

# Materials for Activities

## Chapter 1

Drinking straw  
Paper plate  
Cotton balls

## Chapter 2

10 inch square piece of cardboard  
Four pieces of string (3 feet long)  
Small paper cup  
Clock  
Pencil  
Two or three eggs  
One bed sheet

## Chapter 3

A chair with wheels  
A ball to toss (i.e. a tennis ball)  
Lightweight plastic kitchen garbage-can liners  
Scissors  
Ruler  
(12) 20-inch lengths of light string  
3 plastic sandwich bags

## Chapter 4

Four food products of differing viscosities (i.e. ketchup, yogurt, corn syrup, cooking oil, etc.)  
Funnel with at least  $\frac{1}{2}$ " opening.  
Drinking glass  
Clock with second hand or stopwatch  
Measuring cup

## Chapter 5

Several sheets of notebook/typing paper  
Masking tape  
Several books  
Plastic drinking cup  
Scissors  
Water

## Chapter 6

Toy car and passenger (i.e. sponge, doll...)  
Ramp (made from rulers, wood, cardboard, etc.)  
Brick or stack of books  
Ruler  
Books  
Two paperback books (i.e. phonebooks) that contain at least 100 pages

## Chapter 7

10-15 quarters  
Smooth counter top  
Yard stick  
Large outdoor area  
Tape, string, or anything that can be used as a finishing line

## Chapter 8

Racquetball  
Utility knife  
Scissors  
Tennis balls, basketballs, etc.  
Balloons  
Several small books  
Small block of wood (5 inch square)  
Nails or screws  
Hammer or screwdriver

## Chapter 9

Two (2) Broom handles 2-3 feet long  
Rope, strong, 25 feet long  
Three people  
Three or four large potatoes  
Cutting knife  
Two feet of 1/2" PVC pipe  
Wooden dowel rod (it should be over two feet long and wide enough to slide through the PVC tube)

## Chapter 10

Pencil  
Scissors  
5-6 books  
Ruler  
Sealable bag filled with about 1 cup of rice or dried beans  
Rubber band  
Tape

## Chapter 11

Two film canisters  
Book, piece of wood, etc.  
Water  
Clock  
Tape  
Two large paper plates  
Two small paper plates  
15-20 large rubber bands  
Two small pieces of paper  
(less than one inch square)  
Two push pins  
Glue (White glue will take much longer than hot glue)  
One large sheet of cardboard  
(2 foot square or larger)

## Chapter 12

Quarter  
Ruler  
Potato  
Knife  
Stick of room temperature butter

## Chapter 13

Basketball  
Tennis ball  
Yardstick  
Stapler  
Drinking straw  
About 20 cardboard toilet paper rolls  
Sheet of cardboard (about 2' x 8")  
2 bamboo skewers or similar objects  
5-6 index cards  
(or similar amount of heavyweight paper)  
Pencil or pen  
Paper clip  
String, about 12 in  
Ruler  
Scissors  
Glue

## Chapter 14

Chewing gum  
Two film canisters  
Glue  
Wood plank, books, (to be used as a ramp)  
Clock with a second hand  
Tape  
Twelve or more similar-sized balls  
(i.e. tennis balls)  
One box or plastic tub  
(large enough to easily hold the balls with room to spare)

## Chapter 15

Empty pop bottle  
Sand, gravel, pennies, etc..  
(small objects to fill the pop bottle)  
String  
Paperclip  
Nail  
Tape  
Clock  
2 plastic film cans  
Handful of coins  
2 pieces of metal wire, each about 8 inches  
String about 3 feet long  
2 chairs

## Chapter 16

Small bag of unsalted, mixed nuts  
A cork  
A needle  
Foil square (about 12 inches)  
Matches/lighter  
Clock with a second hand  
Outdoor or well-ventilated area  
McDonald's Happy Meal  
Blender  
Measuring cups for liquid (clear)  
Sauce pan  
Tall skinny and clear container  
(i.e. olive container)

## Chapter 17

Two Large Baggies (Gallon-size works well)  
Vegetable shortening (enough to fill a large baggie)  
Bucket of ice water  
Two small sealable baggies  
(sandwich or quart-size works fine)  
Thermometer  
Small objects to be used as weights  
(to keep the baggies submerged under water)  
Several household objects made of wood, metal, glass and plastic  
Thermometer

## Chapter 18

One Styrofoam cup  
Three metal spoons  
Thermometer  
Hot water  
Scissors  
String  
Tape  
Lamp with light bulb

## Chapter 19

Pan with lid  
Bag of microwave popcorn  
Hot air popcorn popper  
Popcorn  
Oil  
Two plastic/glass cups  
Two identical thermometers  
Sunny window  
Piece of white and black paper  
Tape  
Water

## Chapter 20

Microwave oven  
Cheese  
Cheese grater  
Plate  
Calculator  
One small hobby motor  
(1.5-3 volts; Radio Shack #273-223)  
Two AA batteries  
One AA battery clip for two batteries  
(Radio Shack # 270-382)  
Two wires with alligator clip leads  
(Radio Shack # 278-001)  
One inch piece of dowel rod with small hole drilled in one end  
One fishing swivel  
Three feet of braided string  
(old shoestring works well)  
Staple gun or thumb tack

## Chapter 21

15-20 vanilla wafers

White icing

Spoon

Food coloring

(red, blue & yellow)

Plastic knives or craft sticks

1-3 Dinner plates

Paper towels

white surface

(i.e. painted wall, poster board, etc.)

