

MATERIALS LIST FOR MECHANICAL ENGINEERING

These are all the materials that are required for the Mechanical Engineering Workshop. To give the scouts some freedom to choose what their final products look like, we recommend saving a variety of recyclable items like boxes, bottles and tubes. The items in blue are linked to Amazon to show what type of item the scouts will need. You do not need the exact same thing, but something similar. We tried to find the cheapest options in case you do not have the item on hand and need to purchase it online. However, if you just need one of an item, it is usually most affordable to purchase those items from a craft store since Amazon usually sells sets.

Badge 2: Balloon Car

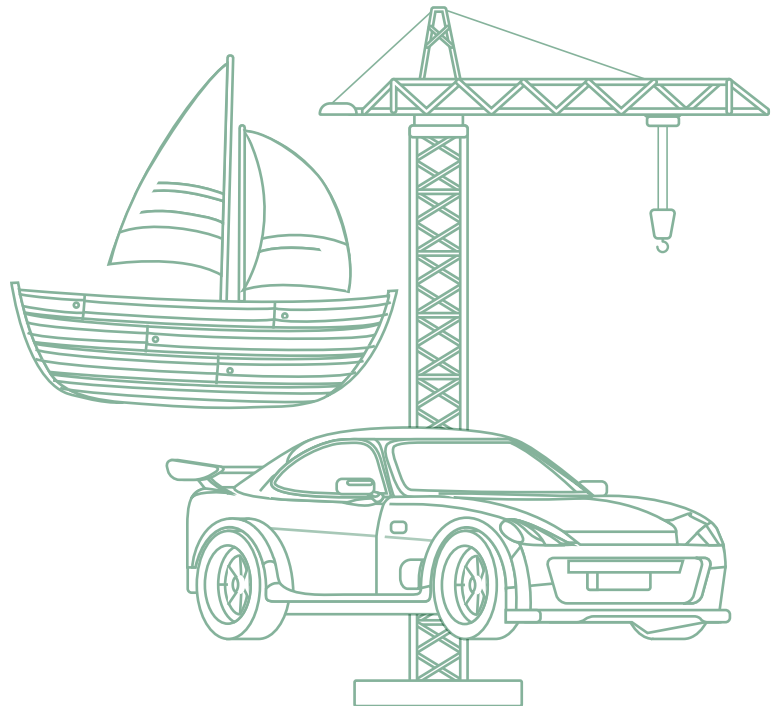
- 1 [Balloon](#)
- 3 Straws
- 4 identical wheels (or cardboard circles)—could be from lego, k'nex, tinker toys or anything else
- 2 axles—e.g. skewers/pencils or from lego, tinker toys, k'nex
- Car body—can be a plastic bottle, cardboard box or another recyclable you have on hand
- Hot glue and/or tape of any kind
- Paper clip—optional, can use same one from crane below

Badge 1: Paddle Boat

- Wide container partially filled with water (e.g., kiddie pool, bathtub, under-bed storage container, wallpaper tray)
- Newspaper
- Towels
- Items for girls to test whether they float or sink. Below are suggestions if you have them, but you can use other materials to test if you don't
 - Sunflower seeds (unshelled and shelled),
 - Spoons (metal, plastic, wooden)
 - Citrus (lemon, lime)
- Boat body—can be a plastic bottle, plastic containers (i.e. Tupperware), clean foam trays
- Propellor materials—examples include plastic spoons, thick foam, plastic-coated cardboard
- Rubber bands—at least 4, can be different sizes
- 2 Straws, skewers or pencils
- Tape—duct tape would be best

Badge 3: Crane

- Cardboard box—shoebox size or larger
- 3 strips of corrugated cardboard (2 in x 11 in)
- Paper clip
- Large paper cup
- 3 sharpened pencils
- Smooth string (e.g. fishing line, kite/nylon string)
- 1 [Spool](#)—with a hole that can fit a pencil (~5/16 in)
- Weights (e.g. coins, marbles, gravel)
- Scissors
- Tape



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