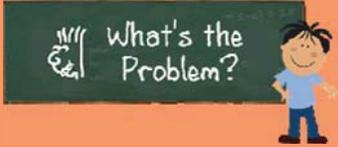
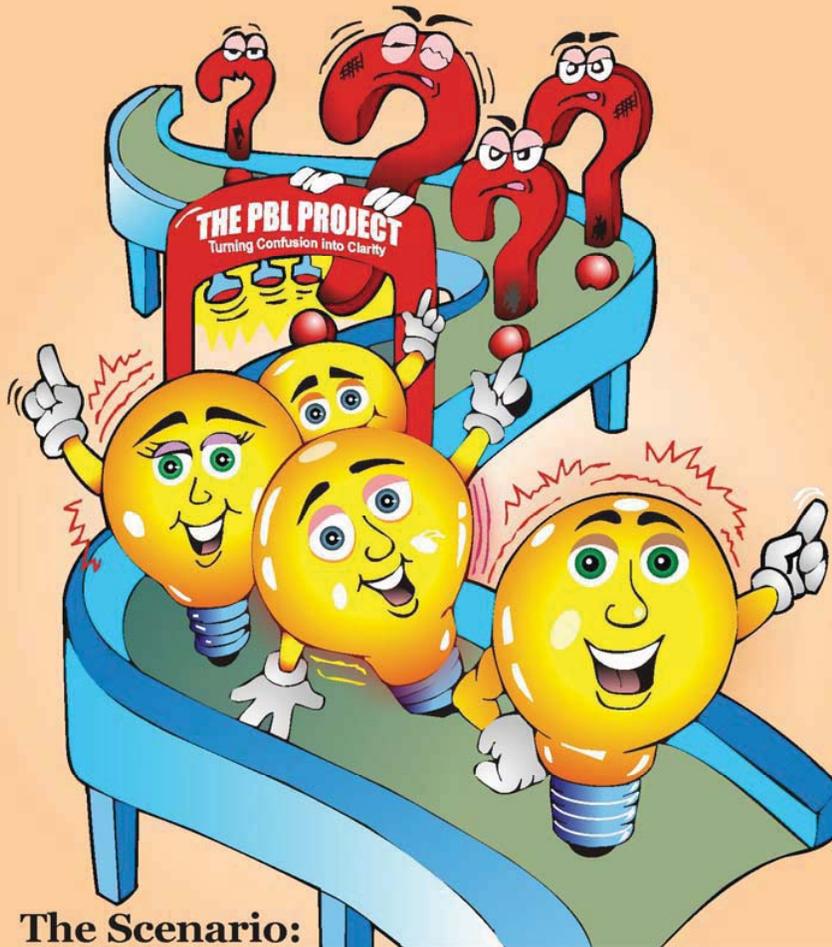


# THE PBL PROJECT

Problem-Based Learning. Done Right. Finally.



**Integrated Problem Scenarios**  
Early Elementary



**The Scenario:**

## ***“The Field Trip”***

You want to convince your teacher to take the class on a field trip to learn about local history. Where will you go, and what do you need to consider?

- \* Features engaging and real-world scenarios
- \* Integrates all core subjects
- \* Includes all teacher and student resources
- \* Provides a full overview of Problem-Based Learning

# Problem-Based Learning. Done Right. Finally.

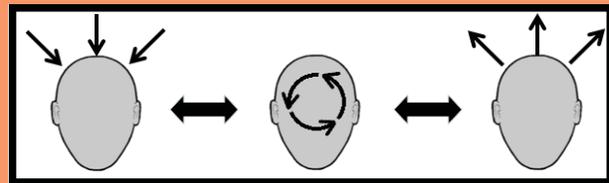
It's an important part of an educator's job to make sure students leave the classroom fully prepared for their lives ahead and equipped with 21st century skills (i.e. skills that focus on communication, organization, technology, and problem-solving). We use these skills every day. Unfortunately, they are often overlooked as students work to absorb names and dates, facts and figures.

That's why **Problem-Based Learning** is so important. It allows students to tackle a scenario that goes beyond a "yes" or "no" answer. In doing so, students will review a variety of resources related to the topic (articles, videos, statistics, infographics, etc.), engage in classroom discussion, and organize their thoughts as they evaluate the information. After all this, they will have a chance to respond to the challenge and defend their approach.

