



# Scientist

## Webelos Activity Badge Workbook



The work space provided for each requirement should be used by the Webelos Scout to make notes for discussing the item with Akela, not for providing the full and complete answers. Each Webelos Scout must do each requirement.

No one may add or subtract from the official requirements found in the **Webelos Handbook** (Pub. 33452)

This workbook was updated in May 2013.

<http://www.USScouts.Org> • <http://www.MeritBadge.Org>

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** for the **activity badge** should be sent to: [Advancement.Team@Scouting.Org](mailto:Advancement.Team@Scouting.Org)

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

### Do these:

1. Read Bernoulli's Principle. Show how it works.

2. Read Pascal's Law. Tell about some inventions that use Pascal's law.

3. Read Newton's first law of motion. Show in three different ways how inertia works.

1.	
2.	
3.	

4. While you are a Webelos Scout, earn the Cub Scout Academics belt loop for Science

### And do six of these:

- 5 Show the effects of atmospheric pressure.

- 6 Show the effects of air pressure.

- 7 Show the effects of water pressure. This may be combined with atmospheric pressure or with air pressure.

- 8 With adult supervision, build and launch a model rocket.  
*(NOTE: You must be at least 10 years old to work with a model rocket kit sold in stores. An adult must help you during construction and launching.)*

Describe how Newton's third law of motion explains how the rocket is propelled into the sky.

- 9 Explain what causes fog. Show how this works.

- 10 Explain how crystals are formed. Make some.

- 11 Explain how you use your center of gravity to keep your balance.

Show three different balancing tricks.

1.	
2.	
3.	

- 12 Show in three different ways how your eyes work together, and show what is meant by an optical illusion.

Show how your eyes work together

1.	
2.	
3.	

Show what is meant by an optical illusion

- 13 While you are a Webelos Scout, earn the Cub Scout Academics belt loop for Weather.
- 14 While you are a Webelos Scout, earn the Cub Scout Academics belt loop for Astronomy.

**Note:** For requirements 4, 13, and 14 you must earn the Belt Loops indicated while you are a Webelos Scout. (even if you earned them while in a Cub Scout Den).

**Requirement resources can be found here:**  
[http://www.meritbadge.org/wiki/index.php/Scientist#Requirement\\_resources](http://www.meritbadge.org/wiki/index.php/Scientist#Requirement_resources)

## Important excerpts from the 'Guide To Advancement', No. 33088:

Effective January 1, 2012, the *'Guide to Advancement'* (which replaced the publication *'Advancement Committee Policies and Procedures'*) is now the *official* Boy Scouts of America source on advancement policies and procedures.

- **[ Inside front cover, and 5.0.1.4 ] — 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 disabilities. For details see section 10, "Advancement for Members With Special Needs".)
- **[ Inside front cover, and 7.0.1.1 ] — The 'Guide to Safe Scouting' Applies**  
Policies and procedures outlined in the *'Guide to Safe Scouting'*, No. 34416, apply to all BSA activities, including those related to advancement and Eagle Scout service projects. [Note: Always reference the online version, which is updated quarterly.]
- **[ 4.1.0.3 ] — Who Approves Cub Scout Advancement?**  
A key responsibility for den leaders is to implement the core den meeting plans as outlined in the Den & Pack Meeting Resource Guide, No. 34409. For Wolf, Bear, and Webelos advancement, den leaders take the lead in approving requirements, though their assistants, and also parents who help at meetings, may be asked to play the role of "Akela" and assist. Parents sign for requirements that, according to meeting plans and instructions in the handbooks, take place at home. For the Bobcat trail and Tiger Cub achievements, parents (or adult partners) should sign in the boy's handbook; the den leader then approves as progress is recorded in the den's advancement record.
- **[ 4.1.0.4 ] — "Do Your Best"**  
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.
- **[ 4.1.2.2 ] — Cub Scout Academics and Sports Program**  
More than just a recognition opportunity, this program develops new skills, improves those existing, and otherwise enriches Cub Scouting. Details can be found in the Cub Scout Academics and Sports Program Guide, No. 34299. Activities include subjects like science, video games, collecting, and chess; and sports such as baseball, skateboarding, and table tennis. Each has two levels—a belt loop and a pin. Belt loops, which can be earned more than once, are awarded when each of three requirements is met. Cub Scouts may then continue with additional requirements and earn the pin. Archery and BB gun shooting are included, but can only be conducted at a council presented activity with certified supervisors.

## Additional notes of interest:

- Webelos Scouts may complete requirements in a family, den, pack, school, or community environment.
- **"Akela"** (Pronounced "Ah-KAY-la") — Title of respect used in Cub Scouting—any good leader is *Akela*. *Akela* is also the leader and guide for Cub Scouts on the advancement trail. The name comes from Rudyard Kipling's *Jungle Book*. (See "Law of the Pack.")
- **"Law of the Pack"** —  
*The Cub Scout follows Akela.*  
*The Cub Scout helps the pack go.*  
*The pack helps the Cub Scout grow.*  
*The Cub Scout gives goodwill.*