

BRISCOE GEOLOGY PARK

Activity Sheet Grades 6-8

At **Briscoe Geology Park** you will discover the history of our planet and the history of life on Earth by exploring three time walks. 1) **Earth Time Walk**, which covers the entire 4600 million years of Earth history. Each step you take on this walk covers about 150 million years. 2) **Life Time Walk**, which covers the last 542 million years of Earth history. Each step you take on this walk covers about 5 million years. 3) **Human Time Walk**, which covers the last 50,000 years of Earth history. Each step you take on this walk covers about 4,000 years. Activities at the Park involve estimating the age and size of an animal.

To estimate the age of an animal tile, compare the position of the tile to nearby age tiles. You only need to make a rough estimate, not an exact calculation.

299
Million
Years Ago



251
Million
Years Ago

Example: This animal tile is closer to the '251 million years ago' tile than it is to the '299 million years ago' tile, so its age is roughly 260 million years ago.

To estimate the size of an animal on a tile, use the scale bar on the tile. (Remember: 'mm' is the abbreviation for millimeter, 'cm' is the abbreviation for centimeters, and 'm' is the abbreviation for meters.)



SCALE BAR

10cm



7 scale bars across the length of the image on the tile = 70 centimeters

General name

Scientific name, genus (*Panderichthys*) and species (*rhombolepis*)

As you do the exercises on this activity sheet, decide what is your favorite animal, and what is the most surprising thing you learned at the Geology Park. Also, when you finish this activity sheet, you should be able to say how life at the beginning of the **Life Time Walk** was different from life in the middle of the walk and life at the end of the walk.

Activity: Map of Briscoe Geology Park

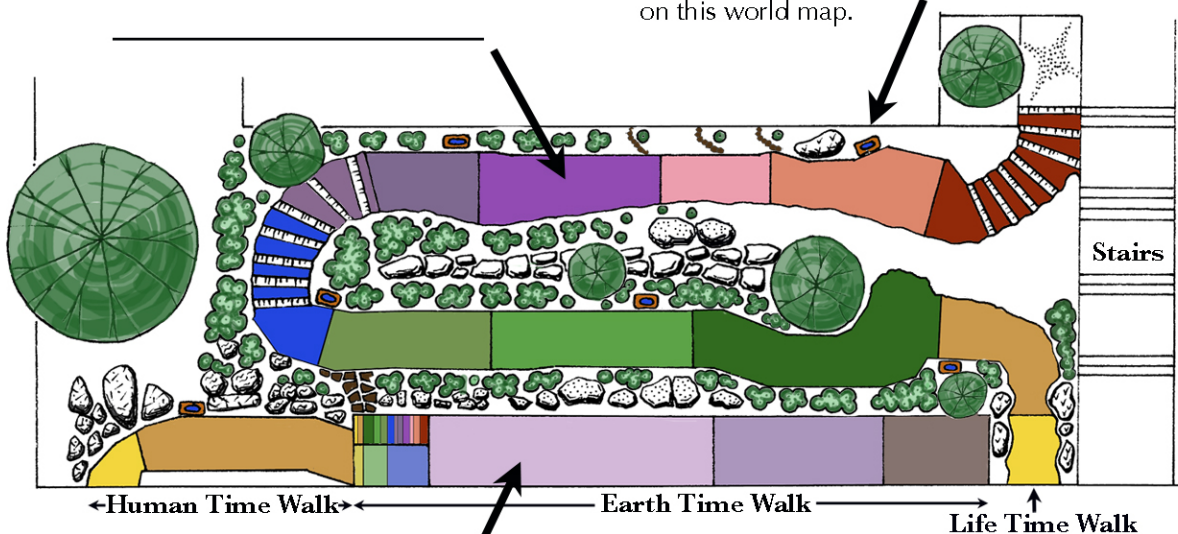
To Do: Use this map to find the answers to the questions, and write the answers in the spaces provided, or on the map.

What is the name of the geologic epoch marked in yellow on the map of the **Human Time Walk**?

What is the name of the geologic period marked in bright blue on the map of the **Life Time Walk**?

What is the name of the geologic period of this section of the **Life Time Walk**?

In the box above, draw and label the continents shown on this world map.



What is the name of the geologic eon of this section of the **Earth Time Walk**?

Mark a 'M' on the map where the tile for the giant ground sloth *Megatherium* is found on the **Human Time Walk**.

Mark an 'X' on the map where you find a single giant dinosaur footprint on the **Life Time Walk**.

