The list of materials for the Household Chemistry course may be longer than what you expect. This is because the course is primarily composed of hands-on activities. It is likely that you already own many of the materials. Others are quite inexpensive and may be available in local dollar stores, grocery stores, or department stores.

You need these throughout the course:

- Access to water
- Computer
- Printer
- Printer paper
- Photo-taking device
- Old newspaper

The materials are listed for the individual activities within each unit.

Unit 1: States of Matter

Water's Freezing Point

Ice cube, 2 cm cube or larger	String, 10 cm length	Table salt

Gak

Safety goggles	Bowl or cup	Spoon
Measuring cup	Liquid starch, 100 mL	White glue, 100 mL
Water	Food coloring (optional), a few drops	

Inventory

Inventory Data Table (download from the course)	Pen or pencil	Miscellaneous assorted kitchen items

How Hot Can Water Get?

Small saucepan	Thermometer	Safety goggles
Oven mitt or potholder	Timer or stopwatch	Printed data table

Unit 2: Mixtures

Types of Mixtures

Measuring cups	Spoon	Milk, 250 mL
Warm water, 750 mL	Sugar, 40 g	Sand, 100 g
Glasses or plastic cups, 400 mL capacity or larger, 4	Flashlight	Safety goggles

Mixtures Lab: Salad Dressing

Jar with a lid, 500 mL	Dijon mustard, 10 mL	Olive oil, 120 mL
Vinegar, 10 mL	Salt	Pepper
Vegetables (e.g., celery, carrots, or cucumbers), crackers, or bread (optional)	Colored pencils, assorted colors	Piece of unlined paper
Safety goggles		

Separating Mixtures

Ziploc bag, sandwich size	Staples, 10, separated or steel wool cut into small pieces	Beads, plastic or glass, 20
Sand, 20 g	Water, 50 mL	Container that holds 100 mL of water
Bar or kitchen magnet	Strainer or colander	Coffee filters, 3
Cups, small plastic, 4		

Salt Water Evaporation

Measuring cup	Salt, 10 g	Warm water, 50 mL
A clear glass with capacity of 100 mL or larger	Salt Water Observation and Data form (download from the course)	Ruler
Spoon	Safety goggles	

Food Dye Chromatography

Coffee filters, 2	Food dye, 2 different colors	Scissors
Water	Small paper cups, 2	Ruler
Safety goggles		

Unit 3: Physical and Chemical Changes

The Naked Egg

Egg, in shell, uncooked	White vinegar (enough to completely cover the egg when placed in the jar; you need enough to do this two times)	Jar
Bowl	Slotted spoon	Safety goggles
Camera (optional)	Paper (optional)	Pen or pencil (optional)

Chemical Reactions #1

Yeast, 1 packet, newly purchased	A glass, 300 mL capacity or larger	Warm water, 50 mL
Spoon	3% hydrogen peroxide, 40 mL	Thermometer
Safety goggles		

Chemical Reactions #2

Baking soda, 20 g	A glass, 400 mL capacity or larger	Vinegar, 50 mL
Thermometer	Safety goggles	

Unit 4: Atoms and Molecules

Build an Atomic Model

Paper plate, any size	Marker	Modeling clay, 100 g
*Glass or plastic beads, 6	*Kidney beans (dry), 6	*Chickpeas (dry), 6
White glue		

*Can substitute other small objects that you have on hand for making your model

Candy Balancing Equations

M & Ms, Skittles, or other different color candies (blue, red, green, and orange; 10 of each color)	Candy Balancing Equations Form (download from the course)	Colored pencils (blue, red, green, and orange)

Ionic and Covalent Compounds

M & Ms, Skittles, or other different color candies (10 candies for each of 2 colors)	Ionic and Covalent Compounds Sheet (download from the course)

Unit 5: Biochemistry

Churning Butter

Safety goggles	Heavy cream, 400 mL	Jar with lid
Butter knife	Bread	

Enzyme Action: Lactose Free Milk

Lactase tablet	Large cups, 2	Spoon
A mortar and pestle or something that can be used to grind the tablet	Milk, 500 mL	Safety goggles
Glucose test strips (2)		

Enzyme Action: Fruit in Jell-O

Jell-O-O (1 small package)	Hot tap water, 250 mL	Cold tap water, 250 mL
Large bowl	Medium size plastic bowls, 2	Spoon
Fresh pineapple or kiwi	Safety goggles	

Apple Browning

Apple slices (5)	Baking soda solution, 10 mL (3 teaspoons of baking soda to 60 mL of water)	Room temperature water, 10 mL
Paper cups, 4	Lemon juice, 10 mL	Hot water, 10 mL
Paper plate	Safety goggles	Tweezers or tongs
Pen or pencil	A camera	

Unit 6: Fermentation and Food Preservation

Yeast Fermentation

Yeast packet	Sugar, 25 g	Glass jar, 500 mL
Stirring rod or spoon	Warm water, 100 mL	Test tubes, 2
Small latex-free balloons; must fit securely on the test tube	Safety goggle	

Yogurt Making

2% Milk, 240 mL	Food thermometer, 0-100C	Measuring cups, up to 240 mL
Jar with lid, 500 mL	Saucepan, 1 L	Plain yogurt, 200 mL
Safety goggles	Stove	Kitchen towel
Spoon		

