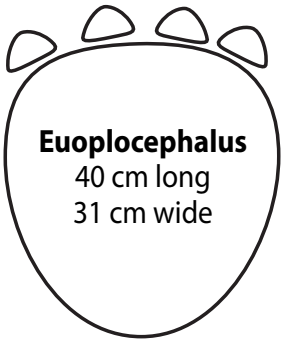
Activity: Dinosaur Footprints

Compiled By: Nancy Volk

Name:_____

STEP 1

Sketch out a box that is 40 cm long and 31 cm wide. Inside this box sketch the print for Euoplocephalus. (see sketch) Determine if Euoplocephalus is a carnivore or herbivore by looking closely at the print. Explain the answer.



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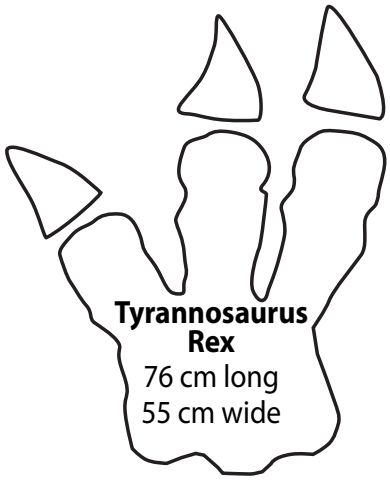
STEP 2

Sketch out a box that is 76 cm long and 55 cm wide. Sketch the print of the Tyrannosaurus Rex into this box. How is the print similar to Euoplocephalus's and how is it different? Is Tyrannosaurus Rex, a herbivore or a carnivore? Explain your answer using the details of the footprint.



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STEP 3

Sketch out 4 life-size prints for each of the Euoplocephalus and the Tyrannosaurus Rex.

Place the Euoplocephalus prints 500 cm apart from top of foot to back of next print. Was the dinosaur walking, trotting, or running? Use the formulas provided in the next section.

Place the T. rex prints about 912 cm apart from top of print to the bottom of the next print. Determine if the dinosaur was walking, trotting or running.

MOST*

Inside This Packet

New York State Standards

Mathematical Analysis
Key idea 1: m1.1c
Key idea 2: m2.1
Key Idea 3: m3.1a
Scientific Inquiry
Key idea 2: s2.1, s2.1a, s2.1b, s2.1d, measuring, describing
S2.3, s2.3a, s2.3b, s2.3c
Key Idea 3: s3.1, s3.2, s3.2a, s3.2f, s3.3

Standard 6: Key Idea 2: 2.2

Standard 7: Key Idea 2: gathering and processing information, realizing Ideas Presenting results

General Skills: 1, 2, metric ruler, 3,4,8

Physical setting skills: 16

Dinosaur Footprints

Formulas

Hip Height = 4 x Footprint Length

Head to Tail Length = 10 x footprint length

Stride Length / Hip Height = less than 2 (*means dinosaur was walking*)

Stride Length / Hip Height = between 2.0 and 2.9 (*means the dinosaur was trotting*)

Stride Length / Hip Height = greater than 2.9 (*means the dinosaur was running*)

A. Among the longest dinosaurs was Ultrasaurus. If an Ultrasaurus footprint was 3.1 meters long, what were its hip height and its head to tail length?

_____

B. One of the smallest dinosaurs was Compsognathus. It was only about 76 centimeters from head to tail when it was fully grown. What would be its length of its footprint?

_____

C. One of the fastest dinosaurs was Gallimimus. When it reached its running speed of 35 miles per hour, do you think its stride length divided by its hip height would b less than 2.0, between 2.0 and 2.9 or greater than 2.9? If it slowed down to walk, would its stride length become shorter or longer?

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D. The Microceratops was the smallest horned dinosaur, only 76 centimeters long. Its hip height was 30 centimeters, and it was traveling with a stride length of 46 centimeters, was it walking, trotting, or running?

_____

E. If the Velociraptor footprint you find is 18 centimeters long, what is its hip height? If the footprints are in a stride length of 250 centimeters, was the Velociraptor walking, trotting, or running?

_____

F. The footprint of an Acrocanthosaurus from Glen Rose, Texas was discovered, and measured at 51 centimeters long. What was the head to tail length? What else do you need to know to find out about how fast it was moving?

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Activity: Make a Geologic Timeline

Name:_____ Date: _____

Directions:

Read the directions carefully and complete the activity.

Arrange the 8 1/2" by 11" paper in landscape direction and tape the paper end to end until there is 5 meters of copying paper in a line.

Using a meter stick, draw a line through the middle of the paper from left to right.
In the top left corner, make a scale. Label the scale: 1cm = 10 million years

Starting on the left side of the paper, measure 5 cm to the right on the line and make a vertical mark. Label this mark with the word– TODAY.

From this mark, measure 1 meter to the right on this line and make a vertical mark. Label this mark 1 billion years. Measure and mark each meter after that up to 4 meters or 4 billion years from today.

Now, measure 60 cm to make the total length of the timeline 4.6 meters. Mark and label this distance 4.6 billion years (The Beginning of Time).

Label the year and name of each era on your geologic time scale. Using the scale 1cm = 10 million years, measure the distance to each era from Today by using the following information.

Eras

Cenozoic Era = 65 million years ago = _____ cm from Today

Mesozoic Era = 245 million years ago = _____ cm from Today

Paleozoic Era = 545 million years ago = _____ cm from Today

Precambrian Era = 4.6 billion years ago = _____ cm from Today

Cut out each of the major events on the provided sheets and place them on the geologic time scale where you think they would go based on your current knowledge. Then look up the actual dates of the events and glue the events in the proper place on the timeline.

Using the finished geologic time line, compare the answers from the questionnaire on the next page to the geologic timeline. Add any interesting findings to your questionnaire sheet under part II.

Activity: Make a Geologic Timeline

Name:_____ Date: _____

Questionnaire: Part I

When did dinosaurs first appear on Earth? _____

Did people and dinosaurs live at the same time? _____

Where did dinosaurs live? _____

Did all the dinosaurs live together, and at the same time? _____

What types of dinosaurs are there? _____

How do we know what happened to the dinosaurs? _____

What do paleontologists do? _____

Questionnaire: Part II

List some dates included on the Geologic Timeline that surprised you.

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