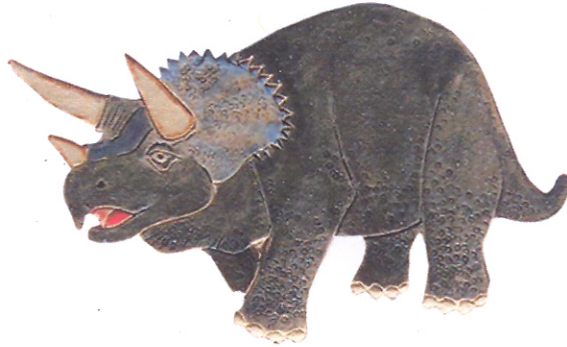
Mark a 'F' on the map where the tile for the feathered dinosaur *Sinosauropteryx prima* is found on the **Life Time Walk**.

Mark a 'T' on the map where the tile for the trilobite *Lochodoma volborthi* is found on the **Life Time Walk**.

Mark a 'S' on the map where the tile for 'Oceans Rust' is found on the **Earth Time Walk**.

Activity: Treasure Hunt!

To Do: Find the tiles on the **Life Time Walk** that show the following animals, then write down its scientific name, the geologic period in which it lived, about how many years ago it lived, and its size. (Remember, there may be more than one animal tile of a kind (for example, there are several "Dinosaur" tiles, and several "Amphibian" tiles you can choose from). The **Life Time Walk** covers the time from 542 million years ago to the Present. This span of time is the most interesting part of Earth history, when all the major groups of animals and plants alive today appeared on Earth.



Example:

Jawless, armored fish.

Scientific name: *Drepanaspsis gemuendenensis*

Geologic Period: Devonian

Age: 410 Ma

Size: 30 centimeters long (about one foot)

Amphibian

Scientific name: _____

Geologic Period: _____

Age: _____

Size: _____

Brachiopod

Scientific name: _____

Geologic Period: _____

Age: _____

Size: _____

Trilobite

Scientific name: _____

Geologic Period: _____

Age: _____

Size: _____

Mammal

Scientific name: _____

Geologic Period: _____

Age: _____

Size: _____

Pterosaur

Scientific name: _____

Geologic Period: _____

Age: _____

Size: _____

Mammal-like reptile

Scientific name: _____

Geologic Period: _____

Age: _____

Size: _____

Tetrapod

Scientific name: _____

Geologic Period: _____

Age: _____

Size: _____

Activity: The Big Freeze!

Ice Ages are times when Earth has extensive ice at the poles. In the last half billion years there have been only three Ice Ages, including the one we are in right now. The current concern about global warming is that human activity may be warming up Earth much faster and warmer than natural variation would during an Ice Age. If too much warming happens too fast, living things, including humans, will have a hard time adjusting.

To Do: Find the three Ice Age tiles on the **Life Time Walk**. List the geologic period in which each one occurs.

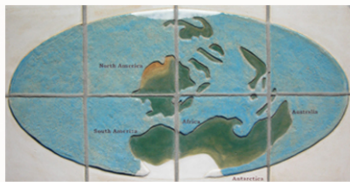
1) _____

2) _____

3) _____

Activity: Continents on the Move!

To Do: Find all five world maps on the **Life Time Walk**. Find the red dot on each tile map that shows where Oregon was at the time. Now mark a small circle on the maps where Oregon was. Under each map write down the geologic period in which each map occurs. Notice how the continents have moved through time from the oldest to youngest maps



Activity: Ashland Rocks!



Ashland Geology is described in several tiles along the **Life Time Walk**. You can recognize them by the Ashland city logo at the top of the tile.

To Do: Find all five Ashland Geology tiles and use them and the Ashland Geology interpretive sign to answer these questions. They are in order from oldest to youngest.

Which geologic period has the oldest Ashland Geology tile? _____

Write down the name of an animal that lived during that time _____

What kinds of rocks make up Mt. Ashland? _____

What is the rock layer deposited here during the Cretaceous geologic period? _____

Write down the name of an animal that lived during the Cretaceous. _____

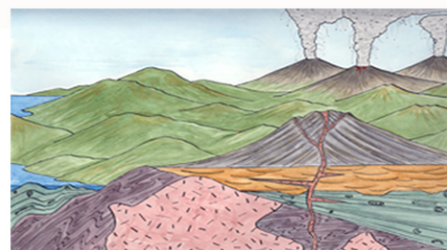


During which geologic period did north-flowing rivers deposit thick layers of sand and gravel in our area? _____

Write down the name of an animal that lived during this time _____

About how many millions of years ago did the Cascade volcanic mountain range start to form? _____

Write down the name of one animal that lived during this time. _____



Activity: When Dinosaurs Ruled the World



Dinosaurs were the dominant large land animal on Earth for almost 150 million years. Their close reptilian cousins, the plesiosaurs, dominated the seas. In the air, another close cousin, pterosaurs, (winged reptiles) ruled the skies. All of them went extinct at the end of the Cretaceous Period, 65 million years ago. With the dinosaurs gone, mammals diversified and became the dominant large land animal on Earth.

