

GY 112 TEST NUMBER ONE (sample)
(D. Haywick)

Name: _____

Note: Carefully read instructions for each part before you start to answer the questions, otherwise you may find yourself doing more work than is necessary. Provide answers to written questions in the space below each part (there should be plenty of room for you, but if necessary, feel free to additional paper). Make sure that you also record your name in the space provided above.

THIS EXAM HAS 5 PARTS: TOTAL POINTS AVAILABLE = 100 [Part 1: 20 points + 1 bonus;, Part 2: 20 points; Part 3: 10 points; Part 4: 15 points; Part 5: 35 points].

PART 1: Multiple Choice: (2 points each; Worth 10 x 2 = 20 points). CIRCLE CORRECT ANSWER

- 1) What is the name of the halo of cometary material at the edge of the solar system?
a) Halley's Comet b) Pluto c) Oort Cloud d) solar nebula d) microspheres f) none of these
- 2) The interval between the FAD and LAD of a species is called;
a) a biozone b) an assemblage zone c) an index zone d) a time zone e) none of these
- 3) What fuel does our sun burn?
a) butane b) propane c) methane d) hydrogen e) helium f) none of these
- 4) Which of the following scientists is considered the father of stratigraphy?
a) Darwin b) Smith c) Wegener d) Logan e) Hutton f) none of these
- 5) Which of the following isotopes is stable?
a) ^2H b) ^3H c) ^{235}U d) ^{14}C e) ^{238}U f) ^{40}K
- 6) An organism that lives within a restricted geographically area is said to be:
a) endemic b) restricted c) elusive d) cosmopolitan e) an index fossil
- 7) What do you call the process whereby one stable isotope is preferentially concentrated in a product material (e.g., a shell, rain etc) over another isotope?
a) stabilization b) re-equilibration c) fractionation d) copulation e) none of these
- 8) Which of the following processes was responsible for the replacement of organic material (e.g., cellulose) in trees that were petrified?
a) perimineralization b) casting c) dissolution d) replacement e) none of these
- 9) Who first proposed the existence of genes?
a) Darwin b) Mendel c) Fox d) Miller e) Urey f) Haywick
- 10) The deepest of the following pelagic trophic zones is
a) abyssopelagic b) bathyal c) sublittoral d) littoral e) epipelagic

Bonus: What does PDB stand for?

_____ **(worth 1 point)**

PART 2a: Fill in the blanks on the following chart . It's the fossil taxonomy scheme and you should have seen this coming! **(Blanks worth 2 points each; 10 points total)**

	1	2	3	4	5	
Kingdom						Species

PART 2b: Now try these "fill in the blank" type questions **(Blanks worth 2 points each; 10 points total)**

- 6) An unconformity where sedimentary rocks lay directly on granite is called a _____.
- 7) Logan identified two major components of the Canadian Shield; shield and _____
- 8) The half life of $^{232}\text{Th} \rightarrow ^{208}\text{Pb}$ is 13.9 billion years. What is the maximum age of the rocks that can radiometrically dated using this element? _____
- 9) Which mineral is a polymorph of aragonite? _____.
- 10) What's your favorite planet ? _____.

PART 3: Short answer questions. Answer 1 of the following questions in 2 or 3 sentences **(10 points)**.

1) Compare and contrast involution and evolution.

