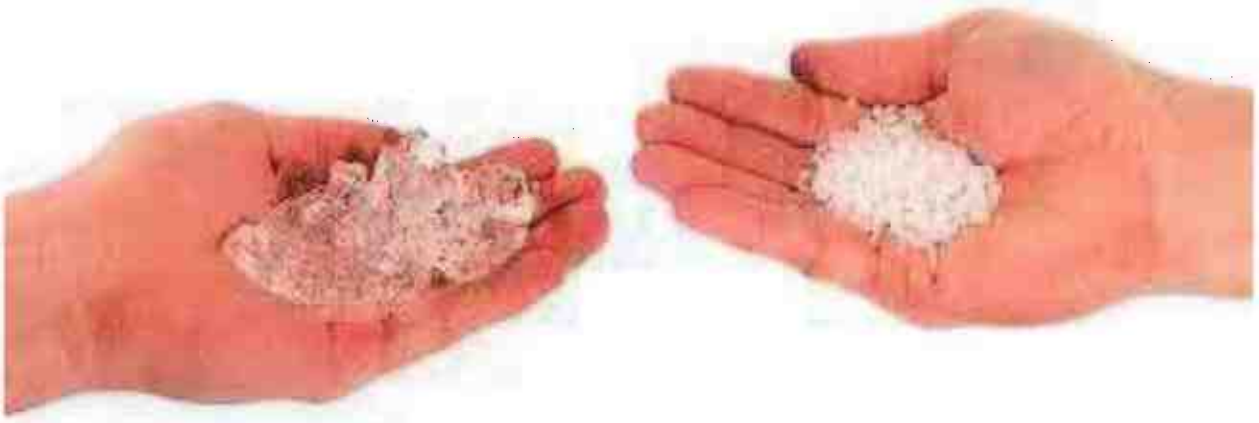
Water Jelly Crystals

PSS Kit Number 9

Description Explore how liquid affects the crystals.

Kit Contains

3 packs Water Jelly Crystals



PINT SIZE SCIENCE

SCIENCE SPROUTS

Water Jelly Crystals (Super Absorber)

MATERIALS NEEDED:

- Spill Trays
- Water Jelly Crystals
- 250 mL Beaker
- Water
- Paper & Pencil (record questions & results)
- Assessment Recording Sheet

***This investigation takes preparation. Use the trays to minimize clean up.**

- Let the children see the crystals before adding water. *What do they look like?* Use a tool, like a pencil, to feel the crystals. *What do they feel like? What do they think will happen when you mix the liquid water with the solid crystals?*
- Pour approximately 50 mL of crystals into the beaker. Add some water, and ask the students what they see. *Are they mixing? Does it look like anything is happening?*
- You will have to wait a few minutes for the reaction to be completed. Measure the amount of time. Let them feel the outside of the container. *Is there a temperature change? How do the crystals look different after they have been in the liquid?*
- Pour out the jelly crystals on to the spill tray. Use a tool, like a pencil, to feel the crystals. *Do they feel the same? Are they the same size? What happened to the water?*
- Allow students to repeat the experiment using different types of liquid, including colored water. Compare and share the results.
- Water jelly crystals can be dried out and reused or thrown in the garbage at the conclusion of the activity. It is not recommended for children to handle the crystals before or after they have absorbed the liquid.

Explanation of the Water Jelly Crystals:

Water Jelly Crystals are an example of hydrogels. It is a polymer (long chain of molecules) known specifically as cross-linked polyacrylamide copolymer gel. The molecular structure of the chain allows for it to absorb large amounts of water. One pound of crystals will absorb 25 gallons of tap water or 35 gallons of rain water. It is non-toxic and safe to use but should not be eaten. It is used as a soil conditioner in places that experience severe droughts. The crystals can be mixed into the soil. They will absorb the water and keep it from evaporating away or becoming run-off. You can experiment with using different types of water (distilled, tap, bottled or salt water). The crystals will absorb food coloring that has been dissolved in the water, allowing you to create a rainbow of colors. You can experiment with different types of liquids as well, such as juice, soda, milk or oil. When you are done with the crystals, they can be thrown in the garbage. If you used water in the experiment, the hydrated crystals could be added to the soil of potted plants, flower bed, grass areas or around the base of trees.

Liquid + Solid = Solid

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