It won't be easy, but it will be very engaging. Best of all, this process will help develop a wide variety of skills that students will use the rest of their lives!

## The 1-2-3 of Problem-Based Learning

When faced with any problem, challenge, or situation, students need to be prepared to:



**Step 1**  
Absorb the  
information

**Step 2**  
Evaluate the  
information

**Step 3**  
Generate the  
response

*This book will walk teachers and students through the following Problem Scenario:*

## The Main Problem Scenario:

You want to convince your teacher to take the class on a field trip to learn about local history. Where will you go, and what do you need to consider?

You will approach this Main Problem from several points-of-view

### The Math Angle

How much time do you have to take the field trip?

### The Science Angle

How might the weather and time of year have an impact on your decision?

### Social Studies Angle

What will you learn by visiting the historical site?

In the end, you will take all you've learned and give your final response to the Main Problem.



Language Arts serves as the hub for the entire exercise. It is in ELA that all of the other "subject angles" are evaluated and measured against one another, and a final decision about how to approach the Main Problem is made based on all of the available information.



# A Note to the Teacher:

If there was something about the cover or title of this book that interested you enough to pick it up and turn to this page, then you probably already know what we are going to say. The truth is that, in today's world, students must leave the classroom equipped with 21<sup>st</sup> century skills and ready to meet the challenges of real life. One of the best ways to meet these demands is through interdisciplinary **Problem-Based Learning** scenarios. This type of classroom instruction promotes communication, collaboration, curiosity, organization, and problem-solving skills . . . all major components of any reputable set of standards.

The Problem-Based scenarios in this book integrate Language Arts, Math, Social Studies, Science, and other content areas. They offer educators a chance to shift the work of learning from the teacher to the students, where it belongs. If we wish to prepare a generation of students to solve real-world problems, we simply must give them real-world problems to solve... Problem-Based Learning is the way to accomplish this task.

So, let's get ready to begin! Enjoy,

Your Friendly Editors

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# What are the key features?

When carried out correctly, a classroom that revolves around Problem-Based Learning has a flow and level of engagement that is hard to match with any lesson that begins with “turn to page 17 in your textbook.” Listed below are characteristics that you’ll notice in a class that is working on a Problem-Based Scenario like the one offered in this book:

## The PBL Checklist

- Students focus on content that is relevant to them in **real-world scenarios**
- The teacher serves as a facilitator, and students are in charge of monitoring, managing and executing the task
- Students demonstrate **21<sup>st</sup> Century Skills** (collaborating, researching, communicating, etc.)
- Instead of a single answer, students consider **multiple points-of-view**, and search for **evidence to support their views**
- Knowledge, skills, and information **integrates across multiple subjects**
- Students respond in a variety of ways, creating “products” that go beyond writing an answer to a single question

# What are misconceptions?

The term “Problem-Based Learning” (along with any of the related ones on page 6) is often used out of context or with no clear idea in mind. As a result, both critics and supporters of the strategy commonly identify PBL with characteristics that simply aren’t true. Here are some common misconceptions we’ve run across:

## Misconceptions of Problem-Based Learning



**The misconception:** “There is no wrong answer.”

**The truth:** *A Problem-Based Scenario will not have a single, “correct” answer. However, a response that is not logical and where no effort has been made to support it is a “wrong” answer.*



**The misconception:** “Problem-Based Learning is just a hot topic that is currently gaining momentum (it’s a fad).”

**The truth:** *Problem-Based Learning has been around for a long time, and will be around for many more. It is becoming more essential in a world where facts are instant and effortless, making “thinking” a powerful skill.*



**The misconception:** “Problem-Based Learning isn’t about ‘facts.’”

**The truth:** *You always have to have the facts right. However, in today’s world, finding facts on any topic is usually just a click away. It’s what you do with those facts that matters—that’s Problem-Based Learning.*



**The misconception:** “The learning really begins when students are given a problem they’ve never considered before.”

**The truth:** *There are few things in life that aren’t a “problem” (What should I buy at the store? Where should we go on vacation? What can we do this weekend?). The skills of Problem-Based Learning can be developed with all of these.*

# The Main Problem:

Here is the Problem-Based Learning scenario that is the focus of this guide:

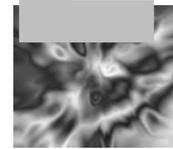
You would like to convince your teacher to take the class on a field trip to learn about local history. What destination would you suggest, and what do you need to consider as you plan?

