GRADES Pre-K–2



Kitchen Science

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Created by The Good and the Beautiful Team



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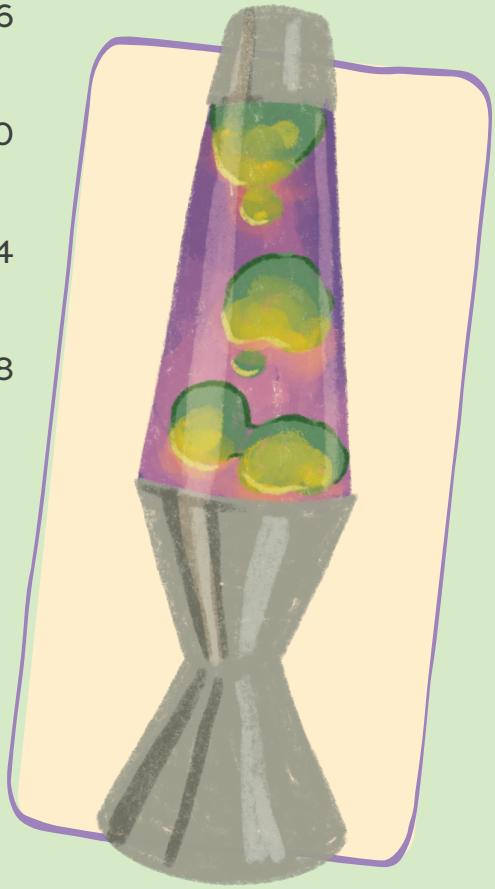
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ABOUT THIS COURSE

Little children's hearts and minds are most impressionable during the preschool and early elementary years, so it's an important time for molding the way they view learning. Your enthusiasm while teaching in a positive and uplifting manner can help foster a love of learning and a desire for all things good and beautiful.

HOW TO USE THIS COURSE

All lessons in this course are designed to be taught in your kitchen. Kitchen safety should be highlighted when working with your child. While we encourage your child to complete many parts of the experiments, parental supervision is required throughout the course.

We recommend that the lessons in this course be completed in order, as several of the concepts will build on your child's understanding of the previous lesson.

LESSON OVERVIEW

Each lesson will begin with teaching a science concept in a simple way, then will move to an activity and experiment.

In the "Look and Wonder" section of the lesson, a science concept will be introduced along with instructions for the child to experience the concept with hands-on activities. The parent will then guide the child in an experiment and lead a discussion as the child explores the concept.

Fun facts for the parent to share appear throughout the lessons, and the information shared in yellow bubbles specifically targets older children to engage them in the detailed scientific processes of the experiments.



Lesson preparation and supplies are listed on the left side of the first page of each lesson. While many of the supplies needed are everyday household items, it is suggested that you review the supplies and lesson preparation section prior to settling in with the child for the lesson.

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SUPPLIES

Lesson 1

- Glass of water
- Ice cube in a small cup or glass
- Gallon-sized zipper bags (One is required; a second is optional.)
- Ice (About 10 cups total will fill a gallon-sized zipper bag halfway and leave 2 additional cups.)
- 1 cup rock salt, divided
- 2 quart-sized freezer bags
- 1 cup cream (If you don't have cream, you can use milk. To make chocolate ice cream, use chocolate milk!)
- 1 tablespoon sugar (if desired)
- ½ teaspoon vanilla
- Warm winter gloves or a hand towel
- Fruit or candy to mix in (if desired)

Lesson 2

- Clear cup or jar with water
- Food coloring
- Paper towel
- Silicone soap mold
- Baking sheet (or other movable stable surface)
- Glycerin soap base (Clear is best. The amount you need will depend on the size of your soap mold.)
- Kitchen knife
- Cutting board
- 2 microwave-safe bowls or baking dishes
- Microwave
- Wooden spoon
- Essential oils to scent the soap (if desired)
- Small plastic toys
- Bar of Ivory soap (must be name-brand Ivory soap)

Lesson 3

- 2 pint-sized jars with lids
- ⅓ cup cooking oil
- Dish soap
- Glass of water
- Glass of milk
- Flashlight (the stronger, the better)
- 1 cup heavy cream
- Very cold water

Lesson 4

- 1 cup cornstarch plus some extra
- Plate
- Handful of O-shaped cereal
- String
- Mixing bowl
- Wooden spoon
- 1 packet hot chocolate mix
- ½ cup water
- Timer or stopwatch

