

For people who might not know, this
is Mikhail Gorbachev.



Fossils Test

BennyTheJett

Rules

- There will be 14 stations, 3.5 minutes per station.
- There is a total of 140 points on the test.
- All questions are worth 1 point unless otherwise noted.
- This test is designed and used for the Scioly Summer Study Session. It is not to be stolen and used at a competition.
- If you have any good fossils memes, PM my forums account (BennyTheJett)
- If you wanna roast the test, I'd love to hear it. PM my forums account (BennyTheJett)
- There are no tiebreaker questions, as this isn't being used at a competition.

Station 1

A.



B.



Station 1

1. Identify specimen A to the lowest taxonomic classification level on the rule sheet.
2. Identify specimen B to the lowest taxonomic classification level on the rule sheet.
3. Specimen A is an index fossil. What is an index fossil?
4. What geologic period is specimen A from?
5. What cephalopod sutures does specimen B display?
6. What phylum does specimen B fall under?
7. If you use etymology (combining the greek prefixes and suffixes), what does specimen A's prefix mean?
8. What scientist classified specimen B, and in what year? **(2 pts)**
9. What is the lowest taxonomic classification level that these organisms share?

Station 2



A.



B.

C.

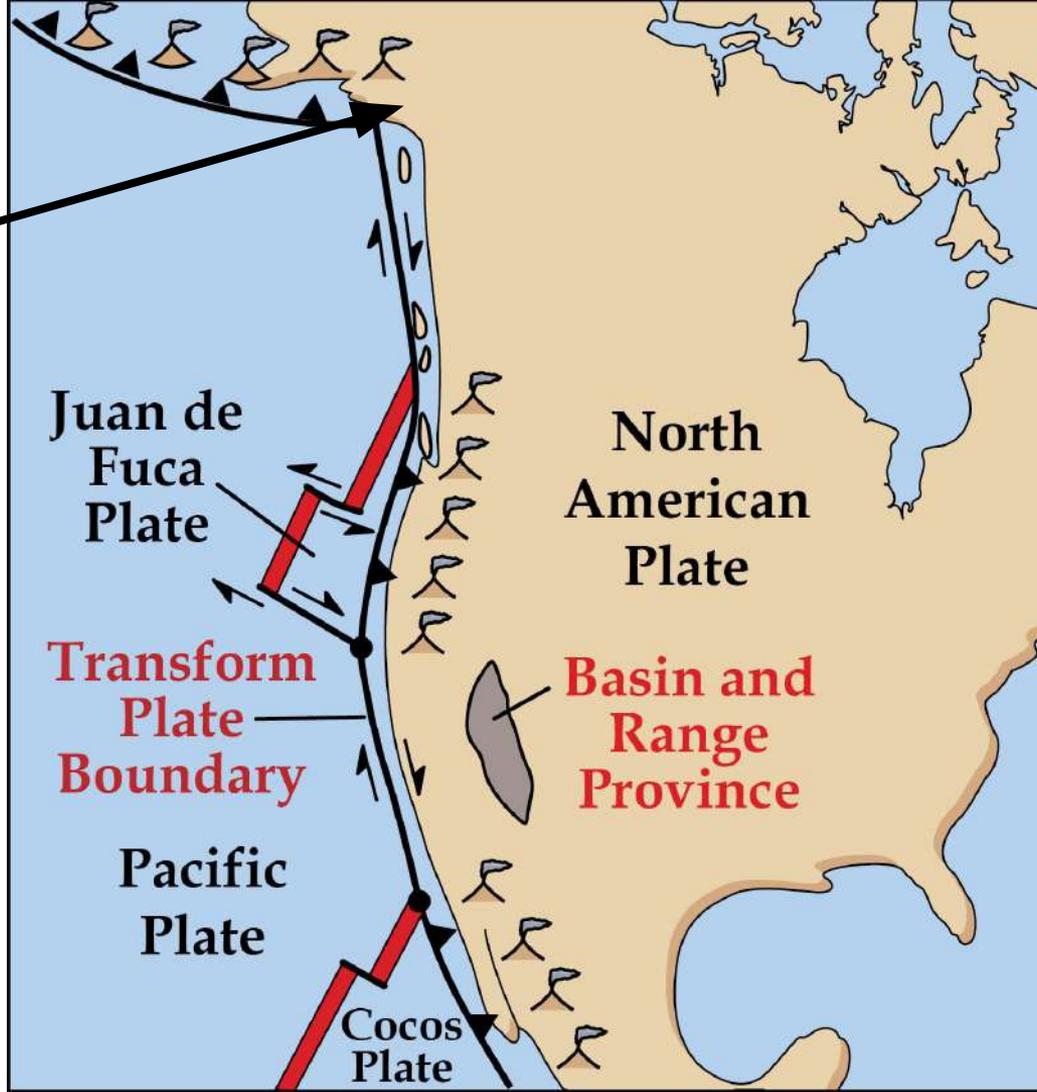


Station 2

1. Identify specimen A to the lowest taxonomic classification level on the rule sheet.
2. Identify specimen B to the lowest taxonomic classification level on the rule sheet.
3. Identify specimen C to the lowest taxonomic classification level on the rule sheet.
4. Which of these organisms doesn't fit in, and why? **(2 pts)**
5. How many chambers does the heart of specimen A have?
6. During what geologic period did specimen B go extinct in?
7. About how long were the longest individuals of specimen B thought to be?
8. How many species of specimen C do we know existed?
9. A species from what genus on the fossils list was found to have eaten specimen C?
10. What geologic period did specimen C live in?

Station 3

"?"



Station 3

A piece of bone was found in South Dakota, and was analyzed to determine the age of the bone. A mass spectrometer revealed that the amount of C-14 was 6.25%.

1. How many half lives have passed?
2. Given that 1 half life of Carbon-14 is 5730 years, how long ago did the creature die?
