



# Webelos Den Meeting 11

## Webelos Engineers

Engineer activity badge (partial).

### Preparation and Materials Needed

- ▶ Read the Engineer chapter in the *Webelos Handbook*.
- ▶ Identify any parents or other pack resources who are engineers (civil, mechanical, structural, electrical, aeronautical, chemical, geological, mining, industrial, management, safety, or sanitary) and could be your activity badge counselor for this meeting. Share the Engineer chapter of the *Webelos Handbook* with them.
- ▶ Materials checklist (add to your den Cub tub of U.S./den flags, paper/pencils, other supplies):
  - Paper, pencils and markers for creating floor plans.
  - Combs and balloons to demonstrate static electricity.
  - To make a simple switch, a spring-style clothespin, one D-cell battery, aluminum foil, flashlight bulb, masking tape, scissors, ruler, testing material such as rubber bands, coins, paper clips.
  - Pieces of wood, D-cell flashlight batteries, small bulbs and bulb holders, on/off switches, wire, screws, screwdrivers, awls, cordless drill.
  - If you select alternative activities, see the following pages for additional materials needed for those activities.

### Before the Meeting

- ▶ Review After the Meeting at the end of the previous den meeting plan for necessary preparation and materials.
- ▶ Make final preparations with assistance from any assistant den leader or other parent helper, den chief, and/or denner. Organize the space (seating, flags, advancement charts, activity materials, handouts, etc.). If you're snacking, organize space for that and the cleanup.

### Gathering

- ▶ Have a gathering activity (games, puzzles, other) that will keep Scouts interested and busy and that others may join as they arrive. If the den desires, serve a healthy snack during this time.
- ▶ If you have background materials for the activity badge, Scouts may be interested in reviewing those.
- ▶ Collect dues, record attendance and any advancement completed at home (a good job for an assistant den leader). Assign parents to meeting roles and hand out a meeting plan to each.

### Opening

- ▶ Flag ceremony (rotate planning and leadership to complete **Webelos requirement 6**), with Pledge of Allegiance; maybe recite the Cub Scout Promise or sing a patriotic song; perhaps add a roll call, uniform recognition, or den yell.
- ▶ If you have a guest, give a formal introduction, including what the guest will do for you.

### Business Items

- ▶ Use this time also to discuss participation in upcoming pack meetings or events as needed.
- ▶ Explain that today's meeting is to work on the **Engineer activity badge** because engineers solve problems.

### Activities

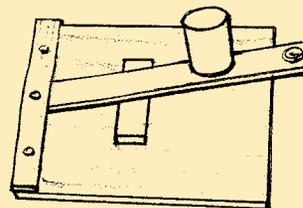
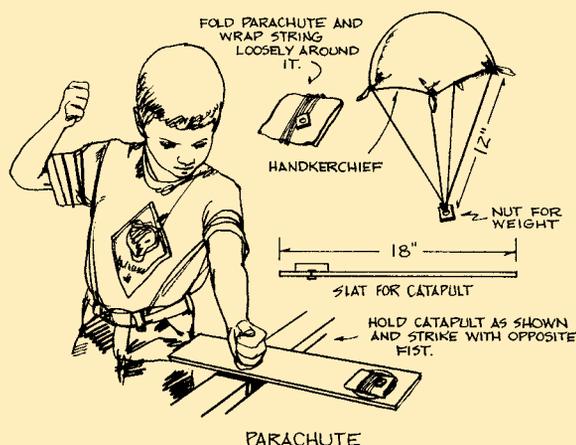
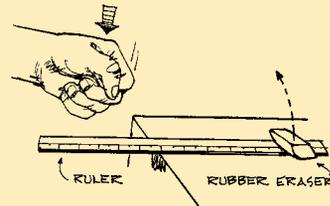
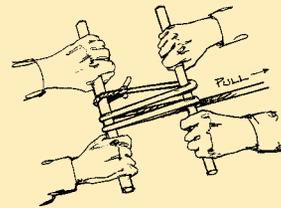
- ▶ **Engineer Activity Badge:** Requirements are to do requirements 1 and 2, and then four of 3 through 10 (This meeting plan does 2, 5, and 6, and the next meeting covers 1, 3, and 4 if you're going to a construction site.):
  2. Draw a floor plan of your house. Include doors, windows, and stairways.
    - Have each Webelos Scout share his floor plan showing his home.
    - **Suggestion:** For more fun, you might turn this into an Extreme Home Makeover, and have them pitch proposals about how they would redo the rooms and locations, and then engage them in discussion of why they need to incorporate foundations, supporting walls, and the like.
  5. Tell about how electricity is generated and then gets to your home.



