Chapter 6 – Earth’s History Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lesson: Relative Dating

I Can…/Main Ideas Notes

*Relative Dating*: Determining the \_\_\_\_\_\_\_\_\_\_\_ of a rock or event by **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** it to the age of other \_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Absolute Dating*: **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** of a rock or an \_\_\_\_\_\_\_\_\_\_ in \_\_\_\_\_\_\_\_\_\_\_

*Original Horizontality*: Sediments are **\_\_\_\_\_\_\_\_\_\_\_\_\_** in **\_\_\_\_\_\_\_\_\_\_\_\_\_\_ layers**, \_\_\_\_\_\_\_\_\_\_ to the surface of the earth

*Principal of Superposition*: **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ROCK** is found on \_\_\_\_\_\_\_\_\_\_ & the rock age \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with **DEPTH**

*Exceptions to the Rules*: **\_\_\_\_\_\_\_\_\_\_\_\_\_**rock layers & movement along **\_\_\_\_\_\_\_\_\_\_\_\_\_\_** move \_\_\_\_\_\_\_\_\_\_ rock layers over \_\_\_\_\_\_\_\_\_\_\_\_\_\_ layers

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than the rocks in which they occur

INTRUSION: When \_\_\_\_\_\_\_\_\_\_\_\_ squeezes or melts into preexisting rocks & crystallizes.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has altered the rock \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the igneous mass.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than any rock it cuts through.

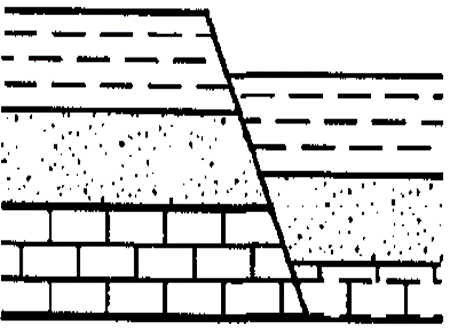
EXTRUSION: Cooling & solidification of \_\_\_\_\_\_\_\_\_\_\_\_ ON the Earth’s surface.

Rock layers \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the igneous mass shows evidence of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than any rock it cuts through.

The symbol for contact metamorphism is \_\_\_\_\_\_\_\_\_\_\_\_

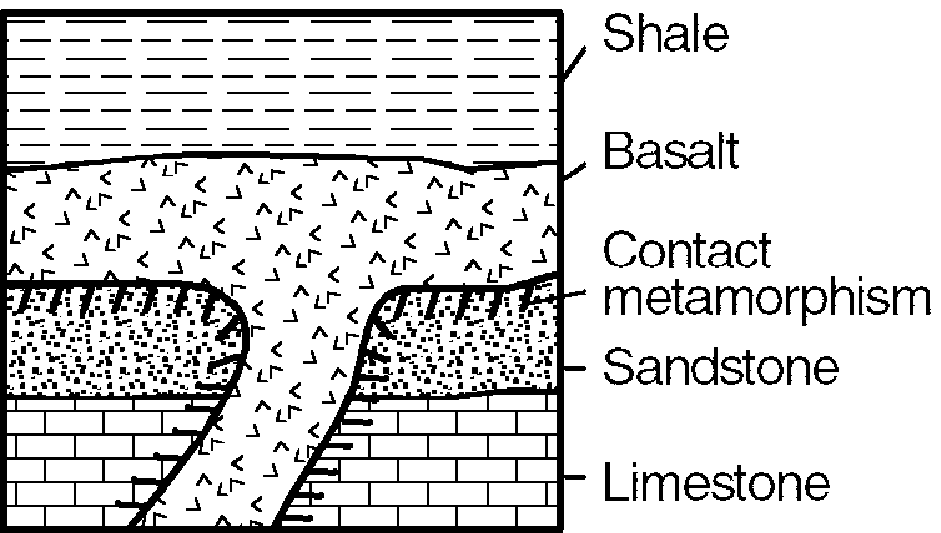
I can explain the difference between Relative & Absolute Dating

I can describe original horizontality & Law of Superposition

**LABEL** THE PICRURE FROM OLDEST TO YOUNGEST!

I can differentiate between the intrusions & extrusions

**Label Pitures!**



I can describe inclusions & veins

INCLUSION: Body of **\_\_\_\_\_\_\_\_\_\_\_\_\_** rock \_\_\_\_\_\_\_\_\_\_\_\_an igneous rock and did \_\_\_\_\_\_\_\_\_ melt.

