

SUMMER HOMEWORK #1: ENVIRONMENTAL DISASTERS

Directions: The events below were tragic environmental disasters that occurred because of human error. You are to research each environmental disaster and answer the questions below on a separate sheet of paper in writing. Hand-writing only.

For each disaster, answer the following using complete sentences:

- a) Date of Disaster
- b) Summarize the details of the disaster. You must have at least 4 sentences here.
- c) What was the environmental damage? Be specific. Ex: The disaster killed 20,000 sea otters in the Pacific Ocean.
- d) How was the disaster fixed?

1) Chernobyl, Ukraine: Nuclear Power Disaster

2) Three Mile Island, Pennsylvania: Nuclear Power Disaster

3) Bhopal, India: Toxic Air

4) Exxon Valdez, Alaska: Oil Spill

5) Love Canal, New York: Polluted Ground

6) James Bay, Canada: Where did the Water Go?

7) Deepwater Horizon: BP Oil Spill

8) Fukushima, Japan: Nuclear Power



SUMMER HOMEWORK 2: BIOMES

A biome is a major regional group of distinctive plant and animal communities best adapted to the region's physical natural environment, latitude, altitude and terrain. There are terrestrial biomes that occur on land and aquatic biomes that are found in water.

Directions: With the aid of the Internet, you are to research each biome listed below. The research should answer the questions below. Answer on a separate sheet of paper. **Hand-writing only.**

For each biome, answer the following using complete sentences:

- a) What plants are found here (at least three species)?
- b) What animals are found here (at least three species)?
- c) What countries can you find this biome (be specific, like Eastern U.S)
- d) What is the climate of this biome (long term weather)?

1) Biome: Desert

2) Biome: Chaparral

3) Biome: Tropical Rain Forest

4) Biome: Temperate Deciduous Forest

5) Biome: Tundra

6) Biome: Taiga

7) Biome: Grassland

8) Biome: Savannah

9) Biome: Estuary

10) Biome: Intertidal Zone



SUMMER HOMEWORK 3: EARTH SCIENCE, A REVIEW!

Directions: Answer these questions that apply to the fundamentals of earth science. Answer using complete sentences on a separate sheet of paper. Hand-writing only. You can use any internet resource to answer the questions.

1) Why was the one continent land mass named Pangaea?

2) What are the four layers of the Earth? Describe what each layer is composed of.

3) Compare and contrast continental and oceanic crust.

4) How is the earth's magnetic field created?

5) Why are plates moving? Feel free to draw a picture to explain if you would like.

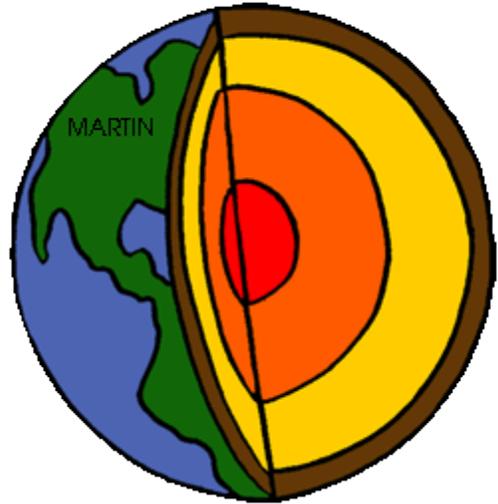
6) What is a mid-oceanic ridge? Where is it formed?

7) Why do oceanic plates dive underneath continental plates when they collide?

8) How are mountains made?

9) What two plates are grinding together to form the San Andreas fault in California?

10) What man saw that the continents fit together like a puzzle? Where was he from?



Part Three: Scientific Notation

Convert the following numbers into scientific notation:

19) 3,500 _____

20) 0.000423 _____

21) 102,000 _____

22) 0.012 _____

23) 48.01 _____

24) 3,000,000 _____

Convert the following numbers into standard notation:

25) 2.30×10^5 _____

26) 1.76×10^{-3} _____

27) 1.901×10^{-7} _____

28) 8.65×10^{-4} _____

29) 9.11×10^2 _____

30) 5.40×10^6 _____

Part Four: Energy Conversions

Energy will be tested on the AP test. It is important that you know how to convert between kilowatts and megawatts. For this, use

1 MW (megawatt) = 1,000 kW (kilowatts)

In case you do not know, a watt is a measure of how much power (energy) an item produces. Your electricity bill comes in kilowatts.

For problems #33-40 megawatts are given. Please convert megawatts into kilowatts. **SHOW YOUR WORK AND NO CALCULATORS!**

31) 2 MW

32) 40 MW

33) 10 MW

34) 35 MW

35) 50 MW

36) 4.5 MW

37) 67 MW

38) 21 MW