Review: Earth

KEY.

Name: _____ Date of test: _____

You must complete the following before beginning this review.

Minerals questions (questions are on white paper; answers on looseleaf)
Theories of Earth's crust (orange)
3 Types of Rock (Igneous - Volcanoes) (orange sheet)
Evidence For Continental Drift (summary notes from other's presentations)(looseleaf)
Biological, Geological, Meteorological
Rock Cycle Diagram (looseleaf)
Review Quiz

Classifying Rocks in Their Families (7-4-3, 7-4-5)

1) Name the 3 rock **families:** igneous, sedimentary, metamorphic

2) Write S if the process described would produce sedimentary rock.

Write I if the process described would produce igneous rock.
Write M if the process described would produce metamorphic rock.

a) M made when intense **heat + pressure** change the form of minerals into entirely new rock
b) S made from settled matter called clay, sand, gravel, rocks
c) I formed from fire
d) S may contain fossils because the remains of dead fish or other organisms get trapped inside of the sediments at the bottom of a lake
e) I may cool slowly inside the earth OR quickly outside of the earth
f) I can be extrusive (if it cooled outside of the earth) or intrusive (cooled inside of the earth)
g) M have folds and wave-like patterns inside from being heated and pressured into rock
h) S involve the processes of sedimentation, compaction, and cementation
i) M involve the processes of being heated and being subjected to extreme pressure
j) I involve the processes of magma cooling and solidifying

3) True or False: Rocks are made of minerals T
Sediments like dead trees can become part of sedimentary rocks. T
Heat can change rocks. T
Heat and pressure can change rocks. T

4) Write the letter of the following rocks with its rock family. Each letter is used exactly once.

Sedimentary: b)
Metamorphic: c)
Igneous: a)

a) granite, basalt, pumice, obsidian
b) shale, sandstone, conglomerate, soft coal, limestone
c) slate (changed-over shale), marble (changed-over limestone)

5) Why do some IGNEOUS rocks can have large crystals and some have small crystals?
The size of the crystal depends on the rate at which it cooled.
If the minerals in the magma cooled SLOWLY, the lava (hardened magma) has LARGE crystals.
If the minerals in the magma cooled QUICKLY, the crystals did not have time to form so the lava (hardened magma) has SMALL crystals.

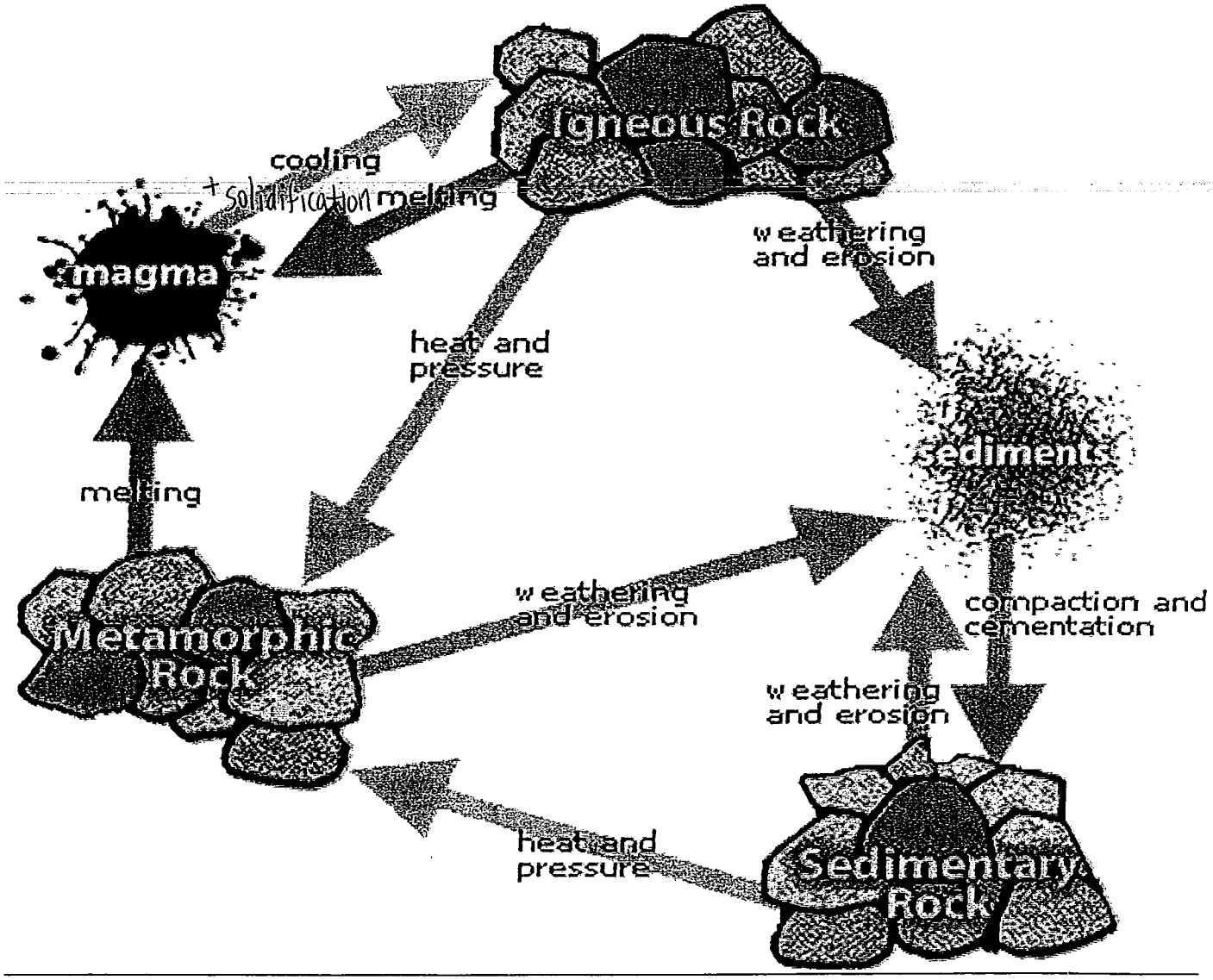
6) Complete the following using the LETTERS A to H from the list below:

