10.1 – Fossils

1. _____ are the preserved remains or evidence of ancient living things.

    A.   Animals
    B.   Fossils
    C.   Plants
    D.   Fruits

2. _____ is the idea that conditions and organisms on Earth change in quick, violent events Explanation

    A.   Catastrophism
    B.   Catalyst
    C.   Deformation
    D.   Uniformitarianism

3. _____states that geologic processes that occur today are similar to those that have occurred in the past explanation

    A.   Catastrophism
    B.   Catalyst
    C.   Deformation
    D.   Uniformitarianism

4. Which conditions aid in the formation of fossils?

    A.   Hard parts and slow burial
    B.   Hard parts and rapid burial
    C.   Soft parts and rapid burial
    D.   Soft parts and slow burial

5. Which of the following is not a way for fossil preservation?

    A.   Carbon films
    B.   Casts
    C.   Mineral water
    D.   Trace fossils

6. Match using the following words:
Preserved remains – carbon films – mineral replacement – mold – cast – trace fossil

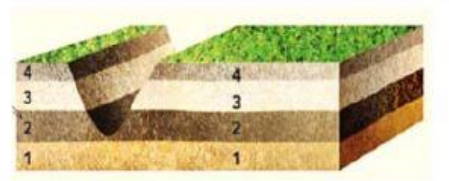7. Complete each statement by matching the correct name on the left column with correct definition

Preserved Remains	Include tracks, footprints, and nests
Carbon Films	A fossil copy of an organism made when a mold of the organism is filled with sediment or mineral deposits.
Petrification	is the fossilized carbon outline of an organism or part of an organism
Molds	an organism must be completely enclosed in some material (to prevent it from being exposed to air or bacteria)over a long period of time
Casts	A copy of the organism can form from minerals in groundwater by filling the pore spaces or replace the tissues of dead organisms.
Trace Fossils	The impression in a rock left by an ancient organism

10.2 – Relative-Age Dating

1._____ is the age of rocks and geologic features compared with other rocks and features nearby

    A.   Absolute age
    B.   Artificial age
    C.   Relative age
    D.   Undefined age

2. Match each picture with the principle of relative-age dating

Picture	Principle of relative-age dating
	Lateral Continuity
	Superposition
	Original horizontality

3. What is the age of rocks and geologic features compared with other rocks and features nearby known as?
    A.   Absolute age
    B.   Geologic age
    C.   Relative age
    D.   Sedimentary age

4. Which of the following is true about relative ages of rocks?
    A.   In an undisturbed rock layers, the oldest rocks are on the top
    B.   In an undisturbed rock layers, the newest rocks are on the bottom
    C.   Most rock-forming materials are deposited in vertical layers
    D.   Sediments are deposited in large, continuous sheets in all lateral directions

5. _____ represent species that existed on Earth for a short length of time, were abundant, and inhabited many locations.
   A. Animals
   B. Fossils
   C. Index fossils
   D. Relative fossils

6. Match each picture with the correct type of unconformity.

| Picture	Type of unconformity
Younger sedimentary rock / Older sedimentary rock	Nonconformity
Younger sedimentary rock / Older sedimentary rock	Disconformity
Younger sedimentary rock / Older igneous rock	Angular conformity

10.3 – Absolute-Age Dating

1. _____ it mean the numerical age of a rock or object measured in years

    A.   Absolute age
    B.   Artificial age
    C.   Relative age
    D.   Undefined age

2._____ is the smallest part of an element that has all the properties of the element.

    A.   Age
    B.   Atom
    C.   Proton
    D.   Neutron

3. _____ are atoms of the same element that have different numbers of neutrons.

    A.   Electrons
    B.   Isotopes
    C.   Protons
    D.   Neutrons

4. What is the time required for half of the parent isotopes to decay into daughter isotopes called??

    A.   Relative age
    B.   Absolute age
    C.   Half-life
    D.   Radioactive decay

5. What of the following refers to the process by which an unstable element naturally changes into another element that is stable?

