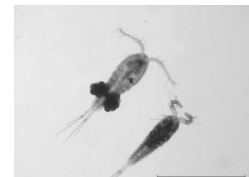
Trout



Turtle



Deer



Plankton



Raccoon



Zebra Mussel



Human

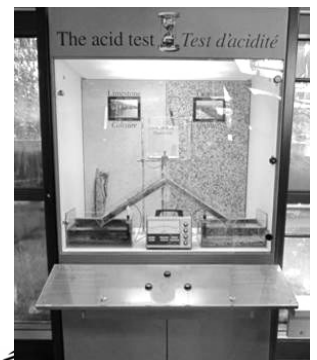


Cattail

- Find the **Acid Test** exhibit.
 - Which rock type appears to be more eroded? Take its picture, or write its name below. _____
 - Which lake ecosystem would be more affected by acid rain?
Circle your answer below:

Limestone Bedrock

Granite Bedrock



3. On **the computer**, check the air quality index today for your town.

a. Record it here: (if you live outside Ontario, use Toronto Downtown data)

b. Look at the **filter paper from downtown Toronto**. What is trapped in the filter paper?



B. CAN YOU GUESS THE ANIMAL?

If you have a camera, take a picture of each animal. If not, write its name in the space provided.

4. You may have seen this insect on reality TV. It's also an important decomposer in the jungles of Madagascar.

5. This reptile escapes its predators by running on water. _____

Can you think of another way that it avoids being eaten?

6. This reptile helps farmers by eating rats and mice. _____

7. Find the **invasive species fish tank**.

a. Which fish do you think was once a pet? Take its picture or describe it below:



b. How do you think it got into the stream where it was collected?

8. This mollusc was smuggled into Florida and accidentally released in 1966. Look for it in the rainforest.

C. RAINFOREST:

Trek through the **rainforest** and look for different plants and animals in this ecosystem.

9. Describe the abiotic (non-living) components of the rainforest. How is it different from a local forest?

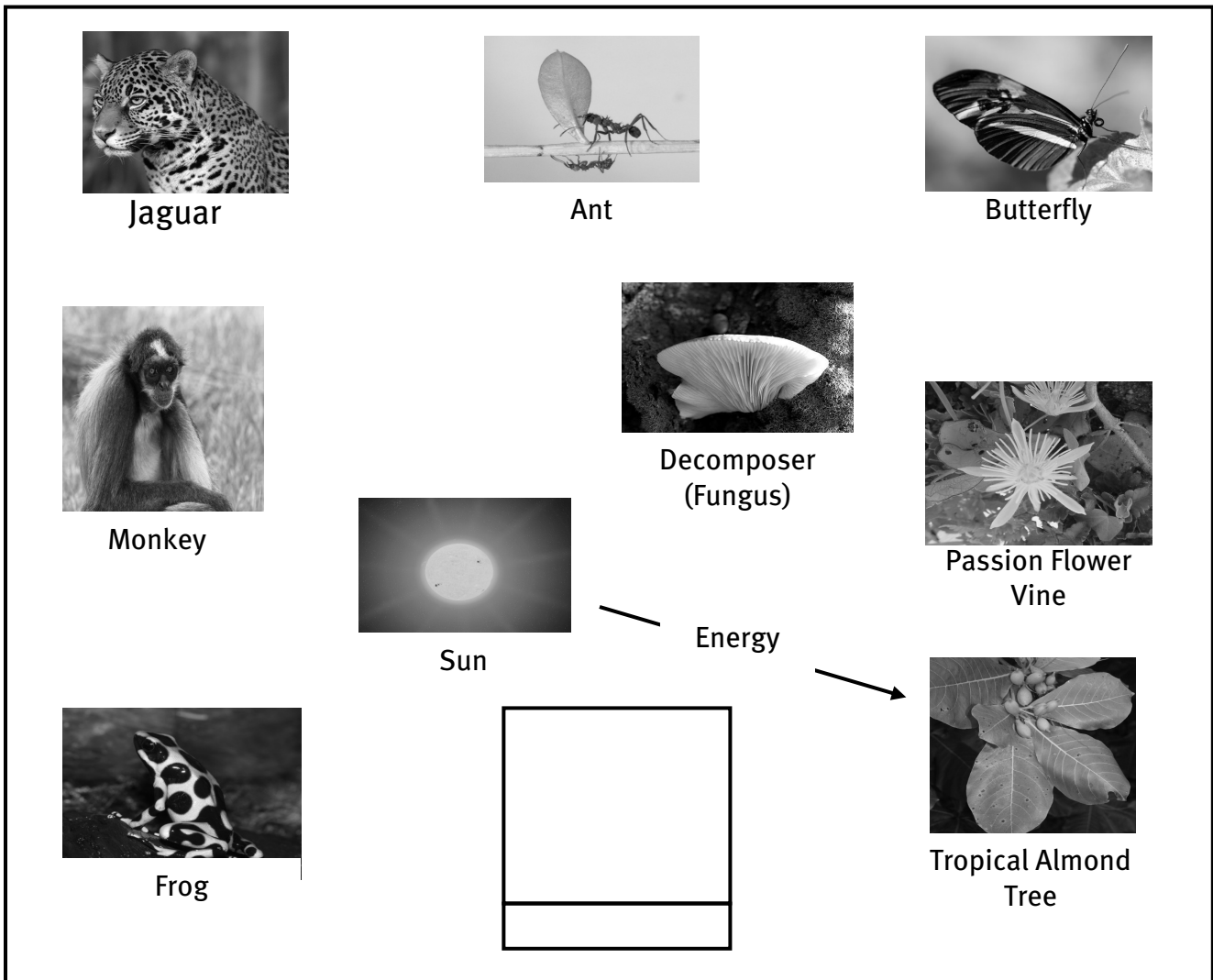
	Rainforest (Costa Rica)	Maple-Beech forest (Toronto)
Temperature		Winter – low Summer – high Spring/Fall - moderate
Humidity		Moderate
Level of sunlight		Winter, spring – high Summer, fall – moderate
Soil type (Hint: Do the trees lose their leaves?)		Forest floor covered in leaf litter (thick, rich soil)

10. There are rainforest specimens and their adaptations listed below. How would these adaptations help plants to survive?