3. While Carbon-14 dating is generally very accurate, list two of its limitations. **(2 pts)**
4. For older specimens, Potassium-40 is often used. Give the half life of Potassium-40, and the decay product. **(2 pts)**
5. Would the point where the arrow labeled “?” is be a good place to potentially find fossils? Explain why or why not. **(2 pts)**
6. In what US State is the Mazon Creek lagerstätte found?
7. About how thick is Beecher’s Trilobite Bed?
8. Which of the lagerstätte on the fossils rule sheet contains evidence that the area the lagerstätte was located in was once at the bottom of a lake?

Station 4

A: Armored Organism. Lived in the late Cretaceous. Only 1 known species in this genus.

B: Hadrosaurid. Lived in the late Cretaceous. Young animals of this genus walked on their hind legs, adults on all 4. Grew to a maximum length of about 30 feet.

C: Subclass Elasmobranchii. Went extinct in the Miocene. Macropredatory (eats food that isn't microscopic). Carnivore.

D: State fossil of Wisconsin. Went extinct in the Devonian. Fossils found in North America and Europe.

Station 4

1. Identify specimen A to the Genus level.
2. Identify specimen B to the Genus level.
3. Identify specimen C to the Genus level.
4. Identify specimen D to the Genus level.
5. In terms of population density, specimen A was ecologically _____.
6. What did specimen B eat SPECIFICALLY (not just “plants” or “protists”).
7. What ecological role did specimen C play?
8. How many segments did the thorax of specimen D have when found in America? Britain?
(2 pts)

Station 5

1. Plankton
 2. Nekton
 3. Infaunal
 4. Benthos
 5. Steinkern
 6. Deuterostome
 7. Protostome
 8. Epifaunal
 9. Autochthon
 10. Lacuna
- A. a fossil consisting of a stony mass that entered a hollow natural object as a cast after dissolution of the mold.
 - B. The Free Swimmers Of The Ocean
 - C. The mouth of the organism forms before the anus
 - D. The bottom dwellers of the ocean
 - E. Living below the surface of the mud at the bottom of the lake or ocean
 - F. The anus of the organism forms before the mouth
 - G. The free floaters of the ocean
 - H. Living on or just above the surface of the mud at the bottom of the lake or ocean
 - I. A stratigraphic unit representing a gap in the stratigraphic record of an area.
 - J. An organism that was deposited at or near the site where it lived its life.

Station 5

1-10: Match the term to the definition.

