# Cub Scout Nova Award
## 1-2-3 Go!

### Cub Scout and Webelos Nova Award for Math

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 math or physics. 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 math or physics. 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 math or physics. 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:   ❑ A        ❑ B        ❑ C |
| Name(s) of things I watched and/or read: _____ |
| ❑ I made a list of at least two questions or ideas from what I read and watched. |
| ❑ I discussed the ideas and questions with my Counselor. |
| Counselor's okay                                          Date |

2. Complete the Mathematics OR Computers pin

❑ Requirement 2

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| I completed the pin for:        ❑ Mathematics        ❑ Computers |
| Counselor's okay                                          Date |

3. Choose TWO options from A, B or C. Complete ALL of the requirements for those options.
   A. Choose TWO of the following places and calculate how much you would weigh there.
      i. On the sun or the moon
      ii. On Jupiter or Pluto
      ii. On a planet that you choose.

B. Choose ONE of the following and calculate its height.
- i. A tree
- ii. Your house
- iii. A building of your choice

C. Calculate the volume of air in your bedroom. Make sure your measurements have the same units – all feet or all inches – and show your work.

❑ Requirement 3

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| I chose to do options:    ❑ A      ❑ B      ❑ C    (two of the three)<br><br>For option A, I completed parts  ❑ i   ❑ ii   ❑ iii   (two of the three)<br>For option B, I completed part    ❑ i   ❑ ii   ❑ iii   (one of the three)<br>For option C, I found that the volume of air in my bedroom was _____.<br><br>_____    _____<br>Counselor's okay                              Date |

4. Secret Codes
   A. Look up, then discuss with your Counselor each of the following:
      - i. Cryptography
      - ii. At least three ways secret codes or ciphers are made.
      - ii. How secret codes and ciphers relate to mathematics.
   B. Design a secret code or cipher. Then do the following:
      - i. Write a message in your code or cipher
      - ii. Share your code or cipher with your counselor.

❑ Requirement 4

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| ❑ I looked up *cryptography* and discussed it with my counselor.<br>❑ I found three ways secret codes or ciphers are made.<br>❑ I described how secret codes and ciphers relate to mathematics.<br>❑ I designed a secret code or cipher and wrote a message using it.<br>❑ I shared my code/cipher with my Counselor<br><br>_____    _____<br>Counselor's okay                              Date |

5. Discuss with your Counselor how math affects your everyday life.

❑ Requirement 5

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| I discussed with my Counselor how math affects my everyday life.<br><br>_____    _____<br>Counselor's okay                              Date |