A) Gravel
B) Cementation
C) clay
D) pressure from its own weight
E) pressure from being deep inside of the earth
F) sediments G) cement H) erosion I) weathering
J) compaction K) solidification L) sedimentation

a) Fragments of rock that have settled and can now be hardened into rock. F (noun)
b) Sediments can be hardened into rock by J (process) or B (process)
c) Minerals dissolved in the water act like "glue" to G (verb) the layers of sediments together into rock.
d) Sediments listed from smallest to largest are C , sand, A, rocks.

ock Cycle

7) Write the processes on the arrows to explain how each type of rock cycles into the other two types of rock.



Theories About Earth (7-4-2)

We studied two theories of the Earth's crust. Fill in the blanks about each one

Continental Drift

8) The main scientist who proposed this theory was ALFRED WEGENER. He believed that many years ago, all of the continents were once joined in a large land mass called PANGAEA. The continents began to drift and the method of movement he proposed for the drifting of the continents was THEY FLOATED ON THE WATER.

In this theory, do the moving chunks contain some land and some water or just land? JUST LAND (CONTINENTS) THAT IS WHY HE CALLED HIS THEORY CONTINENTAL DRIFT

Evidence for Continental Drift

9) Explain 2 of each of the following pieces of evidence for continental drift:

Biological

① Lystrosaurus fossils found so...

② similar fish species found so...

Geological

① Same age, type and glacier scratches found on rocks so...

② so...

Meteorological

① Coal is made when tropical plants are buried under pressure. As the plants decompose, coal is made. so... these areas must have had the same tropical climate when joined

'late Tectonics

'he theory of Plate Tectonics was advanced a great deal thanks to changes in technology.

0) The theory of plate tectonics is different than continental drift because it is PLATES that move in Plate Tectonics Theory (not continents)

he way the plates move is by CONVECTION CURRENTS IN MAGMA

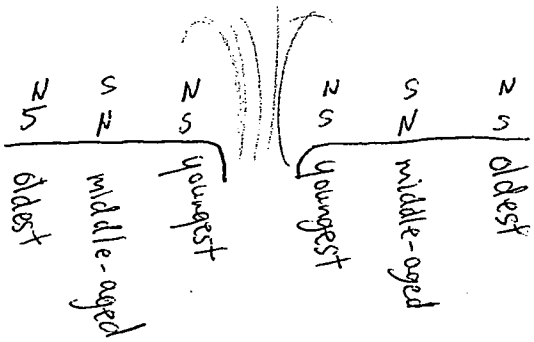
he theory of plate tectonics came AFTER the theory of continental drift.
(before, after)

ridence for Plate Tectonics

) Explain 2 of each of the following pieces of evidence for plate tectonics: p. 353

Magnetometer Evidence N = north S = south

Since the alignment of "magnetic rocks" matches on either side of the Mid-Atlantic Ridge, there must be.



SONAR Evidence p. 352

Sonar waves are bounced onto the seafloor. The time it takes to bounce back tells you the "bumpiness" of the ocean floor. There was a ridge across the middle of the Atlantic - It is called the Mid-Atlantic Ridge

Patterns in Maps Evidence

12) On the map below, label each significant earth structure with its letter and/or color. (Some structures extend over a large area so they need color). You may use your text or a device.

