



# Adventures in Science

## Webelos Adventure Workbook



No one may add or subtract from the official requirements found in the *Cub Scout Webelos Handbook*

This workbook was updated in November, 2016.

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Please submit errors, omissions, comments or suggestions about this **workbook** to: [Workbooks@USScouts.Org](mailto:Workbooks@USScouts.Org)  
Comments or suggestions for changes to the **requirements** should be sent to: [Advancement.Team@Scouting.Org](mailto:Advancement.Team@Scouting.Org)

Webelos Scout's Name: \_\_\_\_\_ Pack No. : \_\_\_\_\_

**This adventure is an elective adventure which can be used to earn the Webelos and Arrow of Light Badges.**

Do all of these:

- 1. An experiment is a "fair test" to compare possible explanations. Draw a picture of a fair test that shows what you need to do to test a fertilizer's effects on plant growth.

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- 2. Visit a museum, a college, a laboratory, an observatory, a zoo, an aquarium, or other facility that employs scientists.

Where did you visit? \_\_\_\_\_

- Prepare three questions ahead of time, and talk to a scientist about his or her work.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

- 3. Complete any four of the following:

- a. Carry out the experiment you designed for requirement 1, above.


- Report what you learned about the effect of fertilizer on the plants that you grew.


- b. Carry out the experiment you designed for requirement 1, but change the independent variable.


- Report what you learned about the effect of changing the variable on the plants that you grew.


- c. Build a model solar system. Chart the distances between the planets so that the model is to scale.

- Use what you learn from this requirement to explain the value of making a model in science.


d. **With adult supervision, build and launch a model rocket.**

**Use the rocket to design a fair test to answer a question about force or motion.**


e. **Create two circuits of three light bulbs and a battery. Construct one as a series circuit and the other as a parallel circuit.**

f. **Study the night sky. Sketch the appearance of the North Star (Polaris) and the Big Dipper (part of the Ursa Major constellation) over at least six hours. Describe what you observed, and explain the meaning of your observations.**


- g. With adult assistance, explore safe chemical reactions with household materials.
- Using two substances, observe what happens when the amounts of the reactants are increased.
- h. Explore properties of motion on a playground.
- Does the weight of a person affect how fast they slide down a slide or how fast a swing moves?
- Design a fair test to answer one of those questions.


- i. Read a biography of a scientist.

Who did you read about? \_\_\_\_\_

- Tell your den leader or the other members of your den what the scientist was famous for and why his or her work is important.


## Important excerpts from the [Guide To Advancement - 2015](#), No. 33088 (SKU-620573)

### [1.0.0.0] — Introduction

The current edition of the *Guide to Advancement* is the official source for administering advancement in all Boy Scouts of America programs: Cub Scouting, Boy Scouting, Varsity Scouting, Venturing, and Sea Scouts. It replaces any previous BSA advancement manuals and previous editions of the *Guide to Advancement*.

### [Page 4, and 5.0.1.4] — Policy on Unauthorized Changes to Advancement Program

**No council, committee, district, unit, or individual has the authority to add to, or subtract from, advancement requirements.** There are limited exceptions relating only to youth members with special needs. For details see section 10, "Advancement for Members With Special Needs".

### [Page 4] — The "Guide to Safe Scouting" Applies

Policies and procedures outlined in the *Guide to Safe Scouting* apply to all BSA activities, including those related to advancement and Eagle Scout service projects.

### [4.1.0.3] — Who Approves Cub Scout Advancement?

A key responsibility for den leaders is to implement the den meeting plans as outlined in the four den leader guides shown within this topic. For Tiger through Bear ranks, if the activity is completed outside of the den meeting, the parent, adult partner, or another trusted adult should sign in the boy's handbook, indicating the Cub Scout has done his best to complete the requirement. The den leader then approves that requirement after consultation with the family or the boy to confirm completion. If the requirement is completed in a den meeting, the den leader signs in both places. Den leaders may, however, ask an assistant or parent who helps at meetings to play the role of "Akela" and assist with the approvals. For Webelos and Arrow of Light ranks, the den leader signs for approval of all requirements, unless the den leader delegates this responsibility.

### [4.1.0.4] — "Do Your Best"

Cub Scouts—even those of the same age—may have very different developmental timetables. For this reason, advancement performance in Cub Scouting is centered on its motto: "Do Your Best." When a boy has done this—his very best—then regardless of the requirements for any rank or award, it is enough; accomplishment is noted. This is why den leaders, assistants, and parents or guardians are involved in approvals. Generally they know if effort put forth is really the Cub Scout's best.

When a boy completes advancement, he should be congratulated immediately and publicly. And though badges of rank should be reserved for the next pack meeting, it is best to present items such as belt loops and pins soon after they have been earned. If it is possible for the pack to report and purchase these awards quickly, they could be presented at a den meeting, rather than waiting for a pack meeting. If presented at den meetings, the accompanying pocket certificates can be used in a ceremony at a subsequent pack meeting—or vice versa with the pocket certificates at a den meeting. However this is done, it is important to note that advancement is an individual process, not dependent on the work or progress of others. Awards should not be withheld for group recognition. Likewise, a boy should not be presented with recognition he has not earned simply so that he will "not feel left out."

In the same spirit as "Do Your Best," if a boy is close to earning a badge of rank when the school year ends, the pack committee, in consultation with the den leader and the Cub Scout's parent or guardian, may allow him a few weeks to complete the badge before going on to the next rank. Earning it will give him added incentive to continue in Scouting and carry on and tackle the next rank.

### Additional notes of interest:

- Cub Scouts may complete requirements in a family, den, pack, school, or community environment.
- **"Akela"** (Pronounced "Ah-KAY-la") — Akela (Ah-KAY-la) is a title of respect used in Cub Scouting—any good leader is Akela, who is also the leader and guide for Cub Scouts on the advancement trail.