

## CRETACEOUS ALBERTA

1. This exhibit is based on a discovery made in Dry Island Buffalo Jump Provincial Park
2. What type of dinosaur was found at this site and how many individuals were there?  
Albertosaurus. Twenty-two individuals were found in this bonebed.
3. What other animals lived in Cretaceous Alberta along with the dinosaurs?  
Insects, fishes, turtles, champsosaurs, crocodiles, small mammals, salamanders.

## FOUNDATIONS

1. Fossils are most commonly found in which kind of rock?  
**A** Igneous  
**B** Metamorphic  
**C** Sedimentary  
**D** Quartz
2. Which of the following are types of fossil preservation (circle all that apply)?  
**A** Permineralization  
**B** Chemical  
**C** Unaltered organic matter  
**D** Molds and casts
3. Trace fossils are also known as:  
**A** Trossils  
**B** Pseudo fossils  
**C** Cruziana  
**D** Ichnites
4. What is the age range for the rocks of the southern Alberta badlands?  
**A** 152 – 66 million years  
**B** 85 – 66 million years  
**C** 252 – 66 million years  
**D** 541 – 252 million years

## GROUNDS FOR DISCOVERY

- How long is the *Mosasaurus* that was found in Korite's ammonite mine?
  - 11m
  - 2m
  - 6.5m
  - 30m
- What is the name of the best preserved armoured dinosaur in the world?  
*Borealopelta markmitchelli*
- How many hours did it take to prepare *Borealopelta markmitchelli*?
  - 7000 hours
  - 10,000 hours
  - 70 hours
  - 4000 hours

GO UP THE RAMP AND PROCEED TO THE RIGHT, THROUGH THE TIME TUNNEL.

## THE BURGESS SHALE

The information for this section is found in writing before the Burgess Shale glass floor. Questions 2-3 below require searching in the Burgess Shale research area in the study hall beyond the glass floor.

- Match the definition on the left by writing its letter beside the correct answer on the right.

### DEFINITIONS

- The Burgess Shale yielded more than this number of fossils.
- The Burgess Shale creatures are enlarged this many times
- The animals lived in shallow seas of the Cambrian Period, this many years ago.
- This is possibly our oldest known relative.
- This is the largest predator in the Burgess Shale
- This animal has a head like an insect and a body like a fish.

### ANSWERS

- D *Pikaia*
- F *Nectocaris*
- E *Anomalocaris*
- B 12
- C 505 million
- A 200,000

- All living arthropods shed their external skeletons as they grow, a process called molting

3. With more species than all other animal phyla combined, the Arthropoda include four groups:
- 1) Crustacea (crabs, shrimps)
  - 2) Chelicerata (scorpions, horseshoe crabs)
  - 3) Uniramia (insects, velvet worms)
  - 4) Trilobites (other)

GO DOWN THE SPIRAL STAIRCASE

## PALAEOZOIC ERA

1. What progressed first onto land?  
 A plants  
 B amphibians  
 C insects
2. Invertebrates, or animals without backbones, were the first animals on land.  
An example of an invertebrate is a:  
 A frog  
 B cockroach  
 C mouse
3. The first vertebrates, or animals with backbones, that lived partially on land were:  
 A amphibians  
 B insects  
 C reptiles
4. Reptiles were the first animals with backbones that lived entirely on land because  
 A their eggs had soft shells and were able to survive out of water.  
 B their eggs had hard shells and were able to survive in water.  
 C their eggs had hard shells and were able to survive out of water.
5. A reptile that lived during the Early Permian, had a sail on its back, and is often mistaken for a dinosaur is:  
 A *Dimetrodon*  
 B *Ichthyosaurus*  
 C *Camarasaurus*

## CRETACEOUS GARDEN

1. What three groups of plants dominated the Late Cretaceous landscape in Alberta?

Ferns, conifers, angiosperms (flowering plants)

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2. What type of dinosaur footprint was unearthed during construction of the garden?

Hadrosaur (duck-billed dinosaur) footprint

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3. How could the climate of Alberta 75-65 million years ago be described?

Warm-temperate and seasonal

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## DINOSAUR HALL

1. Match the name of the animal on the left with the correct answer on the right.

<b>A</b> <i>Camarasaurus</i>	<u>K</u> the "thick-nosed lizard" known to travel in herds
<b>B</b> <i>Allosaurus</i>	<u>H</u> fast and agile
<b>C</b> <i>Stegosaurus</i>	<u>A</u> a Jurassic sauropod
<b>D</b> <i>Euoplocephalus</i>	<u>F</u> "thick-headed lizard"
<b>E</b> <i>Gorgosaurus</i>	<u>B</u> the most common Jurassic theropod
<b>F</b> <i>Pachycephalosaurus</i>	<u>I</u> largest of the horned dinosaurs
<b>G</b> <i>Brachylophosaurus</i>	<u>C</u> plates on back and spikes on tail
<b>H</b> <i>Dromaeosaurus</i>	<u>D</u> even its eyelids had armoured protection
<b>I</b> <i>Triceratops</i>	<u>E</u> smaller than its cousin <i>Tyrannosaurus</i>
<b>J</b> <i>Plesiobaena</i>	<u>G</u> "short-crested" lizard
<b>K</b> <i>Pachyrhinosaurus</i>	<u>J</u> unable to retract its head into shell

PROCEED TO THE EXTINCTION THEATRE ACROSS FROM THE FISH TANKS

## EXTINCTION THEATRE

1. What percentage of life has gone extinct throughout the history of life on Earth?
  - A 79
  - B 70
  - C 99**
  - D 50
2. How large (in diameter) was the asteroid that struck the Earth at the end of the Cretaceous Period?
  - A 10-15 km**
  - B 15-20 km
  - C 5-10 km
  - D 20-30 km
3. What were some of the results of the asteroid impact at the end of the Cretaceous Period?
  - A dust blocking the sun's rays
  - B tsunamis
  - C volcanic activity
  - D all of the above**
4. Which of the following groups of animals suffered the most as a result of the Late Cretaceous extinction?
  - A marsupials**
  - B crocodiles and alligators
  - C frogs and salamanders
  - D champsosaurs

## ICE AGES

1. During the Pleistocene, the sea level was low, exposing the sea floor between Alaska and Siberia. Why was this, and how did it affect the animals? Water was frozen on land in glaciers. Many species crossed the resulting land bridge known as the Bering Strait.
2. Which new predator to North America may have caused the extinction of many large Pleistocene mammals? Humans
3. "Species come and species go." What is the only constant of life? Change