



Cub Scout Nova Award Swing!

Cub Scout and Webelos Nova award for Engineering

This module is designed to help you explore how engineering and simple machines called levers affect your life each day.

1. Choose A, B, or C and complete all requirements.
 - A. Watch an episode or episodes (about an hour total) of a show about anything related to motion or machines. Then do the following
 - i. Make a list of at least two questions or ideas from what you watched.
 - ii. Discuss two of the questions or ideas with your Counselor
 - B. Read (about one hour total) about anything related to motion or machines. Then do the following:
 - i. Make a list of at least two questions or ideas from what you read.
 - ii. Discuss two of the questions or ideas with your Counselor
 - C. Do a combination of reading and watching (about one hour total) about anything related to motion or machines. Then do the following:
 - i. Make a list of at least two questions or ideas from what you read and watched.
 - ii. Discuss two of the questions or ideas with your Counselor.

Requirement 1

I chose option: A B C

Name(s) of things I watched and/or read: _____

i. I made a list of at least two questions or ideas from what I read and watched.

ii. I discussed the ideas and questions with my Counselor.

Counselor's okay

Date



Cub Scout Nova Award Swing!

2. Complete ONE adventure from the following list for your current rank
OR
 Complete option A or B.

If you choose an Adventure, choose one you have not already earned. Discuss with your counselor what kind of science, technology, engineering, and math was used in the Adventure or Option.

Option A: With your parent's permission, take an old or broken household or mechanical item, break it down into its component pieces, and identify the purpose of five parts. Suggested items include a keyboard, floppy disk, telephone, VCR, tape deck, bicycle, people counter, printer or similar item. Make sure to use appropriate safety precautions.

Option B: Participate in two sports, either as an individual or part of a team, and identify the levers used in each sport.

Requirement 2 (*circle the Adventure or Option you completed*)

<u>Wolf Cub Scouts</u>	<u>Bear Cub Scouts</u>	<u>Webelos Scouts</u>
Motor Away	Baloo the Builder	Adventures in Science
Paws of Skill	A Bear Goes Fishing	Engineer
OR		
Option A Complete all		
<input type="checkbox"/>	Item taken apart:	_____
<input type="checkbox"/>	Purpose of 5 parts	_____
<input type="checkbox"/>		_____
<input type="checkbox"/>		_____
<input type="checkbox"/>		_____
<input type="checkbox"/>		_____
OR		
Option B Complete both sports		
<input type="checkbox"/>	Sport #1 / Lever	_____
<input type="checkbox"/>	Sport #2 / Lever	_____
I discussed what kind of science, technology, engineering, or math was used in the Adventure or Option		
_____		_____
Counselor's okay		Date



Cub Scout Nova Award Swing!

3. Explore each of the following:

A. Levers

- i. Make a list or drawing of three types of levers. (A lever is one kind of a simple machine.)
- ii. Show:
 - a. How each lever works
 - b. How the lever in your design will move something
 - c. The class of each lever
 - d. Why we use levers

B. On your own, design, including a drawing, sketch, or model, ONE of the following:

- i. A playground fixture that uses a lever
- ii. A game or sport that uses a lever
- iii. An invention that uses a lever

Be sure to show how the lever in your design will move something.

C. Discuss your finding with your Counselor.

Requirement 3 (*complete A, B and C*)

<input type="checkbox"/>	A. i) Three types of levers	_____	_____	_____
<input type="checkbox"/>	ii a) How the lever works	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	ii b) How it moves something	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	ii c) Lever class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	ii d) Why we use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	B. I designed a:	playground fixture	game	invention
				<i>(circle one)</i>
<input type="checkbox"/>	C. I discussed my findings with my Counselor			
	_____		_____	
	Counselor's okay		Date	



Cub Scout Nova Award Swing!

4. Do the following:

- A. Visit a place that uses levers, such as a playground, carpentry shop, construction site, restaurant kitchen, or any other location that uses levers.
- B. Discuss with your Counselor the equipment or tools that use levers in the place you visited.

Requirement 4 (*complete A and B*)

A. I visited a site _____

B. I discussed the visit with my Counselor

Counselor's okay

Date

5. Discuss with your Counselor how engineering and simple machines affect your everyday life.

Requirement 5

I discussed with my Counselor how engineering and simple machines affect my everyday life.

Counselor's okay

Date