To Do: Find the dinosaur fossils on the **Life Time Walk** and use them to answer the following questions:

Find the longest dinosaur. What is its name? _____
In what geologic period did it live? _____

There are two sets of dinosaur tracks on the **Life Time Walk**. One set of tracks is from a dinosaur that was only about one meter tall. They were probably made by a dinosaur similar to *Coelophysis*. The tracks might remind you of bird tracks on the beach.

During what geologic period do the tracks of the small dinosaur occur?

The other track is a single huge track from a *Tyrannosaurus rex*.

In what geologic period does the T rex track occur? _____

How long from nose to tail was *Triceratops*? _____

Which dinosaur would you like to have as a pet? _____

Activity: A Really Famous Fossil



The fossil remains of *Archaeopteryx lithographica* are probably the most famous fossils in the world. This is because they were the first fossils that showed characteristics transitional between different kinds of animals. *Archaeopteryx* has both dinosaur and bird characteristics. Transitional fossils like *Archaeopteryx* are important because they help us understand how life has evolved.

In what geologic period did the animal called *Archaeopteryx lithographica* live? _____ About how many millions of years ago did it live? _____

Activity: Bizarre Creatures!

In the **Cambrian Period**, half a billion years ago, strange and unusual animals roamed the seas. Their fossils tell us they were very different from animals of today. That is why some of them have question marks instead of a type name. We don't know if they were a kind of worm, or fish, or crab, or ????. Some of them look like a combination of different types.

To Do: Find the bizarre critters of the Cambrian Period (the ones with question marks instead of type names). Draw a picture of your favorite one here.

Sea scorpions were another strange animal of the past. They were one of the biggest predators in the sea in their time. One kind of sea scorpion is shown on a tile, and its scientific name is *Eurypterus remipes*.

To Do: Find the tile of *Eurypterus remipes* and answer the following questions about it.

In what geologic period did the animal called *Eurypterus remipes* live? _____ About how many millions of years ago did it live? _____
How big was it? _____

Activity: Going... Going... Gone!

Species don't last forever. They go extinct on a slow but regular basis. In Earth history more than 99% of species that ever lived are now extinct. But when an unusually large number of species go extinct all at once, we call that a Mass Extinction. Find out more about mass extinctions on the interpretive sign in the Cretaceous Period.

To Do: Find the five mass extinction tiles on the **Life Time Walk**. List the geologic period in which each one occurred, from oldest to youngest.

_____ Oldest

_____ Youngest

Activity: Who is the oldest?

To Do: Find the oldest tile for a group of animals on the **Life Time Walk**. Write down about how old it is in millions of years.

Example: The oldest dinosaur? 205 million years

The oldest amphibian? _____

The oldest bird? _____

The oldest fish? _____

The oldest trilobite? _____

Activity: Trilobites Rule!



Trilobites were crab cousins that thrived in Paleozoic seas (that means from 542 to 250 million years ago). For most of that time they were as common as fish are today.

To Do: Discover all about trilobites by finding trilobite tiles to help you answer the following questions.



This trilobite lived at the end of the Permian geologic period. What is its scientific name? _____

How many different trilobite tiles can you find? _____.

Can you find some trilobite tracks? Draw a picture of them here:

Trilobite tracks end on the Life Time Walk at the point in time trilobites went extinct. At the end of what geologic period did trilobites go extinct? _____

Find these tiles on the



HUMAN TIME WALK

This covers the last 50,000 years of Earth history, when modern humans spread from Africa to the rest of the world and civilization developed.

Giant ground sloth

Scientific name: _____

Geologic Epoch: _____

Age: _____

Size: _____

Kangaroo

Scientific name: _____

Geologic Epoch: _____

Age: _____

Size: _____

Woolly mammoth

Scientific name: _____

Geologic Epoch: _____

Age: _____

Size: _____

Great Auk

Scientific name: _____

Geologic Epoch: _____

Age: _____

Size: _____

Woolly rhino

Scientific name: _____

Geologic Epoch: _____

Age: _____

Size: _____