11. If *Coelophysis* footprints are found, the length from heel to tip is 31 cm, and the distance between each step is 2 m, was the dino walking, trotting or running? **(2pts, show work for full points.)**

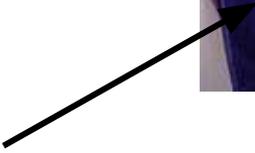
Station 6



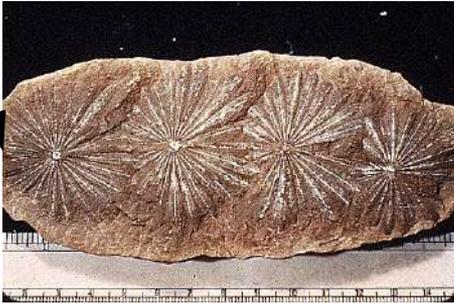
B.



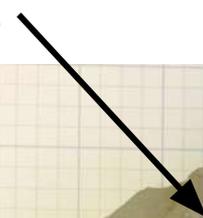
D.



A.



C.



Station 6

1. Identify specimen A to the lowest taxonomic classification level on the rule sheet if it is on the rule sheet. If not on the rule sheet, write N/A.
2. Identify specimen B to the lowest taxonomic classification level on the rule sheet if it is on the rule sheet. If not on the rule sheet, write N/A.
3. Identify specimen C to the lowest taxonomic classification level on the rule sheet if it is on the rule sheet. If not on the rule sheet, write N/A.
4. Identify specimen D to the lowest taxonomic classification level on the rule sheet if it is on the rule sheet. If not on the rule sheet, write N/A.
5. Which of these specimens was a major contributor to coal forests?
6. During what 2 geologic periods were most coal forests created? **(2 pts)**
7. Describe the process by which coal forests form. **(3 points)**
8. About how long did specimen D live (one organism, not when they came about and became extinct)?

Station 7

Specimen A.



Specimen B.



Specimen C.



Station 7

1. Identify specimen A to the lowest taxonomic classification level on the rule sheet.
2. Identify specimen B to the lowest taxonomic classification level on the rule sheet.
3. Identify specimen C to the lowest taxonomic classification level on the rule sheet.
4. Specimen is likely to have had a symbiotic relationship with some members of what subphylum? (It is on the fossils list)
5. In what Canadian rock formation is specimen A commonly found?
6. Within specimen B, how many species fall under subgenus Aetostreon?
7. Name one region in the world where fossils of specimen B date back to the Jurassic. (i.e Middle East, Southern Africa)
8. On average (between all members of specimen B), how many septa does a member of specimen B have?
9. What large scale earth process grinded of the rough edges of specimen C and made it into a smooth stone? (i.e Plate Tectonics)

Station 8

A.



B.



C.



Station 8

1. What is specimen A?
2. What is specimen B?
3. What is specimen C?
4. When specimen A partially mineralizes (like the picture), what is it called?
5. From what language is the root word for specimen A derived?
6. In the 18th Century, what was specimen A commonly used to make?
7. What environment was ideal for creating for specimen B? Why? **(2 pts)**
8. Prior to being termed what it is currently called, what was specimen C called?
9. What are ichnofacies? **(2 pts, All or nothing)**

Station 9

A.

B.

