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. 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 motion or motion-inspired 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.

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.)

   Archery  Electronics  Railroading  
   Aviation  Engineering  Rifle Shooting  
   Composite Materials  Inventing  Robotics  
   Drafting  Model Design and Building  Shotgun Shooting

   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 from what I read and watched.
   ☐ ii. I discussed the ideas and questions with my Counselor

   Counselor’s okay ____________________________ Date ____________

   I completed a Venturing STEM Exploration in the field of ____________________

   ____________________________ Date ____________

   Counselor’s okay ____________________________ Date ____________
3. Do ALL of the following:
   A. Make a list or drawing of the six simple machines.
   B. Be able to tell your counselor the name of each machine and how each machine works.
   C. Discuss the following with your counselor:
      i. 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.)
      ii. The energy source causing the motion for the subject of your STEM Exploration.
      iii. What you learned about motion from doing the STEM Exploration.

☐ Requirement 3

☐ A. I made a list or drawing of the six simple machines

☐ B. I told my counselor the name of each simple machine and how it works.

☐ C. I discussed with my Counselor:
   ☐ i. The simple machine(s) involved with my STEM Exploration.
   ☐ ii. The energy source for my STEM Exploration.
   ☐ iii. What I learned about motion from my STEM Exploration.

______________________________________________ Date

Counselor’s okay

4. Choose A or B and complete ALL the requirements.
   A. Visit an amusement park. Then discuss the following with your counselor:
      i. The simple machines present in at least two of the rides
      ii. The forces involved in the motion of any two rides
   B. Visit a playground. Then discuss the following with your counselor:
      i. The simple machines present in the playground equipment
      ii. The forces involved in the motion of any two playground fixtures

☐ Requirement 4

I chose option: ☐ A ☐ B

I visited an amusement park or playground and:
   ☐ i. I discussed the simple machines present
   ☐ ii. I discussed the forces involved in the motion

______________________________________________ Date

Counselor’s okay
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.

   B. Discuss with your counselor:
      i. The simple machines present in your design
      ii. The energy source powering the motion of your creation

   ❑ Requirement 5

   A. I designed and made a drawing of:
      ❑ Amusement park ride OR
      ❑ Playground fixture OR
      ❑ Method of Transportation

   B. I discussed with my counselor
      ❑ i. The simple machine(s) in my design
      ❑ ii. The energy source powering my design

   Counselor's okay Date

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

   ❑ Requirement 6

   I discussed with my Counselor how engineering affects my everyday life.
   Counselor's okay Date