One red, green, and blue light bulbs or flood lamps,

3 light sockets of any type that will hold the light bulbs

Any solid object such as a pencil, ruler, finger, etc.

## Chapter 22

Three 6 x 6 inch mirrors (Plastic mirrors are safest, glass mirror tiles can be found at hardware stores)

Duct tape

A piece of light cardboard (such as a file folder)

Silver Christmas tree balls

A box with sides higher than the diameter of the balls.

A sheet of styrofoam large enough to cover the bottom of the box

Black construction paper

(enough to cover the Styrofoam)

## Chapter 23

Mini-MagLite or penlight

4 to 6 glue sticks

(must be the clear ones used in glue guns)

Sheet of white paper

Clear packaging tape

Compact Disc

Flashlight

(the Maglite from the previous activity would work great)

Piece of white paper

## Chapter 24

Masking tape

Few sheets of white paper

Large cardboard box (you'll need a foot of headroom inside the box as it rests on your shoulders)

Utility knife

Scissors

Aluminum foil

Duct tape

Push pin

Dark sweatshirt/towel

Pencil

## Chapter 25

1-2 feet of string

One toothpick

One small paper cup

Water

750 ml plastic water bottle

$\frac{1}{2}$  cup liquid dish soap

$\frac{1}{2}$  teaspoon Light Kayo Syrup or Glycerin

Water

Black film canister

Small dish

Sharp pencil

## Chapter 26

8 feet of  $\frac{1}{2}$  inch PVC

Saw

Permanent marker

Lots of friends

Drinking straw

Scissors

## Chapter 27

Two AA batteries

One AA battery clip for two batteries

(Radio Shack # 270-382)

Two wires with alligator clip leads

(Radio Shack # 278-001)

Battery operated buzzer (Radio Shack #273-053)

10 feet of rope

An old sock

String

Metal forks and spoons

Scissors

## Chapter 28

Blindfold

Several friends

5-7 small common household items

5-7 black film canisters

## Chapter 29

Plastic ruler

Wool or other cloth

4 in strip of paper

Tape

Yardstick or measuring tape

A plastic item (i.e. pvc tubes, plastic rulers, pens, etc.)

A piece of wool cloth or fur

Piece of white paper

Tablespoon of salt and pepper mixed together

## Chapter 30

9-volt battery and clip (Radio Shack #270-324)

Standard light socket

Wire stripper

8 inches insulated wire (Radio Shack #278-1219)

Wood (8"x12")

Wood screws (4)

100-watt light bulb

Grocery bag

Hammer

Screwdriver

3-volt flashlight bulb with threaded base (Radio Shack #272-1124)

Threaded socket for flashlight bulb

(Radio Shack #272-357)

12 small soft balls

(i.e. tennis balls, ping pong balls, etc.)

## Chapter 31

Scissors and tape  
20 inches wire, 18 or 20 gauge (Radio Shack #278-1219)  
Wire strippers  
Aluminum foil  
2 tablespoons table salt  
1 quart of water  
Pitcher or bowl with a spout  
5 plastic cups  
6 alligator-clip leads (RadioShack #278-001)  
Light-emitting diode (LED) (RadioShack #276-330)  
Vinegar  
Cardboard shoe box lid  
8 brass paper fasteners (aka-"brads")  
Pen or pencil  
2 feet insulated wire (Radio Shack #278-1219)  
Small flashlight bulb (Radio Shack #272-1124)

## Chapter 32

Balloon  
Steel wool  
Tape  
Two wire leads with alligator clips  
(RadioShack #278-001)  
9 volt battery  
Styrofoam dinner plate  
A piece of wool cloth  
Disposable aluminum pie pan  
A Styrofoam cup  
Masking tape

## Chapter 33

Total® brand cereal, or other high iron content breakfast cereal  
Water  
Zip type bags  
One metal paperclip  
Three identical magnets  
(Super-strong craft magnets found in most large craft stores would work)

## Chapter 34

One large nail  
Wire (1 m long)  
D-size battery  
Several paperclips  
Tape  
Wire stripper or knife  
3ft insulated wire (Radio Shack #278-1219)  
Steel bolt  
Audio cable (headphones) for small radio (Radio Shack #HA-10FC)  
\*Small radio (Radio Shack #12-467)  
\*Portable tape cassette player with speaker (Radio Shack #CX-CD248)

\*Any portable music player will work in this activity, as will any cassette player! Don't spend a lot of money!

## Chapter 35

One super-strong craft magnet  
(found in most large craft stores)  
A needle or straightened paper clip  
Piece of cork, small flat piece of Styrofoam or plastic lid from a milk jug  
A pie pan with about one inch of water in it  
1 paper grocery bag  
1 D-size battery  
2 ceramic donut magnets (Radio Shack #64-1888)  
Masking tape  
Marker or thick pen  
Magnetized needle or straightened paper clip  
(from "Create a Compass")  
1 foot of string

## Chapter 36

One super-strong craft magnet  
(found in most large craft stores)  
One AA or AAA battery  
One screw or nail  
Five-six inches of copper wire with ends stripped  
40-50 inches wire, 18 or 20 gauge  
(Radio Shack #278-1219)  
A disposable ball point pen  
Lantern battery, 6 volts or more  
The largest iron nail that will fit inside the pen (loosely)  
Wire stripper or knife