

# Shopping List for Unit #1: Mechanics

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## How many of these items do you have?

You'll find dozens of experiments with every lesson, so you can pick and choose the experiments you want to do. This program has *hundreds* of experiments, projects, and activities to choose from depending on your child's interest, your family budget, and what's available to you in your area. **You don't need to do them *all* to get a great science education!**

## Focus on *quality*, not quantity when planning your activity list.

Here's how to use this shopping list:

1. Look over the list and circle the items you already have on hand.
2. Browse the experiments and note which ones use the materials you already have. Those are the experiments you can start with.
3. After working through the experiments, your child might want to expand and do more activities. Make a note of the materials and put them on your next shopping trip OR order them online using the links provided below.

We've tried to keep it simple for you by making the majority of the items things most people have within reach (both physically and budget-wise). We'll be re-using these materials in later units as well.

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### Force Experiments:

Balloon (7-9" Latex works great)  
Ping Pong Ball  
Tissue paper or newspaper  
Handful of packing peanuts or paper confetti  
Bubble juice (*12c cold water + 1 c dish soap*)  
Ball (any size)  
Compass  
Paper clips (10-15)  
Magnet  
String or yarn (about 2 feet long)  
O-shaped cereal (any brand is fine)  
Milk (or water)  
Spoon and bowl  
Rope (about 3' long)  
Paper  
Two pencils or sticks  
Index cards  
Blocks  
Straws  
Clay  
Disposable cups

### OPTIONAL:

Fluorescent bulb  
Wool sweater  
Plastic bag (the kind from the grocery store)

### Additional Items for Grades 9-12:

Index card or scrap of cardboard  
2 small mirrors  
2 rare earth magnets  
Nylon filament (thin nylon thread works, too)  
4 rare earth magnets  
Laser pointer (*any kind will work*)  
Water glass (or cleaned out pickle jar)  
Wooden spring-type clothespin  
Hot glue gun

### Gravity Experiments:

Ball (any size)  
Stopwatch or timer  
Pencil  
Paper  
Ruler  
2 quarters

Ping Pong Ball and Golf Ball (*or two different kinds of balls that are the same size but different weight*)

**OPTIONAL: Hovercraft Project**

1 wood skewer  
1 wood popsicle stick  
1 straw  
Two 3VDC motors  
2 propellers  
9V battery clip with wires  
9V battery  
1 SPST switch  
16 oz. styrofoam cup (the kind used for sodas)  
1 foam hamburger container  
1 foam meat tray (approx. 10"x12"x1")

**Additional Items for Grades 9-12:**

Calculator

**Friction Experiments:**

Paper  
Pencil or pen  
Shoes (*any shoes with treads will work fine*)  
Yarn or string (about 2' long)  
Rubber band  
Ruler  
Heavy book  
2 magnets (preferably the flimsy business-card style)  
Rope (3' or longer)  
Dowels or round pencils  
Handful of marbles  
2 cookie sheets  
A board (*about 2 feet by 12 inches*) or propped up table  
protractor