JAG01 Unit 4 Rocks II

Task 1 The Rock Cycle

Use the expressions below to sketch and describe the rock cycle.

IGNEOUS *METAMORPHIC* *SEDIMENTARY* *SEDIMENT* *MAGMA*

weathering *cooling* *heat and pressure* *crystallisation* *deposition*

cementation *melting* *solidification* *uplift* *burial*

Task 2 Video: Rock and Minerals: Identifying Types of Rocks

(https://www.youtube.com/watch?v=tQUe9C40NEE)

Watch and take notes on rock identification. Are there any hard and fast rules?

Watch again and fill in the gaps with one word:

1. Sedimentary rocks come from elements of pre-existing rocks, either actual ……. or dissolved materials.
2. It´s oftentimes difficult to …… the type of rock.
3. You have a …….., more compact form in igneous and metamorphic rocks.
4. Crystals are a good …… of igneous rocks.
5. Some igneous rocks are very …… like this basalt.
6. You will sometimes see …….. of mineral grain in metamorphic rock.
7. There are …… of fine clay minerals in shale.
8. If you put a little drop of ……. acid on limestone, you´ll get bubbling.

Task 3 Vocabulary: Properties of materials

Match antonyms:

brittle	combustible
transparent	inert
heat-resistant	rigid
smooth	heavy
reactive	opaque
light	rough

Task 4 Reading

Using minerals and rocks

Minerals and rocks are the source for most of the Earth´s metals. A few metals, such as copper and gold, (1) …….. . But most are found as mineral compounds of either oxygen or sulphur. Metals are an important group of elements because of properties that nearly all of them possess. In general, metals melt easily, they conduct heat and electricity and they can be hammered or (2) …… . They also have a certain kind of luster, or shine.

Metals are widely used today. Steel, which is made mostly from iron, has great strength. Tall buildings, long bridges, ocean liners, jet planes and cars depend on steel, aluminium and other metals for their strength. Most metals have many uses. Copper and aluminium, for example, are made into wire (3) ……. .

Minerals and rocks also provide a source for important nonmetals. Sand, for example, is a nonmetal that is used in making cement. Sand is also used in making glass and the silicon chips used in computers. Clay, another common nonmetal, is used (4) …….. . Gypsum is used in making plaster and wallboard. Limestone is used in making cement, an important building material. And compounds of phosphorus and of nitrogen are used (5) …….. .

Any mineral or rock (6) …….. is called an ore. Both metals and non-metals are obtained from ores. Ores are taken from the ground by a process called mining. The place where the ore comes from is called a mine. A mined ore must be processed in order to obtain a useful substance. For some substances, such as gold or gravel, a simple crushing or washing is all that is needed. For other substances such as iron, copper, or aluminium, the ore must be (7) …….. .

(adapted from Addison-Wesley, Earth Science. Addison-Wesley Company, 1987.)

A) from which a needed substance can be removed cheaply and easily enough
B) because they are good conductors of electricity
C) in making fertilisers
D) can be found as pure elements in nature
E) further treated with heat, chemicals, or electricity to obtain the metal
F) pressed into different shapes without breaking
G) in making china and pottery

Task 5 Vocabulary: Choose the correct answer.

1. Microscopes ……..very small objects many times to make them visible.
   magnify enhance expand increase

2. Mercury is a …….at room temperature
   fluid liquid solid gas

3. Hydrogen and oxygen are the two …….. that make up water.
   compounds atoms molecules elements

4. All ……..is composed of atoms.
   stuff material substance matter

5. The …… of lead is greater than that of aluminium.
   rigidity weight density volume

6. When water is heated it ……..more quickly.
   evaporates condenses melts solidifies

7. The …….. of iron and oxygen produces rust.
   reaction separation decomposition composition

8. Chemists study the composition of natural ……..
   substances machines mixtures alloys