



# Hang On!



## Venturer Nova Award Workbook

This workbook can help you but you still need to read the Venturer Nova Awards Guidebook.

This Workbook can help you organize your thoughts as you prepare to meet with your counselor.

You still must satisfy your counselor that you can demonstrate each skill and have learned the information.

You should use the work space provided for each requirement to keep track of which requirements have been completed, and to make notes for discussing the item with your counselor, not for providing full and complete answers.

If a requirement says that you must take an action using words such as "discuss", "show", "tell", "explain", "demonstrate", "identify", etc, that is what you must do.

**Counselors may not require the use of this or any similar workbooks.**

No one may add or subtract from the official requirements found in the Venturer Nova Awards Guidebook (Pub. 34031).

The requirements were issued in 2012 • This workbook was updated in June 2018.

Venturer's Name: \_\_\_\_\_ Unit: \_\_\_\_\_

Counselor's Name: \_\_\_\_\_ Counselor's Phone No.: \_\_\_\_\_



<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)

Send comments or suggestions for changes to the **requirements** for the **Nova Award** to: [Program.Content@Scouting.Org](mailto:Program.Content@Scouting.Org)

**This module is designed to help you explore how engineering affects your life each day**

1. Choose A or B or C and complete ALL the requirements.

- A. Watch about three hours total of engineering -related shows or documentaries that involve motion or motion-inspired technology.

What was watched?	Date	Start Time	Duration

Some examples include—but are not limited to—shows found on PBS ("NOVA"), Discovery Channel, Science Channel, National Geographic Channel, TED Talks (online videos), and the History Channel. You may choose to watch a live performance or movie at a planetarium or science museum instead of watching a media production. You may watch online productions with your counselor's approval and under your parent's supervision.

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2. Discuss two of the questions or ideas with your counselor.

1.	
2.	

2. Choose ONE STEM field of interest from the following list. Complete [ALL the requirements for a Venturing STEM exploration](#) in that field. (If you have already completed a Venturing STEM exploration in one of these fields, please choose a different field for this award.)

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Archery             | <input type="checkbox"/> Electronics               | <input type="checkbox"/> Railroading      |
| <input type="checkbox"/> Aviation            | <input type="checkbox"/> Engineering               | <input type="checkbox"/> Rifle Shooting   |
| <input type="checkbox"/> Composite Materials | <input type="checkbox"/> Inventing                 | <input type="checkbox"/> Robotics         |
| <input type="checkbox"/> Drafting            | <input type="checkbox"/> Model Design and Building | <input type="checkbox"/> Shotgun Shooting |

Composites can be found just about everywhere: in airplanes and sports cars, golf clubs and guitars, boats and baseball bats, bathtubs and circuit boards, and even bridges. Composites make bicycles and skis lighter, kayaks and fishing poles stronger, houses warmer, and helmets tougher." Choose one of these items for your discussion to answer requirement 3c.

3. Do ALL of the following:

- A. Make a list or drawing of the six simple machines.


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B. Be able to tell your counselor the name of each machine and how each machine works.

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### Helpful Links

"Six Simple Machines": ConstructionKnowledge.net Website:

[http://www.constructionknowledge.net/general\\_technical\\_knowledge/general\\_tech\\_basic\\_six\\_simple\\_machines.php](http://www.constructionknowledge.net/general_technical_knowledge/general_tech_basic_six_simple_machines.php)

C. Discuss the following with your counselor.

1. The simple machines that were involved with the motion in your chosen STEM exploration (Hint: Look at the moving parts of an engine to find simple machines.)


2. The energy source causing the motion for the subject of your STEM exploration


3. What you learned about motion from doing the STEM exploration


4. Choose A or B and complete ALL the requirements.

A. Visit an amusement park.

Location visited: 

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Then discuss the following with your counselor:

1. The simple machines present in at least two of the rides

1.	
2.	

2. The forces involved in the motion of any two rides.

1.	
2.	

B. Visit a playground.

Then discuss the following with your counselor:

1. The simple machines present in the playground equipment


2. The forces involved in the motion of any two playground fixtures.

1.	
2.	

5. Do the following:

A. On your own, design one of the following and include a drawing or sketch: an amusement park ride OR a playground fixture OR a method of transportation

Amusement Park Ride

Playground Fixture

Method Of Transportation



B. Discuss with your counselor:

1. The simple machines present in your design


2. The energy source powering the motion of your creation


6. Discuss with your counselor how engineering affects your everyday life.


**When working on Nova and Supernova awards, Scouts and Scouters should be aware of some vital information in the current edition of the *Guide to Advancement* (BSA publication 33088). Important excerpts from that publication can be downloaded from <http://usscouts.org/advance/docs/GTA-Excerpts-nova.pdf>. You can download a complete copy of the *Guide to Advancement* .from <http://www.scouting.org/filestore/pdf/33088.pdf>.**