

## Scratch Patch Activity Stations

### 1. Floating Rock Display

Rocks can't float, right? Don't be so sure! When you fill the basin with water, one of these rocks will float. Can you guess which one?

Pumice is an igneous rock that forms when hot gases bubble through liquid rock, during a volcanic eruption. When the rock exits the volcano, the pumice hardens almost instantly, trapping the air bubbles. The encased air makes the rock float, just like water wings help to make kids float.

#### Sidebar:

Did you know? Since pumice has no crystal structure, it is considered a form of glass!

### 2. What causes colors in minerals?

Minerals get their showy colours from a variety of sources. One of the most common natural causes of a mineral's colour is the presence of a metal ion while the crystals are forming.

- Nickel makes Topaz Yellow
- Chromium makes Emerald Green
- Beryllium makes Aquamarine Pale Blue
- Titanium makes Sapphire Blue
- Cobalt makes Amethyst Purple
- Titanium makes Rose Quartz Pink
- Chromium makes Ruby Red
- Manganese makes Garnet Orange

#### Sidebar:

Minerals can also be coloured by irradiation, both natural and created. Radiation is associated with the colours of **fluorite** and **calcite**.

#### Sidebar:

Some minerals get their fascinating colors from the physical diffraction of light. **Labradorite** and **opals** both attribute their "fire" to the play of light within their depths.

### 3. Fluorescent Rocks

Some rocks will glow with color when viewed under ultraviolet light. Not all samples will fluoresce because small amounts of impurities called "activators" must be present for fluorescence to occur.

Sample No.	Specimen	Fluorescent Color
1	Willemite	Green
2	Hackmanite	Orange
3	Tremolite	Rose or Red
4	Fluorite	Purple
5	Resinous Coal	White/Cream
6	Wernerite	Yellow

### 4. Flip Panels

1. Q. What is the most common rock on the Earth's surface? A. Basalt
2. Q. Why does the Earth have layers? A. Molten heavy materials (iron) sink to the bottom while lighter materials (silica) rise to the top.
3. Q. Vancouver Island rests on the Juan de Fuca plate. How fast is it moving? A. About 2 cm