Frosty patterns

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FROSTY PATTERNS: TASK

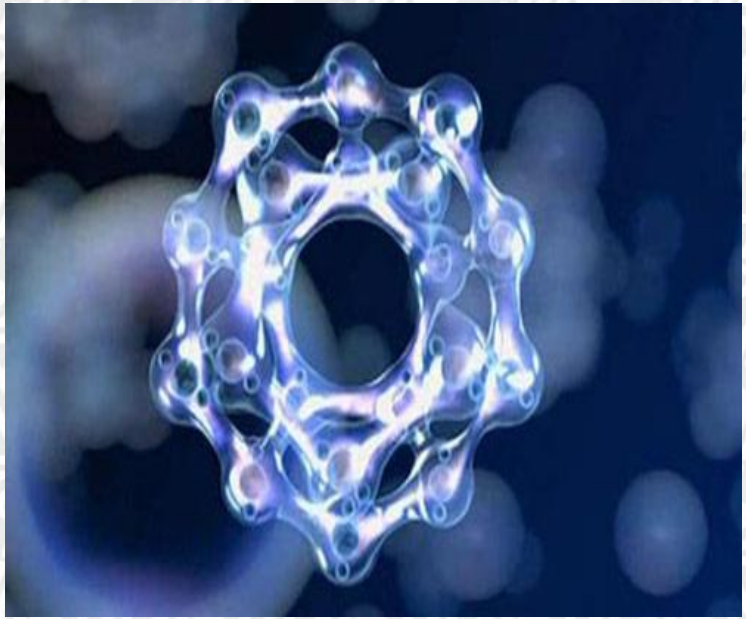
Patterns similar to frost on a winter window are obtained if magnesium sulphate in solution is deposited on a glass surface. Investigate this effect.

DEFITIONS:

Window frost is formed in a similar way to snowflakes it is call frosty patterns

Magnesii sulfas, $MgSO4$ is a medicine. It is used in the form of a solution for intravenous injection and in the form of powder for preparation of suspension for ingestion.

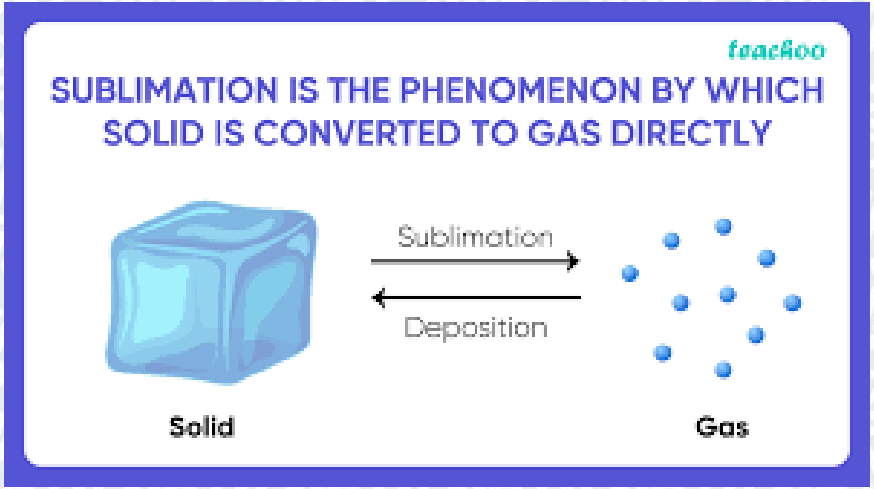
REASON



If the air cools, then the moisture content in it decreases. Frosty patterns on the glass and needles of frost are formed if moist air is cooled to the freezing point of water, that is, to 0 ° C.At this temperature, the excess moisture contained in moist air condenses on cold surfaces. At the same time, the water crystallizes, that is, it turns into the smallest ice crystals.

Frost patterns on window panes are, in fact, the same as the frost that forms on the ground and on tree branches.

Frost is a thin, uneven layer of crystalline ice formed by the sublimation of water vapor from the air on the soil, grass and ground objects when they cool to negative temperatures lower than air temperature



Dendrites arboreal

Trichytes fibrous formations

EXPERIMENT

The purpose of the experiment is to create frost patterns on pre-prepared glasses naturally or with artificially created mixtures.

I use:
Magnesii sulfas, $MgSO_4$
glass
tassel
gloves

Magnesii sulfas MgSO4

WHY I USE MAGNESIUM SULFATE ?

The composition with magnesium sulfate gave a white, dense, opaque pattern resembling snow. One must try to depict frosty streaks, "feathers", curls, improvised snowflakes, to get a nice look. The solution after a failed attempt can easily be removed with a damp cloth and the process can be repeated again.

after drawing the brush on the surface of the glass we see this result

CONCLUSION

-We figured out what the aggregate state is and studied the theory of ice (frost) crystal formation;
-Conducted an experiment with freezing of glass covered with various features in the freezer compartment of a refrigerator;
-Tried three ways of artificially producing "frost patterns" on glass.

Links:

https://www.wikipedia.org/

https://science-start.ru/ru/article/view?id=1862

https://tanja-shi-no.livejournal.com/420100.html

Thank you for your attention!