Frosty Glasses

Primary Audience:

Description: Winter weather brings frosty window. Ever wonder why? Try this activity to create your own frost.

Keywords: Frost, Freeze, Water

Concepts:

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Materials:

- Clear plastic cup or glass
- Ice
- Tap water
- Paper Towel
- 4 table spoons of salt (rock salt works best)

Instructions:

1. Fill the cup ¾ full of ice
2. Cover the ice with water.
3. Dry the outside of the cup with the paper towel.
4. Sprinkle the salt over the ice water.
5. Gently swirl the cup to mix the salt, water and ice.
6. Use your fingernail to scratch the outside of the cup every 15 seconds for two minutes. What happens?

Possible Interactive Questions:

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What's Going On?

- Water freezes at 32 ^{o}F (0 ^{o}C). Adding salt makes the temperature of the icy water cooler than the freezing point of pure water.
- The air around us contains water vapor. This water freezes on the surface of the cold cup. This is frost.
- Frost forms as water changes from gas to solid without going through the liquid state.

Further Exploration:

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Relevant Ohio Science Content Standards:

Earth and Space Sciences 3-5 D: Analyze weather and changes that occur over a period of time

- 4.3: Identify how water changes from one state to another (e.g. freezing, melting, condensation and evaporation).

Physical Science 3-5 B: Identify and describe the physical properties of matter in its various states.

- 4.4: Explain that matter has different states (e.g. solid, liquid and gas) and that each state has distinct physical properties.