WEEK 9:

JOURNEY TO THE PERMIAN

TRAVEL TO A TIME LONG BEFORE DINOSAURS WHEN PERMIAN MONSTERS RULED THE EARTH!

The Permian Period, about 299 to 252 million years ago, was a time interval that occurred before the "Age of Dinosaurs." At this time, most of the continents on earth were linked together in one large supercontinent called Pangaea and surrounded by one large ocean. Many different types of plants and animals evolved during this time, including reptiles. Different groups of early land vertebrates living at this time would become the ancestors to the first mammals and dinosaurs. The Permian Period ended in the largest mass extinction in history. Over 90% of all plant and animal life on Earth went extinct at the end of the Permian due to climate change, especially warming of global temperatures, and volcanic activity. Together, these factors greatly changed ocean levels, temperatures and chemistry, and levels of carbon dioxide and oxygen in the air and water. Survivors of this extinction would repopulate the Earth over time with a different diversity of species. Learning about the Permian Period can tell us about what life on Earth was like in the past and how it changed over time!

DAY 5: PERMIAN OBSTACLE COURSE

During the Permian Period, the Earth was inhabited by amphibians, huge insects, diverse ocean life and groups of animals that were ancestors to dinosaurs and mammals. Some of these animals would be familiar to us today, like dragonflies and sharks. However, some Permian animals were very different. Gorgonops was a large meat-eater with big saber-teeth, Cotylorhynchus was a large plant-eater with a head that seemed too small for its body and Dimetrodon was a meat-eater with many different types of teeth and a huge sail on its back. These animals were extinct by the end of the Permian. Let's make an obstacle course to explore different parts of the Permian!

Before you start, you should have:

- An area where you can move around on the sidewalk or a driveway safely
- Chalk or sidewalk paint
- Optional: a partner

To Play:

1. Look at Permian images below for inspiration:

https://upload.wikimedia.org/wikipedia/commons/5/5e/Dimetrodon_grandis.jpg
Dimetrodon

https://upload.wikimedia.org/wikipedia/commons/thumb/1/16/CotylorhynchusDB2.jpg/300px-CotylorhynchusDB2.jpg
Cotylorhynchus

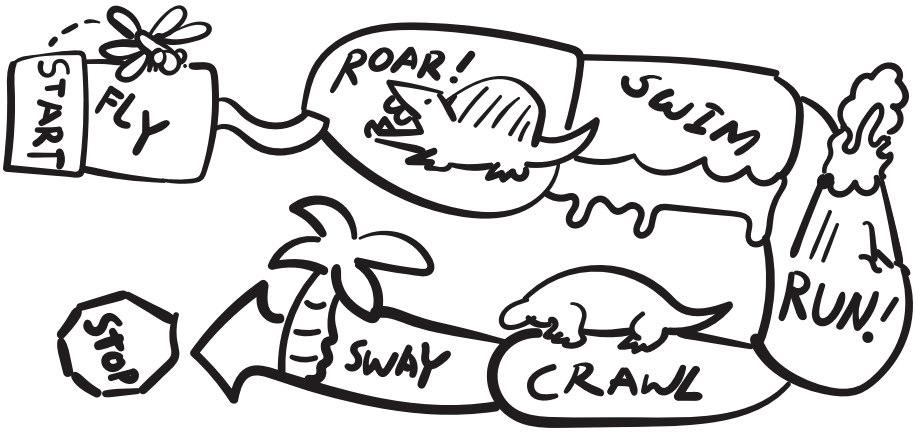
https://images.theconversation.com/files/234118/original/file-20180829-195319-1d4y13t.jpg?ixlib=rb- 1.1.0&rect=0%2C7%2C1200%2C790&q=45&auto=format&w=926&fit=clip
Dragonfly

https://static.abc.es/Media/201402/12/permian_landscape_by_adorety-d464v35-644x362.jpg
Permian Landscape

https://upload.wikimedia.org/wikipedia/commons/d/d7/Gorgonops_whaitsii1.jpg
Gorgonops

2. Find a spot outside to make your course. Make sure you have permission to chalk the area.
3. Use chalk to make a Permian-themed obstacle course. Include the following:
- Fly (like a dragonfly)
- Chomp (like a Gorgonops)
- Crawl (like a Cotylorhynchus)
- Swim (in the Permian ocean)
- Roar (like a Dimetrodon)
- Sway (like a Permian tree)
- Run (from the volcano)

4. Add as many other challenges as you like. For example: Hop twice, spin, dance, etc.



5. Once you are finished, practice each movement. Then, try and complete the course as fast as you can!

More information on the Permian Period:

https://ucmp.berkeley.edu/permian/permian.php

https://www.nationalgeographic.com/science/photos/permian-period/

Keep exploring!

- Make your own version of the Permian obstacle course by finding more Permian plants and animals online for inspiration.
- Use a timer to see how long it takes you to make your way through the course.
- Try to do the course backwards.
- Have a partner set up the course for you, so that you don't know what it looks like before you begin.

What did you discover?

Upload a photo or video and tag the Sam Noble Museum on Instagram or Facebook. You can also use the hashtags **#samnoblehome** and **#summerexplorers** to share!