Of course, every significant challenge in life needs to be looked at from several points-of-view. For the Problem-Based Scenario in this book, the different “points of view” have been provided from math, science, and social studies angle. Then, in Life and Arts, the points-of-view are evaluated from a holistic approach.

Obviously, life isn't so cleanly divided into subject areas. Remember the visual that you saw on page 12:



School



Life

It's certainly a challenge—impossible, actually—to have “real life” crunched into a box that fits the academic schedule. Still, having students review a problem from several angles (even if they are neatly divided along subject lines) helps them understand that problems are multi-dimensional, made up of pieces so complex that they must be evaluated on their own. Only after all of the pieces have been individually examined can the problem be properly approached as a whole.

So, each “subject angle” is one piece of the puzzle. That's not to say they aren't plenty challenging in their own right. In fact, they are wonderful exercises for math, or science, or social studies class, even if you never have a chance to get into the other subject points-of-view.

Now we're ready to begin. The page to the right outlines the “subject angles” that we've created for the Problem-Based Scenario in this book.



# The “Subject Angles”:

In order to properly respond to the Main Problem, it is important to consider multiple points-of-view. Below are several angles from which to approach the problem.

## The Math Angle:

**How much time do you have to take the field trip?**

*Students will look at the length of a school day and other factors (driving time, lunch break, etc.) to determine how long they have to visit a site.*

## The Science Angle:

**How might the weather in different areas have an impact on your decision?**

*Students will identify how weather issues can influence decisions. Using this information they will determine which trips are best.*

## The Social Studies Angle:

**What will you learn by visiting the historical site?**

*Students will look at different points of interest around their community. Using this information they will decide on the place they'd most like to visit.*

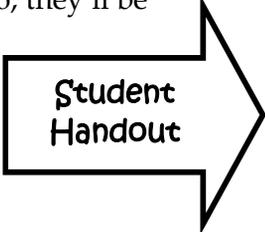


**Language Arts** serves as the hub for the entire exercise. It is in ELA that all of the other “subject angles” are evaluated and measured against one another, and a final decision about how to approach the Main Problem Scenario is made based on all of the available information.

# Math Standards

As students work through this section of our Problem-Based Scenario, they'll be focusing on several mathematical content areas. This includes:

- **Measurement (time)**
- **Algebraic Concepts**



Student  
Handout

In addition – and perhaps more importantly – students will need to take on a mathematical frame of mind (in academic circles, this is referred to as the “Standards for Mathematical Practice”), which is a key benefit of Problem-Based Learning. This means that students will need to:

- Make sense of problems and persevere in solving them
- Reason abstractly and quantitatively
- Construct viable arguments and critique the reasoning of others

**SAMPLE**

You may want to share the goals listed above with your students prior to beginning the exercise, but the best part is that they'll be developing these skills whether they realize it or not!

The most important thing to remember when introducing the Problem-Based Scenario is to grab student interest right away. It is a fun and challenging exercise, and you certainly want students to approach it that way.

To make this easy for you, we have created a handout to introduce the “math angle” to your students for this Problem-Based Scenario. This will help them see that they will be looking at the Main Problem Scenario from a specific point-of-view, in this case with a mathematical focus.



**Make photocopies of the next page to  
introduce the “Math Angle” of this  
Problem-Scenario to your students**



What's the Problem?



*Are you ready to tackle the problem?*

## The Scenario:

You would like to convince your teacher to take the class on a field trip to learn about local history. What destination would you suggest, and what do you need to consider as you plan?

*In order to work with a complicated scenario like the one above, you must view it from different points-of-view. In this case, we will look at the following:*

**SAMPLE**

Con hi in at t:

How much time do you have to take the field trip?

*Prior to giving an answer, you will review several resources, talk it over as a class, and take time to get your thoughts in order.*



*As you work on this exercise, remember that this is primarily a **mathematics question**. This means that numbers and computations will be needed to support your ideas!*

A large selection of pages has been chosen for you to review (full book = 88 pages).