____ Pacific Ocean

_____ A circle of volcanoes around the Pacific Ocean

____ The Mid-Atlantic Ridge

_____Atlantic Ocean

____ The Ring of Fire

____ Mount Vesuvius

_____ Mt Paricutin (the one in the farmer's field)

____ Old Faithful

Other Theories of Earth

13) Using p. _____ of your text, read about two more "old" theories that are considered now to be outdated based on the new evidence. Choose the main topic of each paragraph and record it here.

Uniformity Theory

_____

_____

_____

_____

Fixed-Continent Model

_____

_____

_____

_____

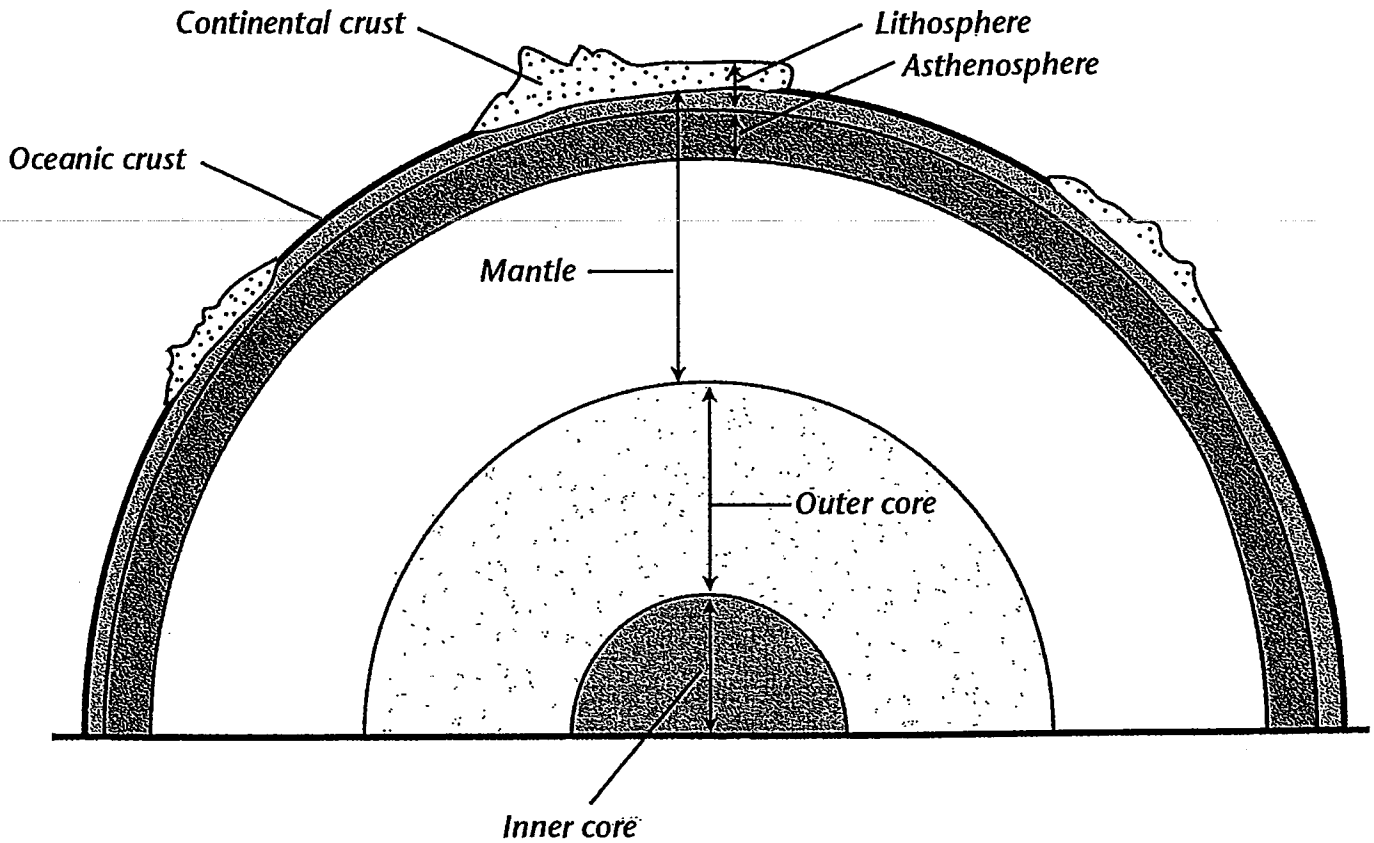
escribing Earth's Structure (7-4-2)

1) Write the letter of the layer of the earth that matches each description:

a) crust	B	1) directly below the crust
b) mantle	D	2) made of iron & nickel
c) outer core	D	3) like the yolk of an egg
d) Inner core	A	4) 5 to 35 km in depth ; 5°C in temperature
	B	5) 2885 km in depth; 1000 in the upper part and 4000°C in the lower part
	C	6) 2270 km thick; 5500°C
	D	7) half as thick as the mantle and half as thick as the outer core

Draw and label the layers of Earth to show how thick they are compared to eachother. Label h one as liquid, solid, or part liquid/part solid. Label the name of each one.

