## Multiple Choice

1. How is the fossilized skeleton of a dinosaur similar to the modern skeleton of a lizard?

   A. They are both small and two-legged
   B. Both have hearts and lungs
   C. They have backbones and tails
   D. Their skin is the same color

2. Where are prehistoric animals preserved as whole animals?

   A. In sedimentary rock
   B. In amber
   C. In Obsidian
   D. In Oceans

3. Why is a fossil dinosaur bone much heavier than the original bone it was made from?

   A. It has absorbed water
   B. It is much older
   C. Much of it has dissolved
   D. It is now made of minerals

4. Why are the soft parts of a shark's body not preserved as a fossil?

   A. They are squeezed out when the shark is buried.
   B. They are not made of mineral or rock.
   C. They cannot be changed to rock.
   D. They rotted before fossilization could occur.

5. Erin brought a piece of sandstone to school that had some ripples across it. What might have been preserved?

   A. Dinosaur footprints
   B. Wave marks
   C. A dinosaur backbone
   D. A leaf imprint

6. Which would be an example of a fossil?

   A. Sedimentary rock
   B. Oyster pearl
   C. Dinosaur footprint
   D. Rotting log

7. Which rock type would be best for finding fossils?

   A. Sedimentary
   B. Metamorphic
   C. Volcanic
   D. Igneous

8. How do we know different kinds of plants and animals lived in Utah a long time ago?

   A. Pictures were taken of them and put in books.
   B. People told stories about them.
   C. The plants and animals still live in Colorado.
   D. We find fossils of them.

9. Which of the following animals used to live in Utah but does not now?

   A. Buffalo
   B. Mountain lion
   C. Mammoth
   D. Dog

10. What do dinosaur tracks in coal beds tell us about the environment in Utah's past?

    A. Coal is made from dinosaurs
    B. Utah once had large swamps
    C. It was once much colder in Utah
    D. Dinosaurs lived in coal beds

11. What is a common cause of plant and animal extinction?

    A. The climate changes
    B. They die out from over-eating
    C. They run out of homes to live in
    D. They are trapped and moved

12. What evidence shows that parts of Utah were once the sea floor of an ancient ocean?

A. Mammoth fossils found in Huntington Canyon
B. Saber Tooth Tiger claws found in igneous rocks
C. Trilobites found in limestone in Millard County
D. Copper and gold found at the Kennecott mine

13. What might a scientist tell from seashell fossils found on top of a mountain?

A. Sea creatures were eaten by animals there.
B. The ocean was once very deep.
C. The mountain was once part of an ocean bottom.
D. Shelled animals once lived on mountain tops.

14. What have scientists learned about oceans from fossils?

A. Oceans have changed very little over time.
B. There is much more ocean life now than in the past.
C. The Earth has not always had water
D. Oceans have changed in size and location.

## Constructed Response

1. You have found a rock with an impression in it. How would you decide if it is a fossil?

2. Your friend takes you to the site of an ancient ocean for your fossil hunt. Write the name of two kinds of fossils you might find there.

3. Describe two ways a fossil bone is different from a recent bone.

4. How have people caused some animals, such as the wolf, to become extinct in Utah?

5. What are two questions you have about the extinction of dinosaurs?

6. Why are fossils found in sedimentary rock?

7. What type of climate does coal begin to form in?

## Answers:

## Multiple Choice

1. C
2. B
3. D
4. D
5. B
6. C
7. A
8. D
9. C
10. B
11. A
12. C
13. C
14. D

## Constructed Response

1. I t would look like the remains of an ancient living thing, now preserved.

2. Fish, shells, trilobites, shark teeth, coral

3. The fossil will be harder, heavier, a different color (not white) and may not look like a modern animal.

4. Over hunting, removing food sources, destroying habitat

5. Why did they become extinct? How did they become extinct? How long did it take to become extinct? Did asteroids (disease, climate change) cause the extinction?

6. Sedimentary rocks form on Earth's surface where living things are. When they die, they fall into the sediments and become part of the rock.

7. Warm and swampy

## Performance Test 1

# Making a Fossil

**Activity Description:** Students will create one cast and one mold. There will be a written report explaining the process for each and a summary comparing the two types of fossils.

**Materials Needed:** Modeling clay (about 1/3 stick per student) Plaster of Paris, cooking spray, water, spoon, fossil samples or other objects to make the impression.

**Prior to Assessment:** Students will have discussed how fossils are formed and what a mold and cast are.

**Time Needed for Assessment:** 3 class periods

## Procedure:

1. Give students their modeling clay and have them flatten it to the size of a cookie.
2. Students should press an object into the clay. If you spray it with cooking spray first, it will leave a cleaner impression.
3. Mix up enough Plaster of Paris for each student to fill up their mold. Do not mix it until you are ready to start.
4. Fill the clay molds with the plaster and allow to harden (about 1 hour).
5. Carefully remove the clay and students can pick the small pieces off with a toothpick.
6. You may want students to answer some questions concerning the activity they have done. These are some suggestions:

    1. In this activity, what did you make a fossil of?
    2. Which part was the mold?
    3. Which part was the cast?
    4. How was your fossil different from the object you started with?

## Suggested Scoring Guide:

1. Completed fossil ……. 6 pts.
2. Answering questions correctly …… 4 pts.

    Answers: possible 10 pts.\

    1. answers will vary
    2. the clay
    3. the Plaster of Paris “copy”
    4. It is made of a different substance, it may not be as detailed, the internal structures are lost.

## Performance Test 2

### Location of Utah Fossils

## Activity Description
Students will choose an area of Utah and research the kinds of fossils found there. This will lead to completion of a class map of Utah with symbols of fossils placed within the chosen areas. The state will be divided into 6 areas with teams of 4 to 5 students researching each area.

## Materials Needed
Books, speakers, videos, magazine, internet, encyclopedias, etc.

## Prior to Assessment
Students have been taught basic research skills. They have also worked in groups before and understand how to divide the work.

## Procedure
The students will be allowed to choose their area and group. Class periods will be devoted to library, video, or speaker information. Students will also be allowed class periods to work on a written product and oral presentation. The teacher will develop a large map of Utah divided into the 6 sections. When research and project is completed, each group will present their research and develop a symbol for their section of Utah. This will be placed on the map.

## Time Needed for Assessment
5 – 6 class periods, including video and speaker

## Suggested Scoring Guide:
1. Written report – neat, complete, factual …… 25 pts.
2. Documentation – sources noted …… 25 pts.
3. Symbol – reflects types of fossils in area and appropriate for map …….. 25 pts.
4. Oral presentation – eye contact, voice clear, correct pacing …… 25 pts.

Possible 100 pts.

## Performance Test 3

# Pictures Tell a Story

## Activity Description
Students will research and then draw a picture of an environment from Utah's past.

## Materials Needed
Reference books, construction paper, crayons, paints, colored pencils

## Prior to Assessment
Students should understand that Utah has had a variety of environments in the past. They should have a good "mental picture" of at least one of them.

## Time Needed for Assessment
One hour

## Procedure
1. Describe the assessment as a chance to take a picture of Utah in the past.
2. Students should draw animals, plants and the non-living environment (sea water, mountains, plains, etc.)
3. Students should answer questions about their picture such as:
   a. What might the climate have been during this time?
   b. Which animals were there more of?
   c. Why did these plants and animals leave Utah?

## Suggested Scoring Guide:
1. Students draw and color a picture from the past …… 5 pts.
2. Picture contains animals, plants and non-living environment …….. 5 pts.
3. Students answer questions correctly ……..<u>5 pts.</u>

Possible 15 pts.