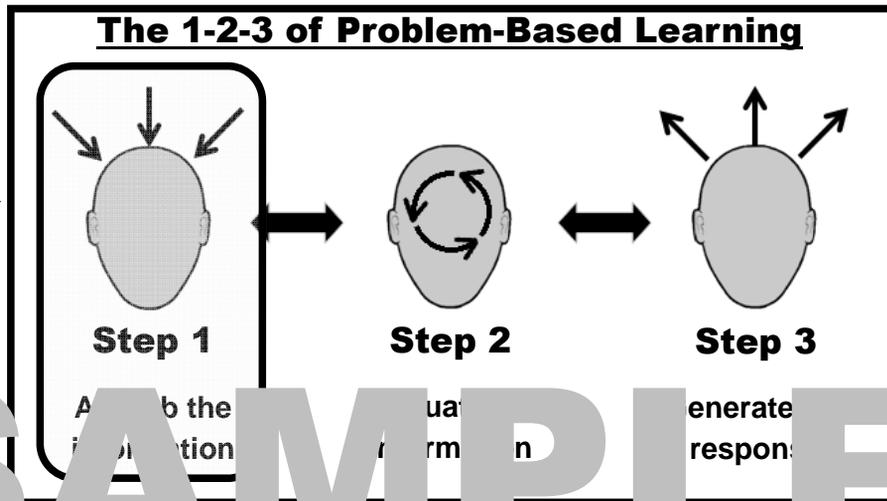
Teacher Instruction Sheet

Problem-Based Scenario	
Section ① -	Stimulus Review
Section ② -	Classroom Discussion
Section ③ -	Student Response
Section ④ -	Grading & Analysis

# Stimulus Review

The Stimulus Review is **Section 1** on your Teacher Instruction Sheet.

**The MATH ANGLE**



**SAMPLE**

It's a fancy term, but the "Stimulus Review" is simply the first step in Problem-Based Learning where students review a variety of information surrounding the specific problem or challenge.

In our Problem Scenario, all of the Stimulus Items have been provided for you. We have intentionally gathered a variety of different types and sources. This is important in today's modern world where information comes from all directions, and also sets the stage for Step 2 (Evaluating the Information).

A few examples of the types of Stimulus Items you might see in a Problem-Based Scenario include:

- **Articles**
- **Statistics**
- **Audio Recordings**
- **Videos**
- **Lists**
- **Cartoons**
- **Infographics**
- **Websites**
- **Primary Sources**
- **Blogs**
- **Editorials**
- **Advertisements**

*...and much more!*

For your convenience, we've placed all of the Stimulus Items for this Problem-Based Scenario on a special website where **both you and your students** can have full access to them. To access these resources, you will go to:

<http://www.pblproject.com/students>

Login:

Password:



The Stimulus Items you'll see for this section of the exercise include:

## Stimulus Item #1

— “Hours In a School Day” (infographic)

## Stimulus Item #2

— “School Schedules” (sheet)

**SAMPLE**

## Stimulus Item #3

— “Comparing Cars to Buses ” (chart)

### A Few Notes:

There are a few things we'd like to highlight as your students get ready to dive into the Stimulus Items. First, these are actual sources that have been gathered for the topic at hand, even if they have been edited or adapted at times due to length, format, or readability. That means that they don't necessarily reflect our personal opinions, and we certainly don't want to take credit for the hard work of others (all source information will be provided). It does, however, provide a nice mix for your students.

Next, the Stimulus Items should give your students the background information they need to generate their responses to the Problem-Based Scenario. There is no need for you to seek out other resources or for students to do their own research.

With that said, it is always great if there is an opportunity for students to get on a computer or head to the library to find their own background information. Being able to conduct your own research is a vital skill to have, and it is referenced throughout Language Arts standards.

