



An Evolutionary Horse Race

Student Activity

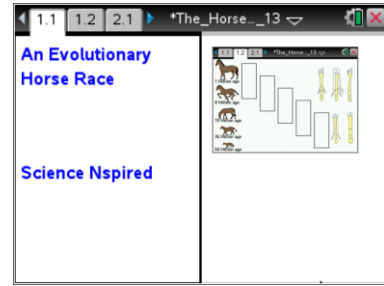


Name _____

Class _____

Open the TI-Nspire document *An_Evolutionary_Horse_Race.tns*

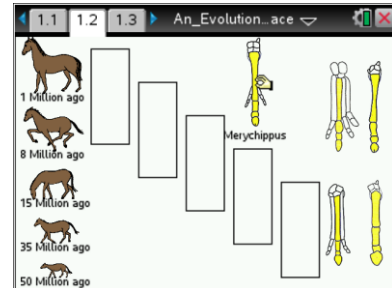
A lot of information can be gathered by examining **fossils**. Fossils give us clues about how organisms once lived. They allow us to examine how these organisms have changed over time. Their **adaptations** can give us clues about the environment in which they lived. In this investigation, you will look at how the modern horse has evolved over the last 50 million years.



Move to page 1.2.

Read the instructions for the simulation.

1. Select a set of leg bones and put in the correct order by considering how the structure of the bone has evolved over time. Drag the bones to the boxes that correspond with the correct animal in the evolutionary timeline. If correct, a green border will appear around the box.
2. Once all bones are placed in the correct order, a star will appear with the text "Nicely Done."



Tech Tip: To access the Directions again, select > **Evolutionary Horse Race > Directions.**



Tech Tip: To access the Directions again, select **menu** or **Document Tools** () > **Pangaea Fossil Puzzle > Directions.**

Move to pages 1.3 - 1.9. Answer questions 1 - 7 below and/or in your .tns file.

- Q1. Describe how the leg bones in the horse have changed over time.
- Q2. Which is the oldest ancestor of the modern horse?
- A. Hyracotherium
 - B. Mesohippus
 - C. Merychippus
 - D. Pliohippus



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Q3. Which is the closest ancestor of the modern horse?

- A. Hyracotherium
- B. Meshippus
- C. Merychippus
- D. Plihippus

Q4. How many toes did the Hyracotherium have?

- A. 1
- B. 2
- C. 3
- D. 4

Q5. The Hyracotherium was a small, forest-dwelling animal. Why would its leg structure benefit this animal?

Q6. Approximately when did only one toe structure appear?

- A. 1 million years ago
- B. 8 million years ago
- C. 15 million years ago
- D. 35 million years ago

Q7. What are the evolutionary advantages of the body structure of the modern horse?