

Materials for Activities

Chapter 1

Hard boiled eggs
Drinking glass
Vinegar
6-10 similar objects (buttons, paper clips, screws, keys, donuts, etc.)
Activity Worksheet (provided)

Chapter 2

Fluorescent light bulb
Balloon
Small plastic object
Container of water

Chapter 3

Toothpicks
Gumdrops or marshmallows (2 different colors)
Colored pencils/crayons
Paper
Copies of Activity Worksheet (provided)
Two pennies
Two nickels
One paper bag or other opaque container

Chapter 4

Salt
Water
Disposable cups
Freezer
Activity worksheet (see attached)

Chapter 5

Various magazines to cut apart or several small items
Modified blank periodic table (provided)
Periodic Table cut outs (provided)

Chapter 6

Aluminum foil
Ketchup
Stainless steel pan
One coffee cup
Two metal spoons
Thermometer
Hot water

Chapter 7

Water
Plastic cups
Measuring cups and disposable measuring spoons (check out discount stores!)
1000 mg vitamin C tablets (or two 500mg tablets)
Tincture of iodine
Hydrogen peroxide
Liquid laundry starch
1 bottle of Fluoride rinse solution
2 eggs
Vinegar
3 drinking glasses

Chapter 8

Several diapers (cheap brands will work fine!)
Water
Paper towel
Measuring cups
Microwave or stove
Leaves
Tall drinking glass
One coin
Rubbing alcohol
Paper coffee filters cut into 1"x 5" strips
Tape
Pencil

Chapter 9

1 glass mixing bowl
3 Tsp baking soda
4-5 Tbsp vinegar
10 2-cm pieces of vermacelli (raisins will work as well!)
Water
Water
Rubbing Alcohol
Colored dishsoap
Corn Syrup
Food coloring
Clear drinking glass
Effervescent antacid tablets

Chapter 10

5-10 Mentos candies
2L bottle of soda
Paper rolled into a tube (just a bit larger than the candies)
Small piece of cardboard
Outdoor area
Whole milk
Sugar
Vanilla
Rock salt
Ice
Quart and gallon-sized sealable baggies
Thermometer

Chapter 11

Small amount of water
Four effervescent tablets
One wide-mouthed container slightly larger than the water bottle
Empty 2L bottle with label removed
Small amount of warm water
Match (have a parent help you!)

Chapter 12

Ziplock baggie
2Tbs baking soda
2Tbs red cabbage juice (see recipe below)
2Tbs calcium chloride (sold as Morton Ice Melter in the auto section of stores)
2Tbs vinegar
Activity worksheet (see attached)
Several effervescent tablets
Water
Clear drinking glass
Microwave or stove
Clock with a second hand

Chapter 13

M&M's
Ziplock baggie
Data chart (see attached)
Three sizes of candy bars or cookies, (i.e Snickers Bars, fun size, regular, and king sized)
1 Box
1 Towel
Gloves
Goggles
Tongs
Kitchen scale (if this is not possible, you can make a balance out of a ruler and objects with a known weight like bags of cookies and chips...)

Chapter 14

Several balloons
Confetti
Needle or pin to pop the balloon
Ruler
Dominos
Ruler
Steady table

Chapter 15

Tap water
Rubbing alcohol
Clear, narrow-necked plastic bottle
(skinny water bottles work well)
Food coloring
Clear plastic drinking straw
Modeling clay
Ice cubes
Drinking glass
Cup or spoon to measure water from
melted ice
Insulating materials (i.e. hands, cloth,
stryofoam, packing peanuts, foil,
paper, tape, newspaper, towels, etc.)

Chapter 16

Activity worksheet (see attached)
Container of six pennies made before
1982 and seven made after 1982
Radioactive quiz (see attached)

Chapter 17

Element Flash Cards (Chapter 5)
Rings in various sizes (wire, pipe
cleaners, embroidery hoops, etc.)
Small objects such as pompoms, jelly
beans, gum drops, mini marshmallows
or clay
Fishing line or thin string (optional)
Element Flash Cards (Chapter 5)
Electron orbital chart (see attached)

Chapter 18

Black construction paper
Pie or cake pan
Warm water
Epsom salt
Scissors
Lemon (quartered)
Clear drinking glass
Liquid dish/hand soap
Baking soda
Measuring spoon
Straw
Paper towels

Chapter 19

1/4 cup no-tears baby shampoo
(Liquid hand washing soap works well
too!)
3/4 cup water
3 tablespoons light corn syrup
Straw
Additional water
Black trash bag
Tape
Ruler
Sponge/Towel
Plastic dish
Tweezers/pliers
Fine copper wire, about 5cm long
Wire cutters
50mL distilled water

Chapter 20

Black pepper
Water
Dish/bowl
Liquid dish soap
Plastic mesh bag (used for produce at the grocery store) or old window screen
Wide mouth bottle
Rubber band
Index card
Pitcher of water
Bucket