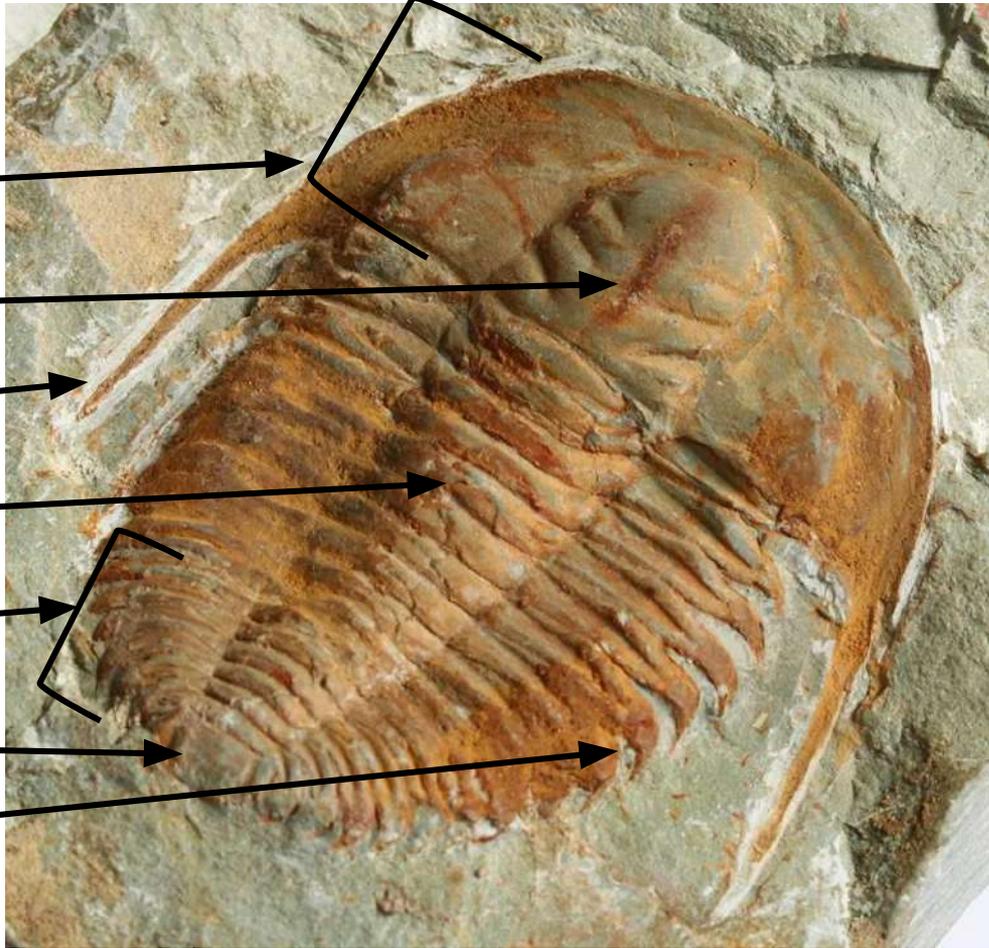
C.

D.

E.

F.

G.



Station 9

1. What is A pointing to?
2. What is B pointing to?
3. What is C pointing to?
4. What is D pointing to?
5. What is E pointing to?
6. What is F pointing to?
7. What is G pointing to?
8. Some trilobites are thought to have a symbiotic relationship with Sulfur-consuming bacteria. What did the trilobites get out of this supposed relationship?
9. Name one evolutionary trend of Trilobites from when they first appeared to the last known organisms.
10. What are the 3 types of hypostomes on a trilobite? (**3 pts, 1 per type**)

Station 10

A



B



C



Station 10

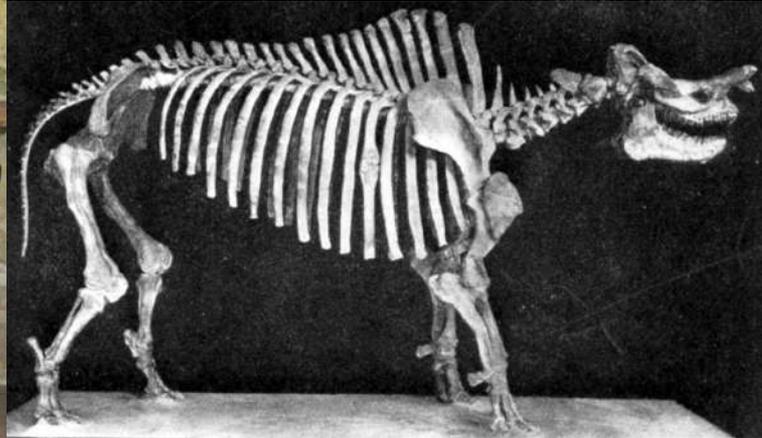
1. Identify specimen A to the lowest taxonomic classification level on the rule sheet.
2. Identify specimen B to the lowest taxonomic classification level on the rule sheet.
3. Identify specimen C to the lowest taxonomic classification level on the rule sheet.
4. Is specimen A more closely related with specimen B or specimen C?
5. What genetic classification do both living members of specimen A fall under?
6. What ecological role did specimen B occupy?
7. How many species of specimen B ever existed?
8. Who classified specimen C?