VEINS: **\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_** which fills a \_\_\_\_\_\_\_\_ or permeable zone in rock. **\_\_\_\_\_\_\_\_\_\_\_\_** than the rock around it

OLDEST: \_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Correlation: Correlation is used to \_\_\_\_\_\_\_\_\_\_ 2 layers formed at the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ but at different \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Exposed Bedrock - Bedrock is an areas \_\_\_\_\_\_\_\_\_\_\_ rock, Usually covered by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Similarities in Rocks - Used only in \_\_\_\_\_\_\_\_\_\_\_\_\_\_ areas and can still be inaccurate
3. Volcanic Ash: sand & clay sized particles of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rock is shot into the air, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ over wide areas
4. Use of Index Fossils:

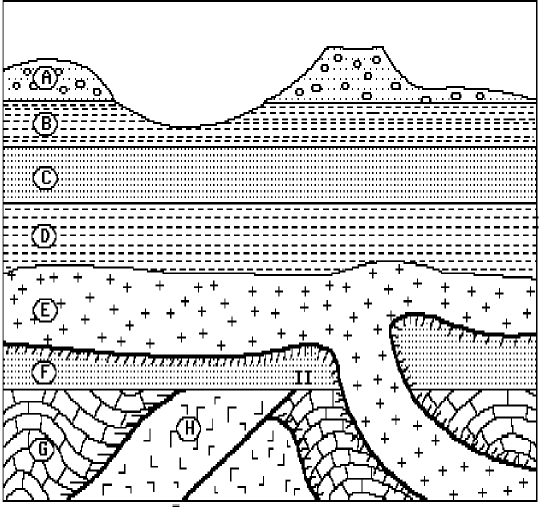
* Fossils: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of former living things
* Normally found in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Rocks
* Index Fossil are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**-**

**-**

Lesson: Correlation

I Can…/Main Ideas Notes

*Review*: **Put in order from oldest to youngest**

I can describe correlation & correlate rock layers

I understand what an index fossil is

I can describe unconformities

Unconformities: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ surfaces, Parts of the rock record are \_\_\_\_\_\_\_\_\_\_\_\_\_\_, Cause a \_\_\_\_\_\_ in the rock record

**

Aim: Radioactive Dating

*Review:*

1. List the layers from oldest to youngest.
2. Name 2 processes that produced the unconformity in outcrop I.
3. Describe the 2 characteristics a fossil must have to be considered a good index fossil.

Absolute Dating – **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** of rocks & other objects

* Examples – Radioactive Decay & Counting Tree Rings

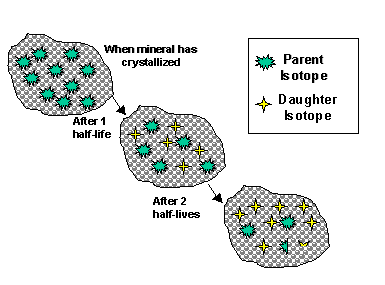
*Isotopes & Radioactive Decay*

Elements – Substance of atoms that are chemically alike

* Elements exist in many forms called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Examples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Isotopes are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Emit (give off) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in a process called radioactive decay
* This occurs until a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ isotope forms

Half Life- Time required for \_\_\_\_\_\_\_\_\_\_\_ of the atoms in a given mass of an isotope to \_\_\_\_\_\_\_\_\_\_\_\_\_ or break down.

* Each time you lose \_\_\_\_\_\_\_\_ of the \_\_\_\_\_\_\_\_\_\_\_\_ isotope & gain \_\_\_\_\_\_\_\_ of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ isotope.



\*\*OPEN ESRT TO

PAGE \_\_\_\_\_\_\*\*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Scientific Notation to a Normal Number

* Count the # of times the **DECIMAL** needs to be moved to **RIGHT for each power of ten and** ADD ZEROS
* Example: 3.5 x 106 = 3,500,000

Carbon-14 –

* \_\_\_\_\_\_\_\_\_\_\_\_ half-life
* Used to date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Uranium-238-

* \_\_\_\_\_\_\_\_\_\_\_ half-life
* Used to date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Was used to get the age of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Shade in the appropriate amount.

Each half-life the parent isotope gets cut in half.

One Half-Life Two Half-Life Three Half-Life

Sample Question-

1. If the amount of carbon-14 in the original sample had been 48 grams, about how much carbon-14 would have been left after 17,100 years?

Lesson: Geologic Time Scale

I Can…/Main Ideas Notes

Broken into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ sections by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_\_\_\_\_

- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Precambrian Eon:

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ eon
* Makes up \_\_\_\_\_\_\_\_\_\_\_\_ of all geologic time
* Started with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the earth & ended \_\_\_\_\_\_\_\_ million years ago

Paleozoic Era:

* Development of \_\_\_\_\_\_\_\_\_\_\_ in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Early \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & first \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ formed

Mesozoic Era: The “age of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_” Most common the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ broke up
* 1st \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ arrived
* 1st \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ plant

Cenozoic Era:

* Dino’s became \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ but \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ flourished – “Age of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”
* Continents moved to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ location
  + \_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ formed

I can read the Geologic History of NYS chart

in the ESRT

I can describe important events that occurred in the different Eon & Era’s

Lesson: Theory of Evolution

I Can…/Main Idea Notes

Theory of Organic Evolution: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ record shows a general trend in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ things from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Earliest Fossils = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ organisms (bacteria, fungi, algae, & soft-bodied creatures)

Fossils became more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ period & later (because nature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the \_\_\_\_\_\_\_\_\_\_)

Organisms appeared in the following order: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Most of the plants & animals that existed on earth are now \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Each major era ends when there is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

I can explain the Theory of Organic Evolution

I can state the order of the life on Earth

I can describe what happened to most of life on Earth