- See page 216 of the *Webelos Handbook*.
  - **Suggestion:** For more fun, you might do some static electricity tricks. Static electricity is made up of electrons that don't move, unlike current electricity. You can generate static electricity yourself:
    - Run a comb through your hair on a dry day and it will pick up bits of paper.
    - Rub a balloon against your clothing and then it will "hang" on a wall.
    - Wearing socks, but not shoes, drag your feet along a carpet, and then touch a metal object, such as a doorknob. What happens?
    - To see how two electrified objects will repel each other, tie two balloons on a string. Hang them side by side and stroke both of them on a clothing or piece of fur. See how they move apart.
6. Construct a simple working electrical circuit using a flashlight battery, a switch, and a light.
- A switch acts as a kind of bridge along an electrical circuit on which electrons travel. When the switch is closed, the electrons move freely on the electric circuit and complete the electrical connection. When the switch is open, the electrons stop and the connection is incomplete.
  - To make a simple switch, you need spring-style clothespin, one D battery, aluminum foil, flashlight bulb, masking tape, scissors, ruler, testing material such as rubber bands, coins, paper clips. Then:
    - Cut a rectangle of aluminum foil 12 by 24 inches.
    - Fold in half lengthwise five times to form a thin strip 24 inches long.
    - Cut the strip in half to form two 12-inch strips. Tape one end of each strip to the opposite ends of the battery.
    - Wrap the free end of one of the foil strips around the base of the flashlight bulb; hold foil in place with the clothespin.
    - Test the electrical conductivity of several different materials by touching the metal tip of the flashlight bulb to one side of the testing material while touching the free end of the second foil strip to the opposite side of the same testing material.
    - Which objects cause the bulb to glow?
  - Or see *Webelos Handbook* page 217 for a simple electric circuit.

► Other **Engineer activity badge** requirements that could be done in lieu of those selected above and that could be terrific fun are the following:

7. Make drawings of three kinds of bridges and explain their differences. Construct a model bridge of your choice.
8. Make a simple crane using a block and tackle and explain how the block and tackle is used in everyday life. See the *Webelos Handbook*, pages 221–223.
9. Build a catapult and show how it works. See the *Webelos Handbook*, pages 224–225, for one example of a catapult you can make.



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10. While you are a Webelos Scout, earn the **Cub Scout Academics belt loop for Mathematics**. Complete these three requirements:

1. Do five activities within your home or school that require use of mathematics. Explain to your den how you used everyday math.
2. Keep track of the money you earn and spend for three weeks.
3. Measure five items using both metric and non-metric measures. Find out about the history of the metric system of measurement.

- ▶ In the boys' *Webelos Handbooks*, sign the requirements met (and update your records).

### Closing

- ▶ Award (or recognize) any advancement completed today; thank hosts, guests, helpers.
- ▶ Closing ceremony (rotate planning and leadership to complete **Webelos requirement 6**): Retire the colors; maybe with the Boy Scout Oath and/or Law, or the Law of the Pack and/or den yell. Den leader may add a den leader's minute comment.
- ▶ Remind the Webelos Scout who will plan and lead the next meeting's flag ceremony, and remind about home assignments (and include these in any family information letter or e-mail).
- ▶ Hand out or send family information letter.

- ▶ **Home Assignment:** Review the Engineer chapter in the *Webelos Handbook*.

### After the Meeting

- ▶ If you've changed the sequence of den meetings, double-check to make sure you will still advance your boys appropriately and check with the Cubmaster to make sure you stay coordinated with the pack.
- ▶ Refreshments: If appropriate
- ▶ Cleanup: Recruit enough help to do a good job. Scouts always leave an area as clean, or cleaner, than they found it.