



Supplemental Bear Den Meeting D

Build a Model Achievement 21.

Preparation and Materials Needed

- ▶ Research Rocket Building. See the *Cub Scout Leader How-To Book* (No. 33832), and www.scoutingmagazine.org/issues/0611/a-reedy.html for an article on Rockets. See also <http://wwong.homestead.com/rockets.html>.
- ▶ Materials checklist (add to your den Cub tub of U.S./den flags, paper/pencils, other supplies):
 - Three-inch-wide cardboard mailing tubes, for rocket body, and tube end cap for rocket bodies.
 - Heavy-duty poster paper, for nose cones.
 - Scrap matte board for fins (Excess pieces of board may be purchased from an art supply store's framing department if you ask.)
 - Bring scissors, rolls of 2-inch-wide clear packaging tape, colored paper, glitter stickers.
 - Strips of plastic "fun foam"
 - Empty 20-oz. plastic soft drink bottles.
 - A garden hose gasket to be the launcher stem.
 - A snap/spring connection.
 - An automotive tire valve stem, through which air is pumped into the rocket bottle.
- ▶ Yes, there is a lot to put together for this, but the idea isn't just to build a model rocket, but to blast it off!
 - There will probably be some parents or uncles who would love to help with this.

Before the Meeting

- ▶ 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.
- ▶ 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

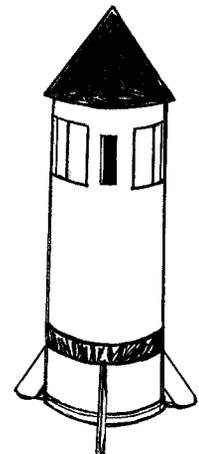
- ▶ Flag ceremony (indoor or outdoor; rotate roles to complete **Achievement 3f**) with Pledge of Allegiance; the Cub Scout Promise or a patriotic song (of other opening).
- ▶ Consider a roll call, uniform inspection, or den yell.

Business Items

- ▶ Use this time to discuss participation in coming pack meetings or pack events, as needed.

Activities

- ▶ **Achievement 21f** ("Build a model."), which includes **21f** ("Make a model of a rocket, boat, car, or plane."). Today is "Build a rocket," and blast it off!
 - Bottle rocket model uses a two-piece body made from a 3-inch-wide cardboard mailing tube.
 - A tube end cap is inserted in the top of the 6-inch bottom section which is then connected with tape to the 12-inch top section.
 - A nose cone, cut from heavy-duty poster paper, is taped to the top, and three fins, shaped from scrap matte board, are inserted in slots in the lower section. (Excess pieces of board may be purchased from an art supply store's framing department if you ask.)
 - Decorate with colored paper and glitter stickers.





- ▶ Prior to launching, a strip of plastic “fun foam” is wrapped around an empty 20-oz. plastic soft drink bottle to insure a tight seal.
 - The bottle is then inserted, top down, into the rocket’s bottom section, with the open bottle mouth sticking out.
 - About one-third of the bottle is filled with water. The Cub Scout, holding the rocket upside down, hands the rocket to an adult, who turns it over and quickly puts it on the stem of the launcher. (A garden hose gasket on the launcher stem provides a close fit.)
 - The rocket locks into place with a snap/spring connection. The bottom of the launcher stem is fitted with an automotive tire valve stem, through which air is pumped into the rocket bottle.
 - When pressure is up and stabilized at 60 to 80 pounds per square inch, depending on wind conditions, the signal is given and the Cub Scout pulls a release rope to launch the rocket.
 - The pressurized air and water blasting out of the bottle mouth cause the rocket to be propelled upward.

- ▶ **Achievement 21g** (“Complete the Character Connection for Resourcefulness.”)
 - **Know.** Review the requirements for this achievement and list the resources you would need to complete them. Then list the materials you could substitute for items that you do not already have. Tell what it means to be resourceful.
 - **Commit.** After you complete the requirements for this achievement, list any changes that would make the results better if you did these projects again. Tell why it is important to consider all available resources for a project.
 - **Practice.** While you complete the requirements for this achievement, make notes on which materials worked well in your projects and why.

Closing

- ▶ Award (or recognize) any advancement completed at this meeting; thank hosts, guests, and helpers.
- ▶ Closing ceremony: Retire the colors (fold and return the flag), or have a den leader’s minute with a Living Circle, or the Law of the Pack and den yell (or other ceremony).
- ▶ Hand out or send family information letter.

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.