
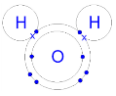

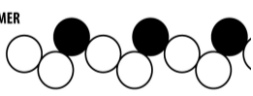


Super Absorbing Polymers

Atoms	Atoms are small particles that are the building blocks of all materials.	 Nitrogen Oxygen Helium
Molecule	A molecule is a group of atoms that are connected together.	 Water 2 hydrogen atoms & 1 oxygen atom
Monomer	A monomer is a special kind of molecule that likes to join with other similar molecules.	 MONOMER A monomer is a small molecule.
Polymer	A polymer is a group of monomers that are joined together in a repeating pattern.	 POLYMER

Polymers are large molecules made of small, repeating building blocks called monomers. One of the super cool things about polymers is that they can have very different properties depending on the atoms and monomers they are made from.

Super Absorbing Polymers

One group of polymers, called Super Absorbing polymers, are made up of atoms and monomers that let them absorb a lot of water. You can find these polymers in a lot of common products like diapers, cooling sport headbands and as a water source for cut flowers. These polymers are able to absorb a lot of water because the molecules form a 3-dimensional network sort of like a sponge, or jungle gym or the honeycomb of a beehive. This structure has small spaces so that water can easily come in and get “stuck” to the polymer. You can’t squeeze it out but you can let it leave through evaporation.





Let It Snow!

Insta Snow is made out of a very special super absorbing polymer. Not only does it absorb water very quickly, it expands to over 100 times its original size when it does. Clearly, the super absorbing polymer in a diaper doesn't do that or parents would have a big mess on their hands!



You can do lots of fun things with the Insta Snow – from decorations to arts & crafts (Hint – If you add a few drops of food coloring to the water you can get colored snow). In addition to using the snow for decoration, here are a few experiment ideas.

 **IDEA!** From a science perspective, Insta Snow should be able to absorb and release the same amount of water multiple times. In real-life, the materials wear down with use (sort of like getting a hole in your jeans). Does the amount of water Insta Snow can absorb change the more times you use it? Can you fully dry it out?

 **IDEA! Note – This idea requires adult supervision.** Insta Snow will dry out faster if you heat it up a bit. Is it possible to heat it up too hot so that it won't absorb water any more?