

Rocks & Minerals – Rusty Wool (Chemical Weathering)

Rocks can have rounded or sharp edges. Some rocks are egg shaped and are quite round. How did they get this way?

Materials:

- 3 Shallow dishes
- 3 pieces of steel wool
- Salt
- Water
- Gloves

Procedure: (Remember to have your parent's permission and have them watch and help you.)

- Place each piece of steel wool in a shallow dish (wear gloves because steel wool can give splinters).
- Pour equal amounts of water over two of the pieces of steel wool. Leave the third piece dry.
- Sprinkle one of these wet pieces with plenty of salt.
- Observe and compare the pieces every day for a week.

What's Happening:

What happened to each piece of steel wool? Which piece changed the most? Why do you think the steel wool changed? Which piece of steel wool acted as the control? What does this experiment have to do with weathering?

When iron gets wet, the water acts as an agent to speed up oxidation (oxidation occurs when oxygen combines with another substance). In this case, oxygen in the water combined with the iron in the steel wool to form an iron oxide, or rust. Rust is a weaker material than the original metal and erodes quickly. When salt is added to the water, it speeds up the oxidation of iron. So, the steel wool in the salt water should have changed the most. The same thing happens to rocks that contain iron as happens to cars during winters when salt is put on the roads.

Extension:

Visit a site that has old exposed stone such as an old cemetery. Check out the really old grave headstones. Can you see evidence of chemical weathering (the stone appears to crumble away). This activity is based on our Rocks & Minerals kit. The source for this lab was: http://www.consrv.ca.gov/cgs/information/kids_geozone/Pages/do_rocks_last_forever.aspx.

Praxis is hosting the Family Science Olympics today Saturday October 13, 2012 from 10:00 a.m. to 3:00 p.m. in the Science Wing of Medicine Hat High School, 5th Street Entrance. This registered community event where families participate for free in ten non-competitive fun science activities and may win a draw prize. Come and join in the fun. This year Kate Berger, gold medal winner in last year's Canada Wide National Science Fair, will be in attendance and will do two short presentations (11:30 am and 1:30 pm) on her Science Fair experiences. Come see her gold medal. For more information, see our website: <http://www.praxismh.ca/s&tweek.html>

Lorne Cooper, Regional Executive Director

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