

JAG01 Unit 3 Rocks

Task 1 Idioms

What does it mean when someone says:

Do you *live under a rock*?

The relationship got off to *a rocky start*.

I'm stuck *between a rock and a hard place*.

Task 2 Complete the gaps with the expressions below. You do not need to change the form of the words.

*aggregates concerning landslides magma molten occurring solid
solution strength*

Minerals and rocks are the basic building blocks of the (1) Earth and form some of our most basic resources on which we rely heavily for our modern civilisation. Minerals and rocks also play an important role in many Earth surface processes, such as (2), earthquakes, and volcanic activity. Finally, the study of minerals and rocks provides important information (3) the history of Earth.

A mineral is a naturally (4), normally crystalline element or compound formed by geologic processes. Although there are more than 4,000 minerals, we need to know only a few of them to identify most rocks.

Rocks are (5) of one or more minerals that are classified into three general types or families, according to how they were formed in the rock cycle. These are igneous, sedimentary, and metamorphic. These three rock types are constantly being created and destroyed as part of the rock cycle. Igneous rocks are rocks that crystallised from (6) They can be either extrusive, meaning that they cooled at the surface of Earth, or intrusive, meaning that they cooled beneath Earth's surface. They usually contain crystals that grew within this (7) material as it cooled. Sedimentary rocks form at the surface from parts of other rocks by deposition or by precipitation from (8) in water. Metamorphic rocks are rocks changed by heat, pressure, chemically active fluids, or some combination of those factors. The (9) of a rock depends upon several factors, including composition, texture, structure, and where it is on Earth. Common rock structures include fractures, faults, and unconformities.

(adapted from Rothery, D. A. *Geology. A Complete Introduction*. McGraw-Hill, 2015.)

Task 3 Classifying

Use the phrases below to classify rocks and other phenomena.

Words for classifying into groups and describing composition:

General	->	specific	specific	->	general
X	is classified as	A and B.			
X	can be divided into	A, B, and C.			
X	is composed of	A, B, and C.			
X	is made up of	A, B, and C.	A, B, and C	constitute	X
X	consists of	A, B, and C.	A, B, and C	make up	X
X	comprises	A, B, and C.			
X	includes	A, B, and C.			

Task 4 Passive voice

A) Find examples of passive voice in Task 2.

B) Change these phrases from the active to the passive voice.

Present tense: You heat the sample. → The sample ...

With a modal verb: You can heat the sample. →
You need to heat the sample. →

Past tense: You heated the sample. →

Present perfect: You have heated the sample. →

Future: You will heat the sample. →

C) Transformations: Change the sentences into passive voice.

1. We can classify matter as solid, liquid and gas.

Matter as solid, liquid and gas.

2. You would need a considerable force to change the shape of an iron bar.

A considerable force to change the shape of an iron bar.

3. If we pour water on the table, it will flow all over the surface.

If on the table, it will flow all over the surface.

4. When we heated the crystals, they melted.

When, they melted.

5. Now that you have heated the amorphous substance, you can see that it softens.

Now that, you can see that it softens.

6. If we pour water from one container to another, we will change the shape of the water mass.

If we pour water from one container to another, the shape
.....

7. We find matter in solid, liquid or gaseous form.

Matter in solid, liquid or gaseous form.

Task 5 Video How do crystals work?

<https://ed.ted.com/lessons/how-do-crystals-work-graham-baird#watch>

Watch and answer the questions:

How are the atoms generally arranged in crystals?

What are the factors influencing the shape of diamonds?

Why does glass have a random arrangement of atoms?

Why don't some crystals form geometric shapes?

Watch again, then use the following expressions in sentences:

ions

feldspar

sulphur

DNA

crystalline

bond

hexagon

solidify

unique