

Gap tests - grammar forms and their usage, word formation, vocabulary building

Note the grammar form of the clue expressions, especially those ending with –s. Can they be both nouns and verbs? Are any of them evidently only nouns or only verbs?

Clue: Affected **bubbles** chipped **expands** occurring **patches** **properties** **releases** through undergone weaken

a/ only nouns:

b/ only verbs: Form nouns (and adjectives):

*Compare the similar ending **undergone** and **weaken**. What grammar forms are they?*

*What grammar forms can follow the verb **be**?*

*Is there a **preposition** in the clue? If so, find its occurrence in the following text..*

Clue: Affected bubbles chipped expands occurring patches properties releases through undergone weaken (Use one of the words twice.)

Chemical weathering

There is a kind of weathering that does not change only the size of the rock material, but changes the material itself. You have most likely seen 1..... of rust on a bicycle, steel wool pad, cast-iron frying pan, or other object that contains iron. It is no longer the same material that it was before the weathering took place.

When rust forms, iron combines with oxygen from the air to form iron oxide, a new substance with different 2..... Iron, e.g., is attracted by a magnet, but the iron oxide is not.

Sometimes you can observe orange discoloration in a rock and the rock may have become brittle.

Pieces can easily be 3..... off. The orange color is probably a sign of iron oxide in the rock. The original rock contained iron or minerals with iron. A form of chemical weathering known as **oxidation** has changed the iron to iron oxide.

Sometimes when the outer layer is 4..... away, the inner rock appears to be a different color. The outer rock layer has 5..... chemical weathering, but the inner has not.

Different minerals have been formed in the outer layer.

There is some evidence that the freezing of water in rocks creates ideal conditions for chemical weathering. As water freezes, it 6..... 9%. The resulting pressure can force films of water into micropores and crevasses within the crystal structure of the rock. There the water can 7..... the rock chemically.

A form of chemical weathering known as **carbonization** causes caves to form in rock material. Carbon dioxide from the air dissolves in water to form carbonic acid. This weak acid reacts slowly with some minerals found in rocks. One rock that is 8..... is limestone. Huge limestone caves can be formed over long periods of time by running water that contains dissolved carbon dioxide. The water flows 9..... underground cracks in the limestone. The carbonic acid continues to dissolve more and more of the limestone along the surface of the cracks until a cave is formed. As years pass, the cave becomes larger and may be many meters high and many kilometers long.

If a small amount of acid is dropped onto a piece of limestone, gas 10..... can be observed on the surface. A chemical reaction is 11..... The rock 12..... carbon dioxide gas as the acid reacts with the limestone or calcium carbonate mineral in the limestone rock.

Answer these questions:

1. How does chemical weathering differ from physical weathering?
2. What forms of chemical weathering did you read about?
3. What creates ideal conditions for chemical weathering?
4. Explain the formation of limestone caves.