    A.   Relative age dating
    B.   Radioactive decay
    C.   Half-life formation
    D.   Absolute age dating

6. Which of the following is correct about radiocarbon dating?

    A.   Radiocarbon is used to measure the distance between two rocks
    B.   Carbon-12 is a radioactive isotope used for dating
    C.   The half-life of carbon-14 is one day
    D.   Radiocarbon dating is useful only for dating organic material

7. Which of the following is correct about dating rocks?

    A.   The half-life of uranium-235 is one year
    B.   Sedimentary rock is easily dated as igneous rock in radiometric dating
    C.   Uranium-235 is used for dating igneous rocks
    D.   Radiocarbon is used for dating all types of rocks

LIVEWORKSHEETS

8. Fill in the blanks using the following words.

| 12.5% of the parent isotope | 50% of the parent isotope | 25% of the parent isotope |
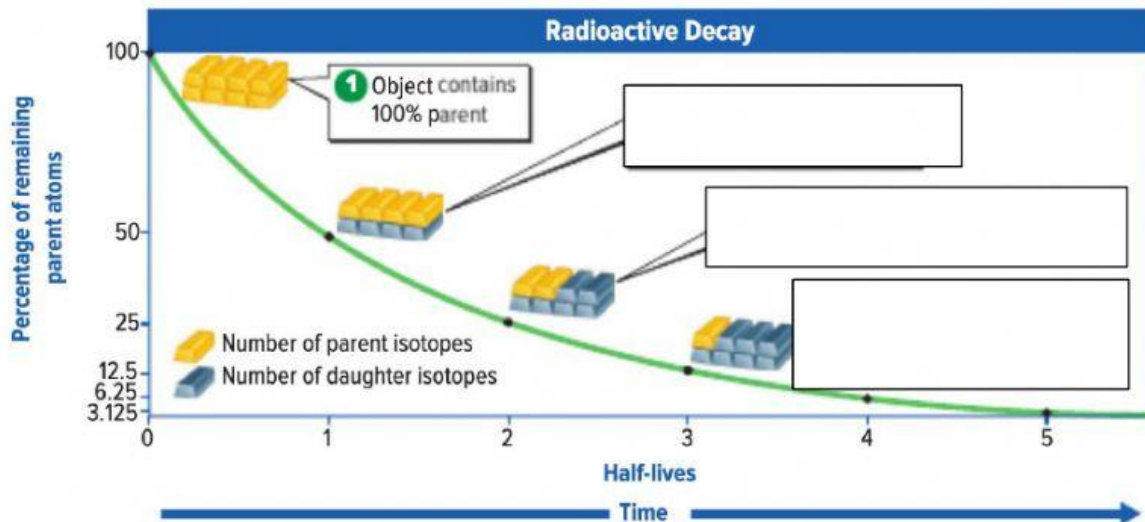
Radioactive Decay

9. Which of the following isotopes is not used for radioactive dating

    A.   Uranium U-235; half-life 704 billion years
    B.   Thorium Th-232; half-life 14 billion years
    C.   Rubidium Rb-87; half-life 48.8 billion years
    D.   Fluorine F-18; half-life 1.8 hours

10. If you start with 88 g sample of U-235, how many grams of the U-235 sample will remain after 2 half-lives?

    A.   44 grams
    B.   22 grams
   C.   11 grams
    D.   88 grams

11. If you start with 88 g sample of U-235, how many grams of the U-235 sample will remain after 3 half-lives?

    A.   44 grams
    B.   22 grams
    C.   11 grams
    D.   88 grams

12. If you start with 56 g sample of U-235, how many grams of the U-235 sample will remain after 2 half-lives?

    A.   56 grams
    B.   28 grams
    C.   14 grams
    D.   7.0 grams

13. The following graph shows a decay of a radioactive substances. What is the half-life of this material?
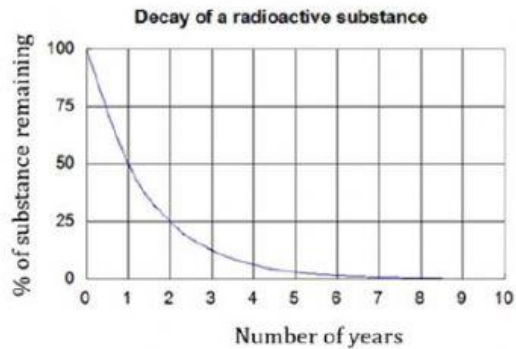
    A.   1 year
    B.   2 years
    C.   3 years
    D.   4 years

14. The following graph shows a decay of a radioactive substances. What is the half-life of this material?
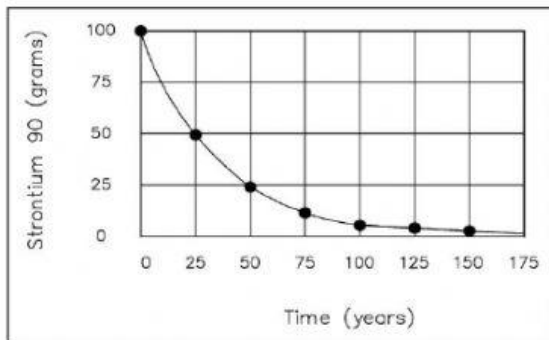
    A.   25 year
    B.   50 years
    C.   75 years
    D.   100 years