



Venturer Nova Award Power Up



Venturer Nova Award for Technology

1. Choose A or B or C and complete ALL the requirements.
 - A. Watch about three hours total of technology-related shows or documentaries that involve transportation or transportation technology. 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 three hours total) about transportation or transportation technology. 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 three hours total). 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

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|---|-------|
| I chose option: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C | |
| Name(s) of things I watched and/or read: _____ | |
| <input type="checkbox"/> i. I made a list of at least two questions from what I read and watched. | |
| <input type="checkbox"/> ii. I discussed the ideas and questions with my Counselor | |
| _____ | _____ |
| Counselor's okay | Date |

2. Choose ONE STEM field of interest from the following list. Complete ALL the requirements for a Venturing STEM Exploration in that field. See pages 27-29 of the Nova Awards Guidebook for the requirements. (If you have already completed a Venturing STEM Exploration in one of these fields, please choose a different field for this award.)

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|------------------------|-----------------|----------------------|
| Automotive Maintenance | Electricity | Railroading |
| Aviation | Energy | Small-Boat Sailing |
| Canoeing | Farm Mechanics | Space Exploration |
| Cycling | Motor Boating | Truck Transportation |
| Drafting | Nuclear Science | |

Requirement 2

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| I completed a Venturing STEM Exploration in the field of _____. | |
| _____ | _____ |
| Counselor's okay | Date |



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3. Do ALL of the following:
- A. Use the requirements from the above list of STEM Explorations:
 - i. Tell your counselor the energy source(s) used in these STEM Explorations.
 - ii. Discuss the pros and cons of each energy source with your counselor.
 - B. Make a list of sources of energy that may be possible to use in transportation.
 - C. With your counselor:
 - i. Discuss alternative sources of energy.
 - ii. Discuss the pros and cons of using alternative energy sources.

Requirement 3

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| <ul style="list-style-type: none"><input type="checkbox"/> A. <ul style="list-style-type: none"><input type="checkbox"/> i. I told my counselor about the energy sources use in these STEM Explorations.<input type="checkbox"/> ii. I discussed the pros and cons of each energy source.<input type="checkbox"/> B. I made a list of sources of energy used in transportation.<input type="checkbox"/> C. <ul style="list-style-type: none"><input type="checkbox"/> i. I discussed alternative sources of energy.<input type="checkbox"/> ii. I discussed the pros and cons of using alternative energy sources. <p>_____</p> <p>Counselor's okay</p> <p>_____</p> <p>Date</p> |
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4. Design and build a working model vehicle (not from a kit).
 - A. Make drawings and specifications of your model vehicle before you begin to build.
 - B. Include one of the following energy sources to power your vehicle (do not use gasoline or other combustible fuel source): solar power, wind power, or battery power.
 - C. Test your model. Then answer the following questions:
 - i. How well did it perform?
 - ii. Did it move as well as you thought it would?
 - iii. Did you encounter problems? How can these problems be corrected?
 - D. Discuss with your counselor:
 - i. Any difficulties you encountered in designing and building your model.
 - ii. Why you chose a particular energy source.
 - iii. Whether your model met your specifications.
 - iv. How you would modify your design to make it better.

Requirement 4

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| <p><input type="checkbox"/> A. I made drawings and specifications of my model before I began building it.</p> <p><input type="checkbox"/> B. I included _____ power in my model.</p> <p><input type="checkbox"/> C. I tested my model.</p> <p style="margin-left: 20px;"><input type="checkbox"/> i. I evaluated how it performed.</p> <p style="margin-left: 20px;"><input type="checkbox"/> ii. It moved <input type="checkbox"/> better than <input type="checkbox"/> as good as <input type="checkbox"/> not as good as I thought it would.</p> <p style="margin-left: 20px;"><input type="checkbox"/> iii. I <input type="checkbox"/> did <input type="checkbox"/> did not encounter problems.</p> <p style="margin-left: 40px;">Explain: _____</p> <p><input type="checkbox"/> D. I discussed with my Counselor:</p> <p style="margin-left: 20px;"><input type="checkbox"/> i. Difficulties encountered in designing and building my model.</p> <p style="margin-left: 20px;"><input type="checkbox"/> ii. Why I chose that particular energy source.</p> <p style="margin-left: 20px;"><input type="checkbox"/> iii. If my model met my specifications.</p> <p style="margin-left: 20px;"><input type="checkbox"/> iv. How I would modify my design to make it better.</p> <p style="margin-top: 20px;">_____</p> <p>Counselor's okay _____ Date</p> |
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5. Discuss with your counselor how technology affects your everyday life.

Requirement 5

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| <p>I discussed with my Counselor how technology affects my everyday life.</p> <p style="margin-top: 20px;">_____</p> <p>Counselor's okay _____ Date</p> |
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