Rain Forest Specimen	Adaptation	Purpose
In the rainforest, it's often dark. Why would Cecropia trees have large leaves?	Large leaves	
Tropical almond trees require sun for energy. Why would they grow tall?	Grows very tall (25-40 metres high)	
Poison dart frogs are brightly coloured. Why would this be?	Bright Colours	

11. Rainforest Food Web

Draw arrows to connect the species below into a food web. The rainforest provides clues about some species. Add another species into the blank box, and connect it to the rest of the web.



12. Find the exhibit called **Vanishing Tropical Rain Forest** and try it out.



Which bird species are affected by rainforest depletion?



Northern Oriole



Yellow Warbler



Rose-Breasted Grosbeak

D. OCEAN THEATRE:

Spend a few moments observing the **two ocean ecosystems**. Both tanks are self-sufficient communities of living plants and animals that interact with each other and their environment. They are two closed systems. For the most part, nothing is added or taken away. Observe and compare the **Coral Reef Ecosystem** with the **Marine Coastal Ecosystem**.



13. Which ecosystem appears to have more species?

What abiotic (non-living) ecosystem component do the lamps represent?

14. Check the water level of the Marine Coast Ecosystem. Is the tank at high or low tide?

15. Find a periwinkle in the **marine coast** tank.

What do you think would happen to the amount of algae in the tank if the periwinkle was removed?

16. What do you see in the **coral reef ecosystem**? Find a fish that is interacting with the coral, and describe what you think it is doing. If you are able, record a video of the fish. Pretend that you are the narrator of your very own nature documentary. If you cannot record a video, write your answer below.

17. Which tank appears to be more biodiverse? _____
Can you make a hypothesis as to why this might be?

E. FIN WHALE SKELETON: (look up to find the giant skeleton)

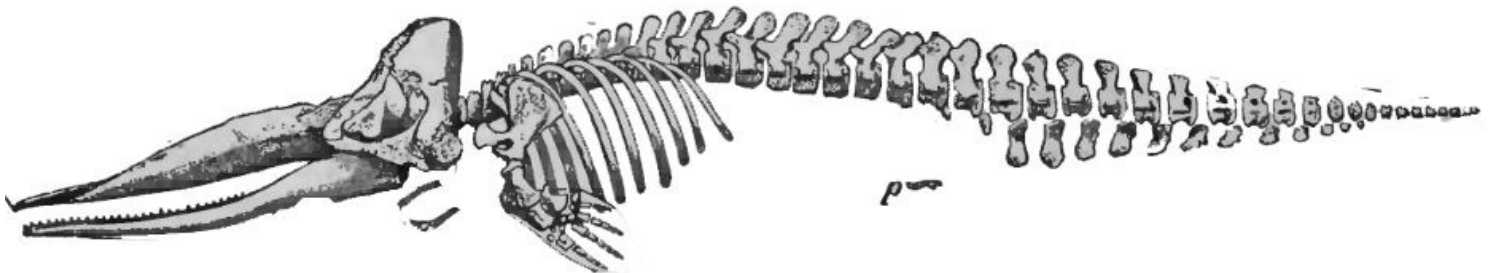
Fin whales are mammals like humans. The skeleton of the whale provides clues about the living animal's characteristics.

18. Compare the whale's skeleton to your own skeleton.

a. What similar features do you share?

b. Find the whale's flipper. What part of your skeleton does it resemble?

c. Whales evolved from a creature that walked on land. Looking at the skeleton, can you find where its legs once were? Circle your answer below.



Skeleton of a Sperm Whale

F. CAVE

Spend a few moments exploring the cave. Compare the abiotic elements of the cave to your earlier observations about the rainforest. You will need to re-write your rainforest data into the chart.

	Rainforest	Cave
Temperature		
Humidity		
Level of sunlight		
Soil type		

FOLLOW UP: (to do after your trip)

CAVE

A cave ecosystem is completely different from the rainforest and the ocean ecosystems, in that it is not *directly* powered by sunlight. Research cave ecosystems, and draw a cave food web including at least six species.

Where do cave consumers obtain their energy? There are a few sources, but one might surprise you. If you need a clue, try looking up the word “guano.”

Can you think of another ecosystem that exists in complete darkness?

RAINFOREST

If you’ve walked in an Ontario forest, you’ve probably heard the leaves crunching under your feet. This thick layer of leaf litter is slowly broken down by decomposers, forming rich soil. Rainforest soil is thin and poor in nutrients. Rainforests are sometimes called “wet deserts”.

What happens to dead animal and plant material in a rainforest? What about animal scat? Why does it never turn into soil? Where does it go? If you need a clue, the answer involves decomposers.

OAK SAVANNAH

Have you ever visited High Park in Toronto? It is home to a special ecosystem called black oak savannah. Like the African savannah, it is mostly grassland, with a few widely spaced trees. Often, succession turns grassland into forest over time. What is the abiotic factor that prevents savannah from turning into forest?

Black oak savannah is a type of tallgrass prairie. Tallgrass prairies are sometimes called the “rainforests of the north” because they support such a wide variety of species. Research the Karner Blue butterfly. Why has it disappeared from Ontario? Do you think that it will ever come back?