



## State Standards

# PBL – Presentation

Middle School



## CCSS.ELA-Literacy.RST.6-8.2-5

### Key Ideas and Details

- Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
- Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

### Craft and Structure

- Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
- Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.

## CCSS.ELA-Literacy.RST.6-8.7

### Integration of Knowledge and Ideas

- Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

## CCSS.ELA-Literacy.SL.6.1d

### *Comprehension and Collaboration*

Engage effectively in a range of collaborative discussions (one- on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.

- Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.

## CCSS.ELA-Literacy.SL.6.4

### *Presentation of Knowledge and Ideas*

- Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.

[www.YouCanDoTheCube.com](http://www.YouCanDoTheCube.com)

**CCSS.ELA-Literacy.SL.6.5**

- Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.

**CCSS.Math.Content.6.RP.A.3**

Understand ratio concepts and use ratio reasoning to solve problems.

- Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

**CCSS.Math.Content.6.NS.C.7b**

*Apply and extend previous understandings of numbers to the system of rational numbers.*

Understand ordering and absolute value of rational numbers.

- Write, interpret, and explain statements of order for rational numbers in real-world contexts. For example, write  $-3^{\circ}\text{C} > -7^{\circ}\text{C}$  to express the fact that  $-3^{\circ}\text{C}$  is warmer than  $-7^{\circ}\text{C}$ .

**CCSS.Math.Content.6.RP.A.3b**

- Solve unit rate problems including those involving unit pricing and constant speed. For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?

**CCSS.Math.Content.6.G.A.1**

*Solve real-world and mathematical problems involving area, surface area, and volume. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.*

**CCSS.Math.Content.6.G.A.4**

Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

## Objective

1. Understand solution guide enough to analyze it and re-write it in simpler terms (for younger students)
2. Work cooperatively in groups
3. Apply technology skills by creating a website or PowerPoint to illustrate points
4. Organize thoughts and create “talking points” for presentation, focusing on proper communication skills

## Scenario

“So, you’ve solved the Rubik’s® Cube- now what? You want to spread the knowledge, fun, and power of solving the Rubik’s Cube with elementary school students. Their teacher hasn’t tried to teach them because she feels it would be too difficult. Your job is to convince her otherwise! She has agreed to meet with you for 10 minutes during her planning period.”

## Task

### **Create a presentation for the teacher that includes:**

- A breakdown of the solution guide for your targeted grade level
  - You may want to create a new guide for younger students, or additional pages as an amendment that will help younger students read the guide.
  - Tip: Make a list of what stumped you and what was helpful when reading the guide
- A webpage or digital presentation to illustrate your argument
  - Include pictures
  - Tip: You may want to interview your teacher that taught you how to solve the Rubik’s Cube to get their perspective
  - Tip: Visit the website for educators- [www.youcandothecube.com](http://www.youcandothecube.com)

**You will present your solution guide (new guide or supplemental information) and webpage/digital presentation to your class and will be graded on the following criteria:**

- Organization
- Subject Knowledge
- Public Speaking
- Group Participation
- Webpage/Digital Presentation

## Evaluation:

RUBRIC	4	3	2	1
<b>ORGANIZATION 15%</b>	We present our data and plan in a clear and logical sequence that is complete and easy to follow.	We present our data and plan in a logical sequence that is complete and relatively easy to follow.	We present our data in a manner that is complete, but its disorganization often makes it difficult to follow.	Our presentation is incomplete and/or disorganized.
<b>SUBJECT KNOWLEDGE 30%</b>	We demonstrate our understanding of the mathematical concepts related to the Rubik's Cube with explanations that are clear, thorough, and mathematically correct.	We demonstrate our understanding of the mathematical concepts related to the Rubik's Cube with explanations that are mathematically correct.	We demonstrate our understanding of the mathematical concepts related to the Rubik's Cube with explanations that are primarily mathematically correct.	We are unable to adequately answer questions related to the mathematical concepts of the Rubik's Cube.
<b>PUBLIC SPEAKING 15%</b>	We speak so that our presentation can clearly be heard; we use proper grammar and correct pronunciation; we appropriately use mathematical vocabulary to demonstrate an understanding of the terms.	We speak so that our presentation can generally be heard; we generally use proper grammar and correct pronunciation; we use mathematical terms properly.	We speak softly so that our presentation is difficult to hear; at times, our use of grammar and pronunciation detracts from the presentation; we use mathematical terms appropriately, but infrequently.	We speak softly so that our presentation is difficult to hear; our use of grammar and pronunciation detracts from the presentation; we seldom use mathematical terms, or use them inappropriately.
<b>GROUP PARTICIPATION 15%</b>	Each member of our group participated with relatively equivalent roles.	Each member of our group participated, but our roles were not equivalent.	Each member of our group participated, but not all spoke.	Not all members of our group participated in the presentation.
<b>WIKI/WEBSITE or POWERPOINT 25%</b>	Our wiki/website or PowerPoint is designed to explain and support our argument and presentation.	Our wiki/website or PowerPoint is related to our presentation.	Our wiki/website or PowerPoint often distracts from our presentation.	Our wiki/website or PowerPoint is unrelated to our argument or presentation
<b>Total Score</b>	<b>_____ / 20</b>			