

Scientist Name:



Today Science Club are going to be.....

GEOLOGISTS!

Geology Rocks! These are a mixture of other rocks, minerals and even fossils (long-dead plants & fossils)! Rocks can be **HARD, SOFT, PERMEABLE** and **IMPERMEABLE**. Rocks break down into **soil** which also contains water, air and rotting material called **HUMUS**.

Activity 1: We are first going to look at **Obsidian** and **Pumice**, both **igneous rocks** as they are made by a **volcano!** They are made out of the same material, but because of the way they are formed, they look and are very different.

How? _____

Mixing Materials

Some solids dissolve when you mix them with water, the new liquid is called a **solution**. You can also mix different liquids, e.g. orange squash and water, to make a new solution. Other are **insoluble**, they won't dissolve, e.g. rocks and water. Can you give another example? _____

Separating Mixtures

1. **Sieving** is sorting out the big bits from the small bits.
2. **Filtering** is separating solid bits from a liquid.
3. **Evaporating** gets rid of water to leave solids.
4. **Condensing** cools water vapour back into a liquid.

Activity 2: Gold

We are going to use one of these techniques to look for **gold!** Which one do you think? _____

Over the years Gold has been made into many things, including coins, jewellery and precious objects, such as Tutankhamen's burial mask. In modern times it has also been used for electronics (TVs!) and dentistry. Olympic Gold Medals in 1906 were made entirely of gold, these days they are only covered with 6 gm! Injectable gold has been shown to reduce pain from arthritis and tuberculosis. The price of Gold continually changes, at the moment it is around £1,100 an ounce!

Note to parents: Today we have been panning for gold. Your child should have a sample of 'Fool's Gold' which is Iron pyrites. Any questions please email: HassellScienceClub@gmail.com

GEOLOGISTS QUIZ

1. Which rock is **solidified lava froth** from a volcano? Marble, sandstone or pumice?
2. **How long** does rock take to break down into soil? 10, 100 or 1000 years?
3. The **Grand Canyon** in the USA is 10,000 m deep, TRUE or FALSE?
4. The gemstone **ruby** is typically what colour? Red, blue or Green?
5. **Chalk** is used to write on blackboards because: it is permeable, it wears away easily or it doesn't float?
6. What **rock** do you put on a house roof in **Wales** to keep it dry? Sandstone? Slate or marble?
7. Which is a rock which **floats**? _____
8. In the last **6 years** how many thousand tonnes of gold have been **mined globally**? 6,000, 16,000 or 160,000 Tn?
9. How much of the world's **Gold** is in **bank vaults**? 10%, 20% or 40%?
10. Why did US **astronauts** have a **thin film of gold on their helmet visors** when they landed on the moon? It looked cool, it transmitted electricity or it stopped harmful UV radiation and the sun's visible light?