Rolling Rounder - Teacher Notes

Rocks moving against each other will become rounder as bits break off. Fragments left create smaller fragments (often called sand or silt).
We will be shaking together small biscuits in jars to copy what happens to rocks in rivers. To make things work faster we will be adding a rubber bouncy ball.

Predict (good guess)
Which bits of biscuit do you think will break off first?
Any bump or outstanding part will be the first part to break off.

Materials per group

- Six small biscuits such as Tiny Teddy or Mini Monkey biscuits
- One jam jar and lid or small clear plastic container with well-fitting lid
- Small rubber bouncy ball (optional)

Method

1. Retain three biscuits for comparison (Before/After)
2. Place three biscuits in jar and screw on the lid
3. The group takes turns to shake the jar for one minute
4. Compare the shaken and unshaken biscuits
5. Draw any changes in the worksheet provided

Before After

PALMS
PRIMARY AUSTRALIAN LITERACY MATHEMATICS AND SCIENCE

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Rolling Rounder - Teacher Notes

Initially the outstanding pieces of biscuit will break off quickly. As the biscuit becomes rounder the weathering process slows down. Soft rocks can be broken down in hundreds and thousands of years. Some soft rocks will break down very quickly, especially if a current (water or wind) is fast and there are plenty of other rocks to bounce off.
Hard rocks can take millions of years to round off.

Cutting or faceting jewels is a quite recent development. A similar process to our Rolling Rounder experiment was used by ancient jewelers as they rolled semi-precious stones in barrels with steel balls to give them a pleasing rounded "cabochon" surface. This is also known as tumbling.