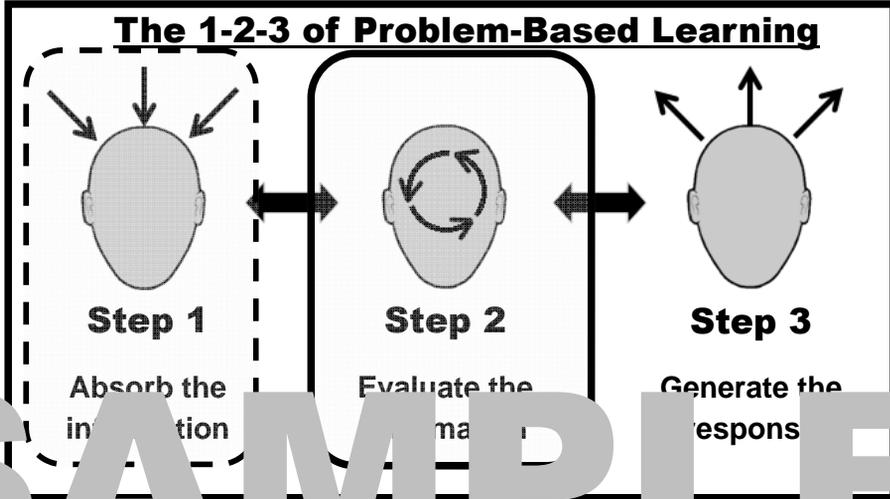
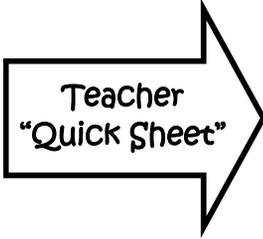
Again, this extra step is not necessary to successfully go through the exercise (we know you're already crunched for time!), but we figured it was worth mentioning!

Teacher Instruction Sheet

Problem-Based Scenario	
Section ① -	Stimulus Review
Section ② -	Classroom Discussion
Section ③ -	Student Response
Section ④ -	Grading & Analysis

# Classroom Discussion

The Classroom Discussion is **Section 2** on your Teacher Instruction Sheet.



**The MATH ANGLE**

SAMPLE

Now that your students have reviewed the Stimulus Items, it is a fitting time to have a **class discussion** about the Problem-Based Scenario (specifically, the “subject angle” that you’re working with).

At this stage, there will be a limited amount of new information brought to the table (Step 1), although you might want to introduce ideas not covered in the Stimulus, and perhaps students will share original thoughts and experiences. For the most part, though, the classroom discussion is where you want students to evaluate the information (Step 2) to which they’ve been exposed. It is now that they will begin to organize it all and decide how it will fit together in their response.

The key to a classroom discussion, of course, is keeping everything focused and moving it in the direction you want, and at the same time creating a free environment for students to share and build on ideas. This is certainly where teachers earn their pay! One way we’ve tried to help (a little bit, at least) is to provide you with the talking points that work well for this scenario. The bold questions are what you will ask your students, and each has bullet points that you can use to guide the discussion.





## Leading Questions for Classroom Discussion The Field Trip (math angle)

### How much travel time is needed for the field trip?

- Consider the distance of your destination from the school, and why that must be known prior to making plans
- Consider how long it will take to get to your location based on normal travel times and routes
- Consider that a bus will travel slower than a car, so you might need to factor that into planning

### How long can you stay at the final destination of your field trip?

Consider how long it is needed to get to the final destination of your field trip, which will vary according to the destination and the mode of transportation. Consider that travel time must be subtracted from the total time spent at your final destination.

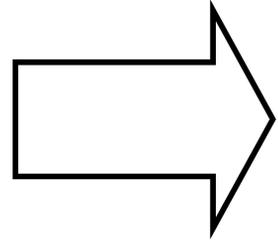
- Consider that other time must be allowed while you are at the site, including a lunch break, bathroom breaks, and even time to ask questions or “browse” the area

### Obviously, much more time is spent in the classroom than on a field trip. Which time is more “valuable”?

- Consider that a field trip allows you to get up close and personal with things you are learning about in the classroom... so they work hand-in-hand
- Consider how many subjects and topics must be covered in a school year... a field trip allows you to spend much more time on a single topic even though it may only be for a single day
- Consider that sometimes it is important to take a break from the daily routine of the classroom, and that is what makes time spent on a field trip so valuable