Chapter 21

Bowl
1 cup cornstarch
Spoon
Pie pan
Scissors
Water
Container of water
Several ice cubes
Two feet of string
Salt
Clock with second hand

Chapter 22

Pre-washed white t-shirt
Sharpie® Permanent Markers (Red, Orange, Yellow, Green, Blue, Purple)
Plastic Cup
Rubber Band
Rubbing Alcohol
Dropper Bottle or medicine dropper
Safety glasses
Measuring cup and spoons
Vinegar
Baking soda
Reclosable bag (a quart-size zipper-lock bag)
Toilet Paper
Warm and ice-cold water

Chapter 23

Dirty Pennies - try to collect tarnished pennies that all look the same
Taco Sauce - Packets from Taco Bell can be used
Vinegar
Tomato Paste
Salt
Water
Small plates
1/2 C milk or heavy cream
Vinegar or lemon juice
Saucepan
Stove

Chapter 24

Red cabbage juice (from activity in Chapter 12)

Milk of Magnesia

Water

Large clear bowl

Spoon

Vinegar

Measuring cups/spoons

Raw egg

Red cabbage juice (from previous activity)

Pan

Mixing bowl

Fork/whisk

Cooking spray (or oil)

Chapter 25

Ruler

Pencil

Ice

Two caps from drinking bottles

Water

Lamp (optional)

9-volt battery

Aluminum foil, approx. 6 cm x 10 cm
(2 per group)

Salt

Electrical wires with alligator clips (2
per group)

Small bowl

Water

Spoon

Measuring cup

Chapter 26

Two drinking glasses

2 spoons

2-sugar cubes

Warm water

Two drinking glasses

2 spoons

2 sugar cubes

Cold and warm water

Chapter 27

Large box of baking soda

One quart of vinegar

Small lighter

Empty aquarium or other large
container (plastic will work fine)

Small candle

Water

Glass bowl (sides must be at least
twice as high as the candle flame)

Effervescent tablets

Clock with second hand

Chapter 28

Hydrogen peroxide

One teaspoon yeast

Cup

Toothpick and match (optional)

Tall glass jar (mason jars work well)

Small dish

Nickel

Birthday candle

Chewing gum or clay

Matches

Water

Chapter 29

Salt-free crackers

Two disposable cups/plates

Iodine

Drinking glass

Spoon

Water

Starch packing peanuts (they look almost like styrofoam peanuts)

You can find these peanuts in most large arts and crafts stores as well as in many companies that receive large boxes of materials via the mail. Contact various businesses for their assistance as these packing peanuts are typically discarded.

Chapter 30

Cereal (Total or generic equivalent seem to work well)

Magnets (the more powerful the better - try getting some of the rare Earth magnets which are very powerful at a local craft store)

Water

Ziplock bag

Bowl Apple slices (8 slices)

Vitamin C tablets (from your activity in Chapter 7)

Knife

Rolling pin/brick/spoons (used to crush the tablets)

Ziplock baggies

Plate

Chapter 31

Whole milk

Food coloring

Water

Cotton swabs

Shallow dish

Liquid soap

McDonald's Happy Meal

Blender

Liquid measuring cups

Sauce pan

Tall, skinny and clear container (i.e. olive jar, thin water bottle)

Chapter 32

Licorice sticks or ropes, red and black

Gumdrops, jelly beans, or marshmallows in 4 colors

Toothpicks

Fishing line or string

Banana

Salt

Warm water

Blender

Liquid soap

Toothpicks

Strainer

Glass jar

Rubbing alcohol

Chapter 33

Very dark room

Mirror

Wint-O-Green Lifesaver mints

Three light sticks (the disposable ones that you crack to make them glow)

Two glass container

Very warm and ice cold water

Chapter 34

Baking soda

Vinegar

Styrofoam cup

Thermometer

Water

Measuring cup/spoon

Syrup

Clear plastic bottle about 15 oz capacity or slightly larger, with tightly fitting cap

Stopwatch

Glass marble small enough to fit through the mouth of the bottle

Permanent marking pen

Several books

Chapter 35

1 $\frac{1}{2}$ cups corn starch

$\frac{1}{4}$ -1 cup Water

Bowl with tall walls

Large bolt

Nuts and/or washers to fit the bolt

Clock with second hand

Pastry for two pie crusts (top and bottom)

Box of crackers

$\frac{1}{2}$ cup Sugar

1 tsp Butter

Cinnamon

$\frac{1}{2}$ tsp Cream of tartar

Pie pan

Large pot

Chapter 36

Bar of Ivory™ soap

Paper towel or microwave-safe dish

Microwave oven

Baking soda

Vinegar

Waterproof container with tall sides (i.e. plastic shoebox, aquarium, large bowl, etc.)

Bubble solution