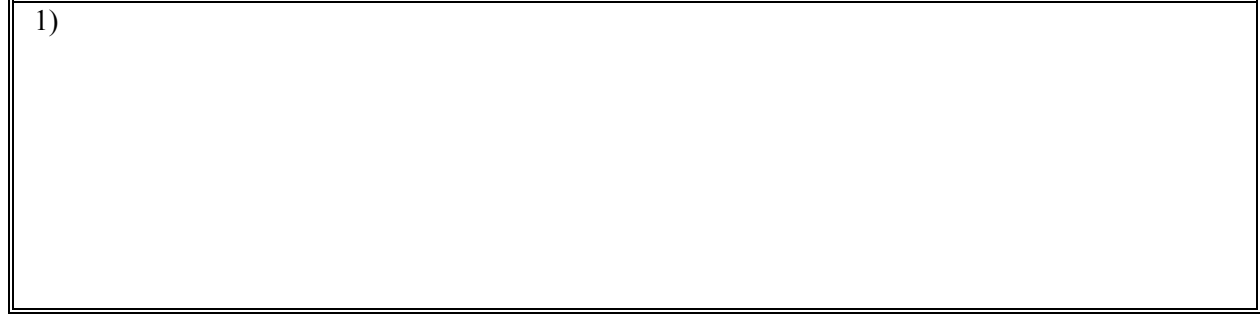
or

2) Compare and contrast paleoenvironment (AKA environment of deposition) and paleoclimate.

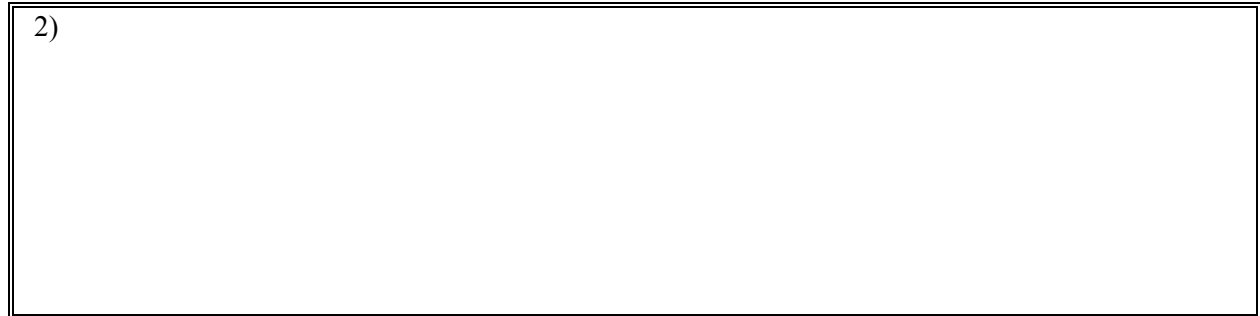
PART 4: Definitions: Define 3 of the following terms in the boxes provided below (i.e. in one or two short sentences). **(Worth 5 points each; total 15 points)**

Original horizontality transgression supernova perimineralization index fossil

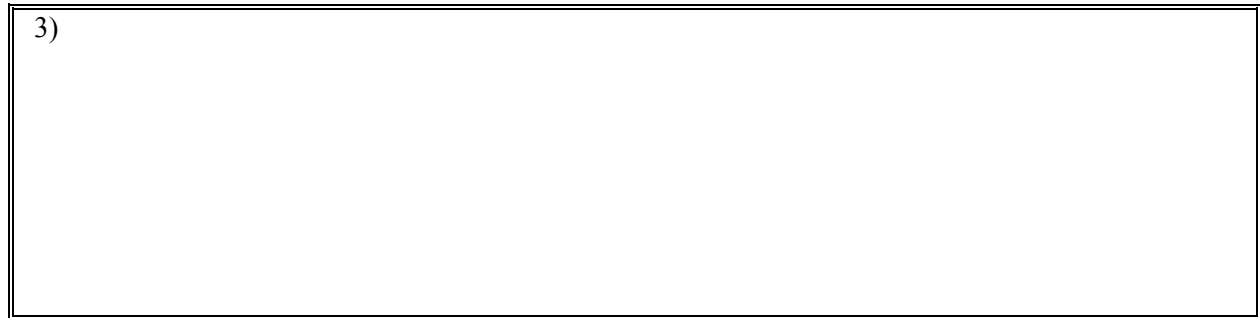
1)



2)



3)



PART 5: Discussion Question: Answer 1 of the following questions in proper essay fashion. Do not do a point form answer! Use about a page for your answers; provide sketches where you can (**worth 35 points**).

1) Where does ^{14}C come from and how can it be used to date organic materials? **Illustrate your answer with sketches please.**

2) Why are fossils useful? (Wow – there is a lot of stuff that you can discuss here, but make sure to **illustrate your answer**).

3) How do scientists explain the origin of the solar system? How does the composition of the planets support this theory? You will need **sketches** for this answer too.