Food Preservation

Oven	Baking tray	Apples, 3 cut into thin slices
Cinnamon, 1 tsp	Distilled water, 4 L	Salt, 30 g
Fresh dill, 1 small bunch	Cucumbers, 6 small	Large pitcher
Ziploc bag, 1 large	Small jar with a lid	Berries, 2 cups
Ziploc bag, sandwich bag	Sugar, 51 g	Plastic spoon
Saucepans	Refrigerator	Safety goggles

Unit 7: Water

Properties of Water

Cups, 4, 100 mL	Cup or bowl, 400 mL	Paperclip
Tweezers	Small coin	Microscope slides
Rubbing alcohol, 50 mL	Water, 50 mL	Eyedroppers, 3
Salt	Celery	Food coloring (small bottle)
Plastic cups, 500 mL	Permanent marker	Stir rods, 2
Paper towels	Gummy bears	Small paper cups
Measuring cup, 25 mL	Balance	Safety goggles

Rock Candy

Sugar, 600 g	Spoon	Water, 250 mL
Heat safe jars, 500 mL	Hot plates	Bamboo skewers or craft sticks
Safety goggles		

Ice Cream

Ziploc bag, 1 L	Large Ziploc bag, 4 L	Half and half, 125 mL
Sugar, 15 g	Vanilla extract, 1 mL	Ice
Rock salt, 90 g	Safety goggles	Spoon
Paper cup		

Unit 8: Vitamins and Minerals

Advertisement

Paper and colored pencils or markers

Extracting Iron from Cereal

Iron fortified cereal (1 box)	Ziploc bag	Safety goggles
Strong magnet; neodymium magnets preferred		

Rates of Reaction

Alka-Seltzer tablets, 6	Measuring cup, 100 mL	Medium size pot
Ziploc bag	Large jar, 500 mL	Thermometer
Stopwatch	Vinegar, 500 mL	Stove
Safety goggles		

Unit 9: Acids, Bases, and Soap

The pH Scale Lab

Measuring cup, 25 mL	Tap water, 10 mL	White vinegar, 10 mL
Red cabbage indicator	Lemon juice, 10 mL	Soapy water, 10 mL
Salt water, 10 mL	Cups, 4 oz. size, 8	pH indicator paper and color key
Seltzer water, 10 mL	Ascorbic acid, 10 mL	

Clean Coin Challenge

Cups	Baking soda solution, 50 mL	Lemon juice, 50 mL
Water, 50 mL	Unclean copper coins, 5	Measuring cup, 100 mL
Tweezers	Paper towels	Safety goggles
pH indicator paper and color key		

Soap Investigation

Liquid dish soap, 5 mL	Tap water, 100 mL	A jar with a lid
Vegetable oil, 100 mL	Measuring cup, 100 mL	2 Styrofoam plates with raised edge
Straw	Food coloring	Whole milk, 100 mL
Safety goggles		

Unit 10: Polymers

Athletic Shoes

Pair of your athletic shoes

Bouncy Ball

Measuring spoons, 5 mL	Warm water, 60 mL	Cornstarch, 23 g
Borax powder, 4.5 g	White glue, 15 mL	Paper cups, 2, 100 mL capacity or larger
Craft stick or plastic spoon	Food coloring, several drops of any color	Ruler
Safety goggles		

Recycling Code Scavenger Hunt

Assorted polymer products, items found around the house	Recycling Code Scavenger Hunt Table (download from course)

Skewered Balloon

Paper towel	Bamboo skewer	Safety goggles
Balloons, latex-free, round shape, (when inflated, must be shorter than the bamboo skewer), 3	Camera or phone with videotaping capability	Vegetable oil or dishwashing soap, small amount

Toys that Grow

Growing toy	Bucket or large bowl	Ruler
Kitchen scale (optional)	Water	Toys that Grow Form (download from course)

Unit 11: Light, Color, Pigments, and Paint

Chalk Paint

Colored chalk, several of 2 different colors	Ziploc bags, sandwich size, 2	White glue, 40 mL
Water	Paper, white, copy paper size	Wooden mallet or hammer
Craft sticks, 2	Small paper cups, 2	Paintbrushes, 2
Safety goggles		

Natural Dyes

Cotton balls, 3	Rubbing alcohol, 20 mL	Safety goggles
Black tea, brewed for 3–5 minutes, 10 mL	Berries (raspberry, blackberry, or blueberry), 5 of the same type of berry	Paper cups, bathroom size or larger, 3
Ziploc bags, sandwich size, 2	Spinach, 3 or more leaves	Paper towel

Stains

Cotton cloth or cotton napkin, light color	Vegetable oil, 15 mL	Grass or leaves
Dish detergent, 5 mL	Baking soda, 30 g	Paper cups, small, 15
Spoons, 2	Permanent marker	Scissors
Coffee, brewed, 15 mL	Water	Paper towels
Lemon juice, 30 mL	Container, 50 mL capacity or larger	Measuring spoons
3% Hydrogen peroxide, 30 mL	Stains Data Table (download from course)	

Invisible Ink

Lemon juice, 10 mL	Cotton swab	Paper cup, small
Safety goggles	White copier paper or lined notebook paper	Heat lamp, incandescent light bulb, or a hair dryer