Earth's Interior



Technology to Learn About the Inside of the Earth

P-waves and S-waves

16) Earthquakes occur at TRANSFORM boundaries.

Read p. _____ of your text to learn one way that we have discovered what the layers of Earth are made of. Choose the main topic of each paragraph and record it here:

_____

_____

_____

_____

olcanoes (7-4-2)

') Volcanoes make IGNEOUS rock.
(igneous, metamorphic, sedimentary)

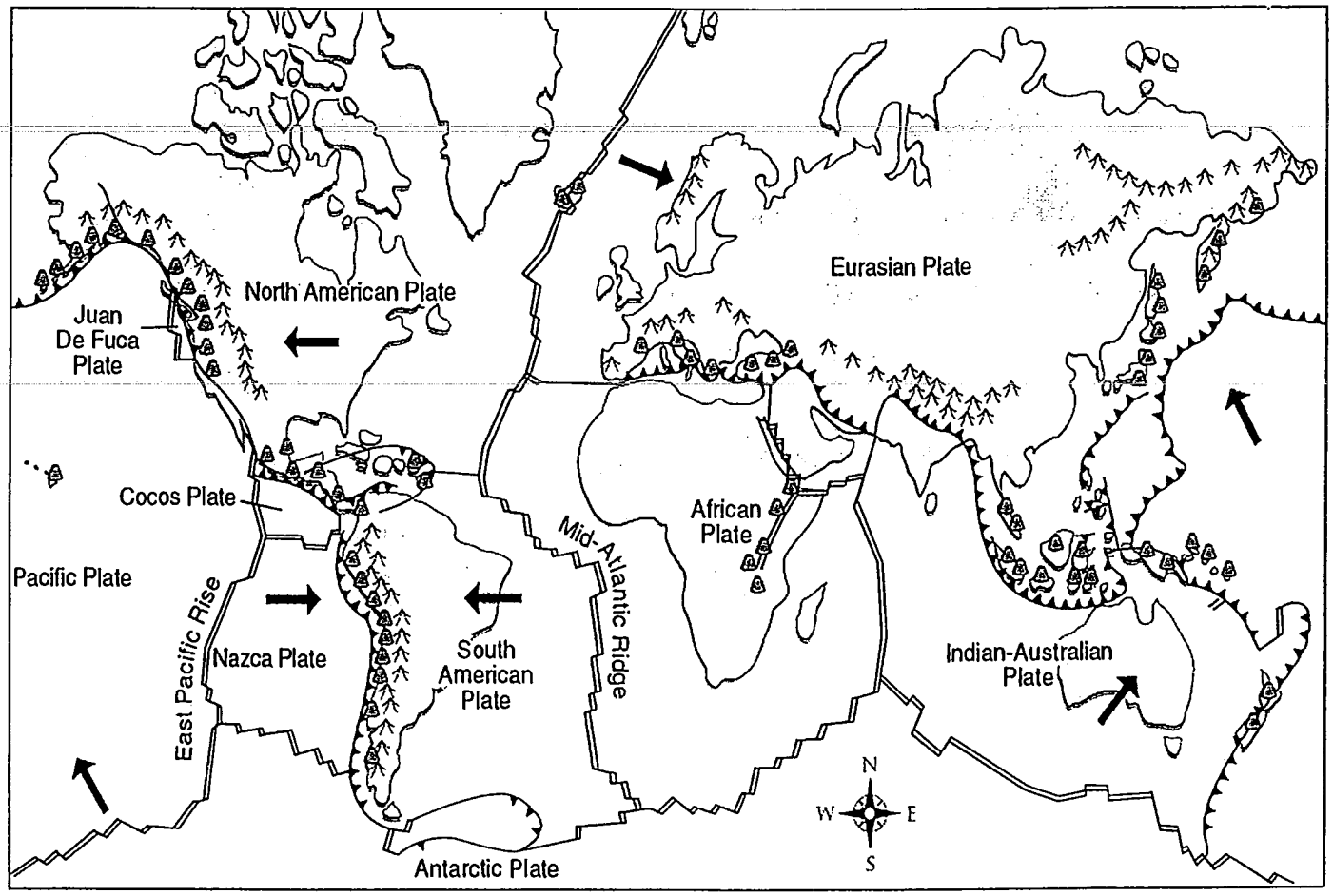
3) The 3 types of volcanoes are (label below):

1) Cinder cone 2) shield volcano 3) composite volcano

') Give a real-life example of each type of volcano Mt Paricutin, Mexico

Mauno Lao, Hawaii

Mt St Helen's, Washington



Divergent boundary
Convergent boundary
Transform boundary
Mountains
Plate movement relative to the African Plate
Volcanoes