

Making Magnesium Sulphate Crystals:

You will need:

1. glass jam jar
2. glass bottle or jar
3. Epsom Salts (magnesium sulphate)
4. water
5. paint brush

How to make:

1. Dissolve Epsom Salts (magnesium sulphate) in a jam jar of hot water until no more will dissolve.
2. Brush a small amount of the liquid onto the bottle or jar.
3. Leave for 15 minutes or so and the liquid will quickly evaporate.
4. When it is dry, paint another layer and continue until the glass or jar is covered with a film of beautiful needle shaped crystals.

Information from Planet Science: What's going on?

Epsom salts is a common name for magnesium sulphate heptahydrate, $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$, a water-soluble bitter-tasting compound that occurs as white or colorless needle-shaped crystals. It was first prepared from the waters of mineral springs at Epsom, England; it also occurs as the mineral epsomite. Epsom Salts are used medicinally as a purgative; hence the phrase “through you like a dose of salts”!

The salt solution is called ‘saturated’ – it is holding as much salt as it possibly can. As some of the water slowly evaporates, the water that’s left can’t hold all the dissolved salt. The Epsom Salts recrystallise and appear as an intricate pattern of needle shaped crystals on the glass surface.

Crystals are a 3-dimensional organized array of atoms or molecules. They grow in particular shapes depending on how each face of the crystal develops. Magnesium Sulphate is orthorhombic in shape. In some cases other crystals start to form on top of the faces to give extraordinary patterns such as those seen in snowflakes.

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