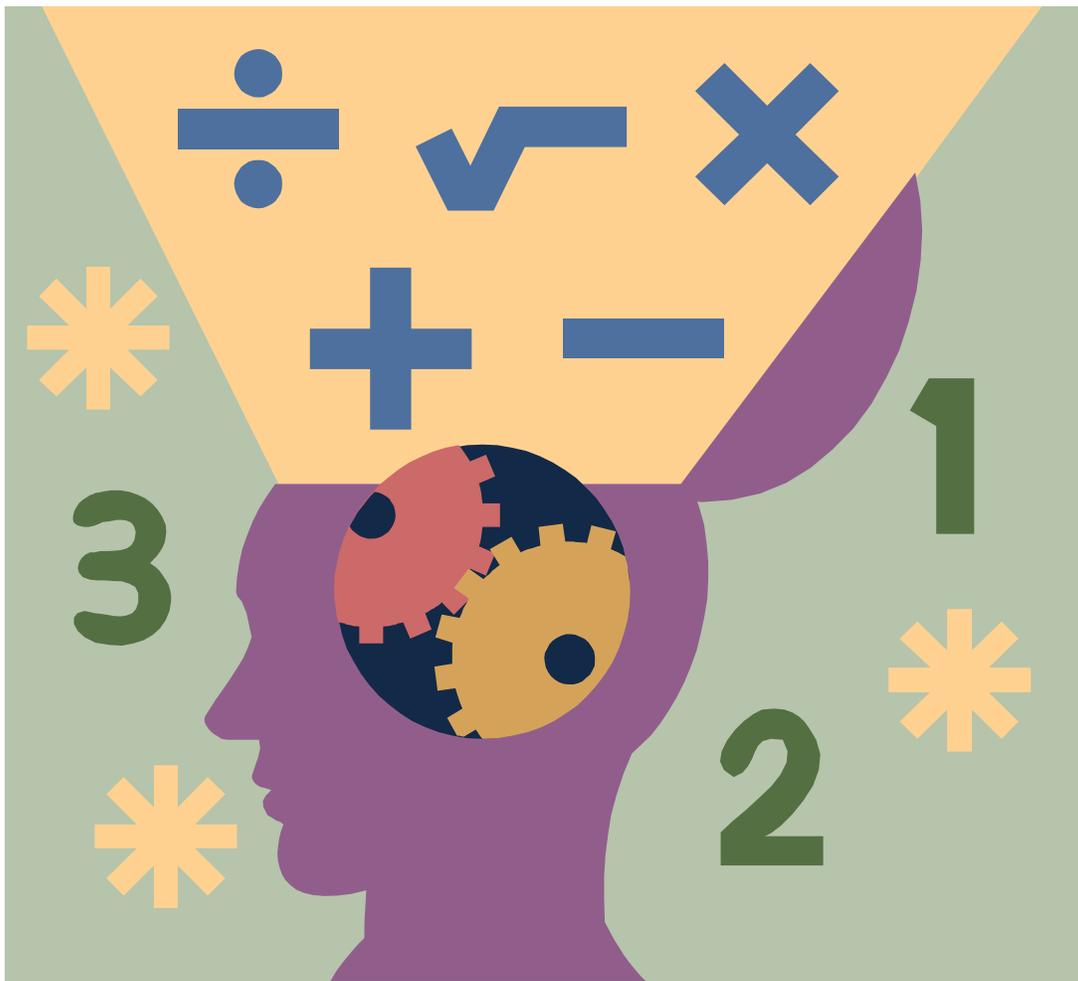


# Math

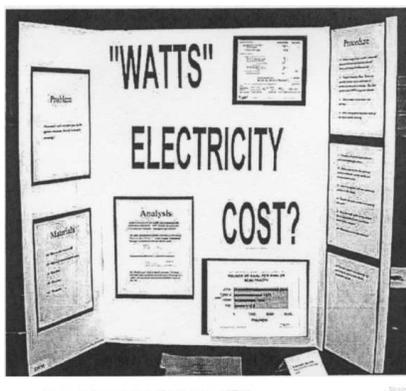


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## GUIDELINES FOR MATH PROJECTS

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1. **Any mathematical concept or concepts are acceptable that would show, explain, or apply the way mathematics is used throughout the coal industry.** Entrants can pick one specific area or several areas to demonstrate. Entrants are encouraged to use their imagination and to be as creative as possible.
2. **Visual representations, such as graphs, tables, models, and pictures must accompany the mathematical concepts the student wishes to represent.** Attention should be paid to the neatness and appearance of the visual representations and how they are presented. Visual representations should be mounted in such a way that they are self-standing and self-contained.
3. All mathematical work should be shown as neatly as possible and **a written explanation must accompany the work.** This explanation is to communicate the concepts and ideas of the project clearly and explain how the entrant used mathematics as a tool to investigate and validate the real world concepts. The explanation should be organized in a coherent and detailed fashion with attention given to neatness and appearance. The written explanation and the actual mathematical work should be in a binder.
4. The entrant should also include within the written explanation, all the tools and how they were used to help convey the concepts. Examples of the type tools the entrant might use are: calculators; computer programs; video tapes; math manipulatives such as base ten blocks, beans, and algebra tiles; and measuring tools such as protractors, scales, rulers, graphs, and tables.
5. Research in creating the project is desirable. If information from books and pamphlets is used to create the project, a bibliography of sources should be included at the end of the written explanation.
6. Specifications for exhibiting your project:
  - **If a model is part of the exhibit, it cannot exceed 36" in any direction, including the base.**
  - **CEDAR will require a freestanding, three-sided display that is no larger than 48" wide, 48" high, and 30" deep.** Display boards may be purchased from a local educational or office supply store. (The display may also be constructed out of plywood or fiberboard hinged together or may be constructed from folded, corrugated cardboard or reinforced poster board and should be covered with white or colored paper. *Contact paper works well.*) An example is shown below:



**NOTE:** The information for each step should be neatly printed on paper and fastened below the appropriate heading. Construction paper may be used as backing for the information. The written research report or abstract will be placed in front of the display.

**Projects that do not meet all guideline limitations will not be considered for the awards program.  
(Guideline limitations are shown in bold print).**

# SCORING SHEET

## MATH

PROJECT NO.

	<u>Points Available</u>	<u>Points Awarded</u>
<b>MATHEMATICAL CONCEPTS/USE:</b>	<b>30</b>	_____
Use of mathematical method(s)?		
Research method appropriate, consistent, and balanced?		
Mathematical calculations are accurate?		
Mathematical applications are age/grade level appropriate		
<b>RELEVANCE TO COAL</b>	<b>20</b>	_____
<b>ABSTRACT:</b>	<b>25</b>	_____
Shows depth of understanding?		
Issue is stated and a conclusion is reached?		
Neat, organized, and grammatically correct?		
Completion of adequate research?		
<b>DISPLAY:</b>	<b>25</b>	_____
Relevance to mathematical process?		
Self-explanatory?		
Shows creativity and enterprise?		
Data arranged coherently?		
Originality of math/coal investigation?		
<b>TOTAL POINTS AWARDED</b>		_____

**REMARKS:**

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