Station 11

A

B

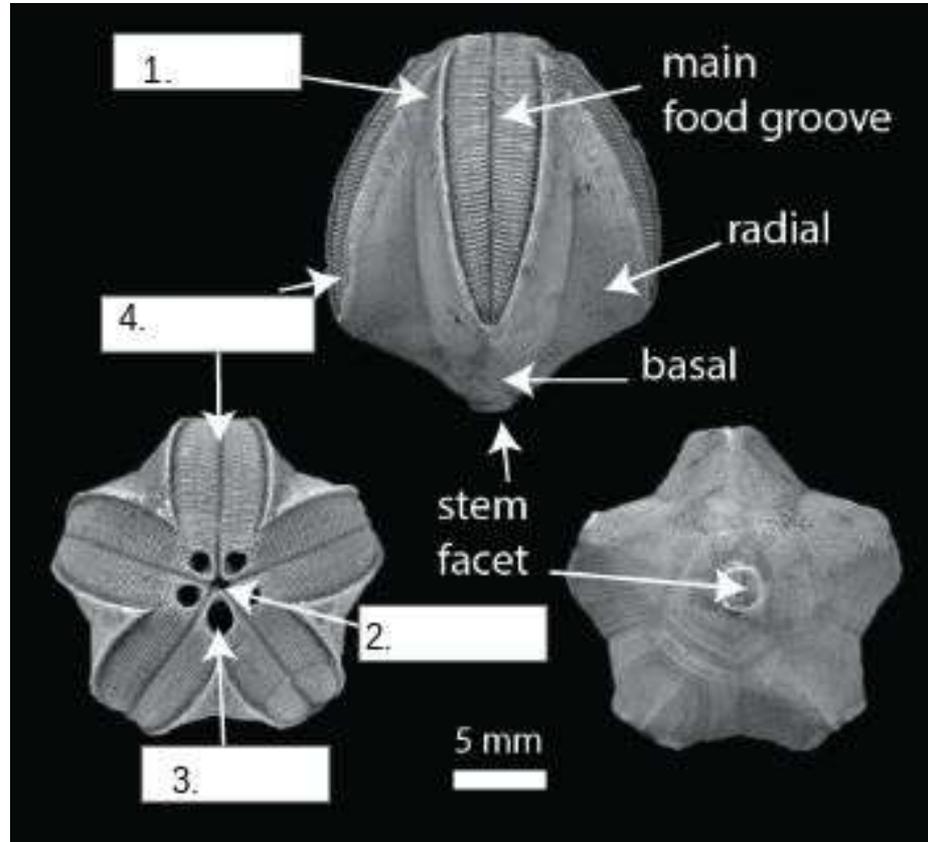
C



Station 11

1. Identify specimen A to the lowest taxonomic classification level on the rule sheet.
2. Identify specimen B to the lowest taxonomic classification level on the rule sheet.
3. Identify specimen C to the lowest taxonomic classification level on the rule sheet.
4. What was likely to play a key role in the extinction of specimen A?
5. Scientists believe humans are acting as the catalyst for the 6th major mass extinction, which is currently happening. What is the name of the proposed mass extinction?
6. During what geologic epoch did specimen B live in?
7. Many fossils of specimen B have been found by the Sioux Indian tribe of South Dakota. What killed the fossils of specimen B that they found?
8. How many evolutionary stages does specimen C contain?
9. What continent(s) was/were specimen C found in?

Station 12



Station 12

1. Identify the specimen to the lowest taxonomic level on the rule sheet.
2. What does “1” point to?
3. What does “2” point to?
4. What does “3” point to?
5. What does “4” point to?
6. What fossil symmetry does the specimen display?

Romer’s Gap is a very well regarded gap in the fossil record.

7. In what geologic period is Romer’s Gap located?
8. What animals make up Romer’s Gap?

Station 13

Station 13

1. Describe the Signor-Lipps effect, and how it makes knowing the fossil record very accurately more difficult. **(3 pts)**
2. The inverse of this effect is called what?
3. What is a Zombie Taxon? **(2 pts)**
4. What is an Elvis Taxon?
5. What are the 4 proposed methods of Resurrection Biology?
6. Name one species (by scientific name) off the fossils list that has been brought up for de-extinction.
7. What is an endling?

Station 14

Station 14

1. Write a paragraph explaining what the Mesozoic Marine Revolution is, what drove it, some aftereffects of it, and all of the affected taxa. **(10 pts)**