Holiday Fun with Duke Energy Nuclear

Saturday, Dec. 5 (10 a.m. and 1 p.m.)

Materials List for Holiday Fun STEM Activities

Here are the materials you will need for this activity.

Activity 1: Frosted Atom & Snowflake Ornaments

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| Materials | Quantity |
| Borax (Available at grocery stores in the laundry soap section [example: 20 Mule Team Borax Laundry Booster]. Do not use Boraxo soap.) | 3 Tablespoons per ornament |
| Wide-mouth pint jar | 1 per ornament |
| String | 3-4 inches per ornament |
| White pipe cleaner | 2-3 per ornament |
| Pencil | 1 per ornament |
| Scissors | 1 |
| Boiling water | 1 jar-full per ornament |
| Blue food coloring | optional |
| Sugar or salt | optional (replaces Borax) |

**Frosted Atom & Snowflake Ornaments**

***Caution: Use adult supervision at all times. Borax is not edible; sugar or salt can be used as a borax substitute. Boiling water will also be used.***

Make crystallized atom and/or snowflake ornaments using borax, sugar or salt.

1. Make your atom or snowflake ornament with white pipe cleaner. (Size to fit into pint jar.)
2. Tie string to an atom or snowflake arm. Tie other end of string to the pencil’s middle.
3. Caution: Use an adult’s help! Fill the wide-mouth pint jar with boiling water.
4. Add borax\* one tablespoon at a time until three tablespoons are mixed into the boiling water. *\*Sugar or salt can be used as a substitute for small children – add sugar or salt until it stops dissolving.*
5. Add food coloring if desired.
6. Hang pipe cleaner ornament into the jar so that the pencil sits on top of the jar lid and the ornament is completely covered with the solution, but not touching the bottom of the jar.
7. Allow jar to sit untouched overnight. *(Sugar solution will take longer to crystallize.)*
8. Take ornament out of jar to dry – hang on your tree or in a window to catch sunlight!

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Here are the materials you will need for this activity.

Activity 2: Gumdrop Tree Challenge

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| Materials | Quantity |
| Gumdrops | About 40-60 |
| Toothpicks | At least 40 |
| Ruler(s) and/or tape measure |

**Gumdrop Tree Challenge**

Construct the tallest possible tree using toothpicks and gumdrops.

1. Gather materials.
2. Sketch or write a plan for your tree.
3. Begin with a simple tree made of only 5 gumdrops and 4 toothpicks.
4. Challenge yourself by building the tallest tree possible.
5. Measure the height of your tallest tree.
6. Analysis: What worked well with your tree construction? What was challenging? What would you do differently next time?

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