Fun and Simple Science Fair Project Ideas for Holiday Break

Rainbow Walking Water Experiment
Supplies: 5 clear cups, food coloring & paper towels
Hypothesis: Predict what will happen to the water!

Inflate a Balloons with Chemical Reactions
Supplies: 3 plastic bottles, 3 balloons and reaction ingredients such as lemon juice & baking soda, vinegar and baking soda, pop rocks or alka seltzer.
Hypothesis: Predict which reaction(s) will inflate the balloon!

Cookie Science
Supplies: Ingredients for your favorite cookie recipe and choose an ingredient to vary such as change the amount of baking powder, egg or use different types of flour or sweetener.
Scientific Method: Predict how the ingredient change will affect the cookies!
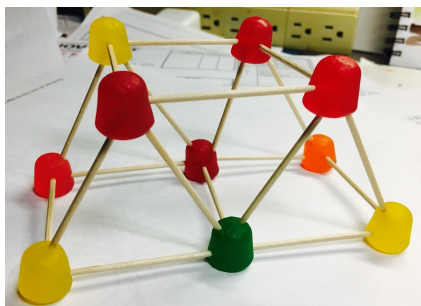Design Thinking Approach: How might we come up with a better gluten-free, dairy-free cookie?

Water Conservation Project
Design Thinking Approach: How might we conserve water?
Track your water usage for a day or a few days and evaluate how you could conserve water.

Toothpick and Gumdrop Bridge Challenge!
Supplies: Toothpicks and Gumdrops
(For older students: Toothpicks and Super Glue!)
Design Thinking Approach: How might we build a bridge from one desk to another with only toothpicks and gumdrops?
Scientific Method: Create three different toothpick structures. Predict which structure will support the most weight and test with an experiment.

Gingerbread House Stem Challenge!
Supplies: Graham crackers or gingerbread pieces, royal icing and decorations
Design Thinking Approach: How might we create a sturdy house?

Water Glass Xylophone

Supplies: 4-8 water glasses, spoon (food coloring optional but fun:)
Scientific Method: Predict how the sound will change based on the fullness of the glass.
Design Thinking Approach: How might we make a new musical instrument?

Brush your Teeth Project!

Supplies: Egg, Toothbrush, Coke and toothpaste(s)
Scientific Method: Predict which toothpaste works best or predict the effects of not brushing versus brushing 1x per day versus brushing 2x per day.
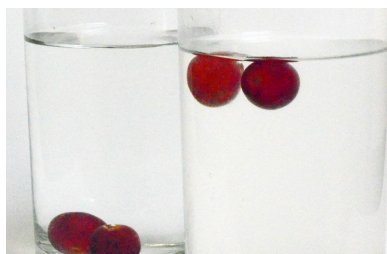
Lego Boat Challenge -or Tin Foil Boat Challenge

Supplies: Legos or Aluminum Foil and coins.
Scientific Method: Predict which type of board can hold the most coins before sinking.
Design Thinking Approach: How might we build a boat that will hold more cargo?

Sink or Float Experiment

Supplies: 3-4 glasses, grapes, salt, sugar, baking soda, water
Scientific Method: Predict if grapes will sink or float in various solutions such as sugar-water, salt-water (various concentration), baking soda water, etc.

Rainbow Milk Experiment

Supplies: Cream, 2% Milk, Fat-Free Milk, Food Coloring, Liquid Dish Soap and Q-Tips.
Scientific Method: Predict what will happen to the food coloring when liquid dish soap is added to each kind of milk.

Mask Testing or Masking Solutions Project

Supplies: Mask, Spray Bottle & Mirror, Candle (with adult supervision!!)

Scientific Method: Test different masks with spray bottle/mirror and candle blow-out test to see which types perform better.

Design thinking approach: How might we make a more comfortable mask for students?

Winter Bird Counting Project

Supplies: Binoculars (optional), Camera (optional)

Questions to consider: Do birds stay here over the winter? Which types of birds are here?

Travel to McIntosh Lake or Pella Crossing and record bird counts once a week for 3-4 weeks.

Egg Drop Challenge

Supplies: Egg, Various packaging materials

Design thinking approach: How might we protect a fragile object for shipping -or- how might we design a better bike helmet?

Scientific Method: Which packaging material best protects fragile items during shipping.

Apple Preservation Project

Supplies: Apples, Salt, Sugar, Lemon Juice, Vinegar, etc.

Scientific Method: Predict which ingredient will best preserve the apple.

Waste Reduction Design Thinking Challenge

Design thinking approach: Observe the waste that you generate each day and come up with ways that we might reduce our waste.