



## Magic Sand

### Introduction

When we play at the beach, we build sandcastles and make sculptures from sand. Sand sinks in water, and when mixed with a lot of water it acts more like a liquid than a solid. In this activity, you will observe how another type of sand, called Magic Sand, behaves when mixed with water.

### CAUTION! HEALTH & SAFETY

Do not eat the Magic Sand, and keep it away from your eyes. Be sure to do this activity with an adult!

### Materials

- Magic Sand
- plastic bowl
- paper
- water

### Procedure

Making a Sand Tower:

1. Wet and roll a small piece of paper into a tube.
2. Hold the paper tube so it is standing upright in the empty bowl.
3. Pour Magic Sand into the paper tube.
4. While holding the paper tube, carefully pour water into the bowl until it almost reaches the top of the paper tube.
5. Remove the paper tube by unwrapping it slightly, then lifting it out of the bowl. You have now made a sand tower.

Making Magic Sand Cakes:

1. Roll a small piece of paper into a funnel.
2. Use the funnel to place a small mound of Magic Sand into an empty bowl.
3. Gently pour water down the side of the bowl until the level is just below the top of the sand mound.
4. Add another mound of sand on top of the first, and then repeat step 3. Repeat steps 2 and 3 until your Magic Sand cake stack as high as you like.

Clean Up:

1. Pour off as much water as possible.
2. Pour the Magic Sand onto some paper towels or newspapers, and store in a baggy or plastic container. Magic Sand may be used over and over again.
3. Thoroughly clean the work area and wash your hands.

### Where's the Chemistry?

Magic Sand is made from regular sand (silicon dioxide) that has been dyed and coated with tiny particles of pure silica, and exposed to a special chemical treatment making it hydrophobic. Hydrophobic means, "scared of water", so a hydrophobic chemical is one that will not combine easily with water. Oil is a common example of a hydrophobic chemical.

If you pour some oil in a cup of water, it will float on the surface. Magic Sand behaves the same way, except it sinks! The coating on the outside of the Magic Sand pushes the water away. Take the Magic Sand out of water and it is perfectly dry!