Lesson 5

- 3 pieces of dark-colored construction paper or cardstock
- Pot for boiling water
- 8–9 cups water
- 1 cup plus 1 tablespoon rock salt
- 1 cup plus 1 tablespoon sugar
- 1–2 cups plus 1 tablespoon Epsom salt
- Magnifying glass
- 3 small bowls
- 3 cotton swabs
- Pipe cleaners
- Various small cookie cutters (optional)
- 3 large craft sticks or pencils
- String
- 3 wide-mouth glass pint jars

Lesson 6

- Kitchen scale
- Water
- Oil
- 2 small bowls
- 2 identical clear plastic cups larger than 8 ounces
- Paper and pen or pencil
- ¼ cup honey
- ¼ cup dish soap
- Quart-sized glass jar with a lid or plastic water bottle (ideally with smooth sides)
- Food coloring (any color)
- Effervescent tablets (such as for heartburn)
- Flashlight (optional)

Lesson 7

- 1 pencil
- 1 sheet of paper
- Timer or stopwatch
- Small hourglass (such as from a board game)
- 2 (16-ounce) plastic drink bottles (must be identical and completely dry)
- Small piece of thin cardboard (such as from a cereal box)
- Scissors
- Hole punch
- Craft sand, table salt, or colored fine sea salt
- Funnel (or paper rolled into a cone)
- Electrical or duct tape
- Bowl
- Twine (optional)

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SUPPLIES

Lesson 8

- 2–3 cups baking soda
- White vinegar
- Funnel (or paper rolled into a cone)
- Medium-sized balloon
- 2 empty plastic water bottles
- Water
- Baking dish or shallow plastic container with lid
- 1–2 bottles shaving cream (Shaving gel is not recommended.)

Lesson 9

- ½ gallon plus 1 cup whole milk (Raw milk or regular pasteurized milk should be used. Avoid "ultra-pasteurized" milk.)
- Large cooking pot with lid
- Mixing spoon
- Cooking thermometer
- 9 tablespoons distilled white vinegar
- Timer or stopwatch
- Slotted spoon
- 2 bowls (1 microwave safe)
- Heat-protective gloves
- Microwave
- ¼ teaspoon coarse-grain salt (such as kosher or flaky sea salt)
- Cold water
- A few ice cubes
- Paper towels

Lesson 10

- 20 paper clips
- Small ball that bounces
- Rubber band
- Cup
- Parchment paper or paper plates (optional to minimize mess)
- Permanent marker
- 5 plastic cups (1 large and 4 small)
- 1 cup warm water
- Several pairs of disposable gloves (optional)
- 2 tablespoons borax (Borax is toxic if ingested. Adult supervision is required.)
- 5 stirring sticks or spoons
- 2 tablespoons cornstarch
- 4 tablespoons liquid glue
- Liquid food coloring (Choose 4 different colors. Do not use gels.)
- Glitter (optional)
- Timer or stopwatch
- Plastic zipper bag
- Tape measure
- Bowl with ice or warm water

Lesson 11

- 1 pinch granulated sugar and 1½ cups for later
- 1 spoonful corn syrup and 1 cup for later
- Spoon
- Heat-protective elbow-length gloves
- 9-inch x 13-inch glass baking dish
- Cooking spray
- Small fine-mesh strainer or spoon (for sprinkling powdered sugar)
- Powdered sugar (confectioners' sugar)
- 1–2 bowls
- 1 cup cold water (divided)
- 3 (0.25-ounce) packets unflavored gelatin
- Whisk
- Candy thermometer
- ¼ teaspoon salt
- Heavy-bottomed deep saucepan
- Wooden spoon
- Mixer (stand mixer with whisk attached or hand mixer and bowl with high sides)
- 2 tablespoons vanilla
- Rubber scraper
- Parchment paper
- Cutting board
- Butter knife
- Pizza cutter or knife
- Towel

Lesson 12

- 6–7 cups distilled water
- Pie pan
- 1 tablespoon ground black pepper
- ¾ cup dish soap (Dawn or Joy brand recommended)
- 3 wide, shallow containers (such as empty food containers, trays, or baking dishes)
- 3 index cards (or pieces of paper of similar size)
- Writing utensil
- 2 tablespoons corn syrup
- 2 tablespoons sugar
- Large spoon
- Pipe cleaners
- 4 feet thin string
- Scissors
- 2 disposable straws
- Timer or stopwatch

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