# A Little Humor...

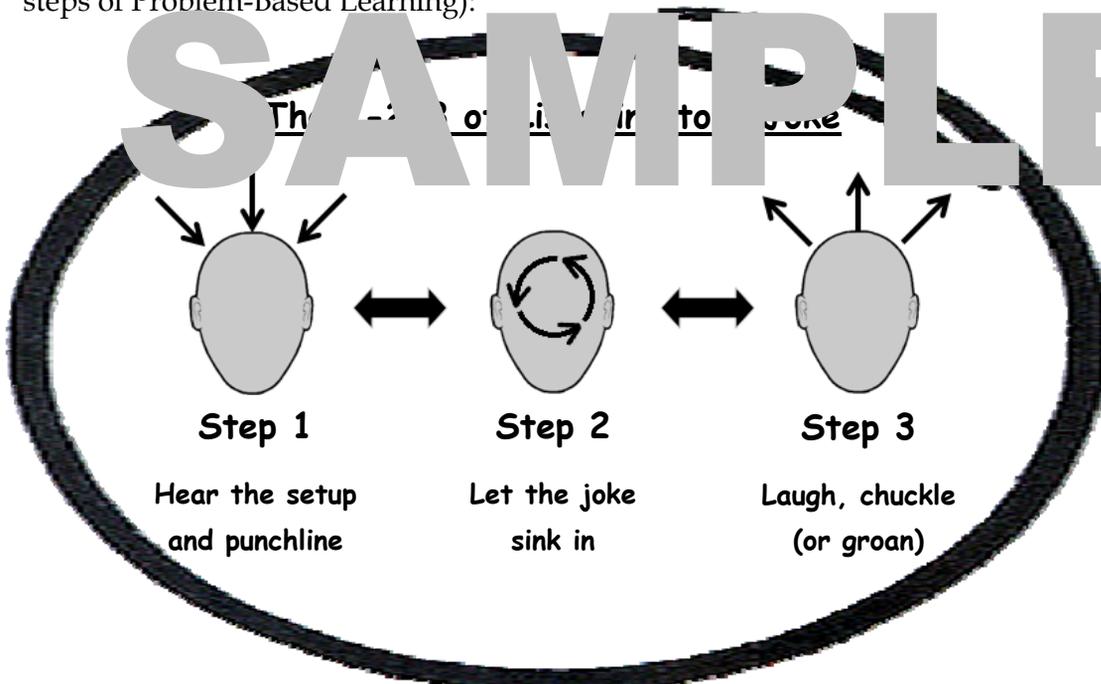
While you may enjoy the material on the next page, please know that we are not adding a humor section simply to offer an escape from the task at hand. Rather, this is another important step in helping students (especially early elementary students) develop the skills of Problem-Based Learning.



Truth be told, these jokes might not be all that funny (we tried our best), but that's not the point. When you tell a joke to younger students, their first reaction is likely a blank stare and furrowed brow. It's at that point that the steps of Problem-Based Learning (absorb the information, evaluate the information, respond to the information) kick into full gear. And it's that "Ah-hah" moment that you're looking for, whether it's a laugh or a groan. That's when you know they've gone through the entire process of listening to a joke (which just so happens to look very similar to the steps of Problem-Based Learning):

**The MATH ANGLE**

**SAMPLE**



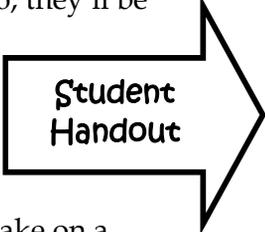
The next page features a few jokes that fit with the "subject angle" and might be worth sharing and will help your students casually practice the skills of Problem-Based Learning





# Science Standards

As students work through this section of our Problem-Based Scenario, they'll be focusing on several science content areas. This includes:



- **Weather and Seasons**

In addition – and perhaps more importantly – students will need to take on a scientific frame of mind (in academic circles, these are referred to as the “Science and Engineering Practices”), which is a key benefit of Problem-Based Learning. This means that students will be:

- **Asking questions and defining problems.**
- **Constructing explanations and designing solutions.**
- **Engaging in argument from evidence.**
- **Obtaining, evaluating, and communicating information.**

SAMPLE

You may want to share the goals listed above with your students prior to beginning the exercise, but the best part is that they'll be developing these skills whether they realize it or not!

The most important thing to remember when introducing the Problem-Based Scenario is to grab student interest right away. It is a fun and challenging exercise, and you certainly want students to approach it that way.

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**Make photocopies of the next page to introduce the “Science Angle” of this Problem-Scenario to your students**



The SCIENCE ANGLE



*Are you ready to tackle the problem?*

**The Scenario:**

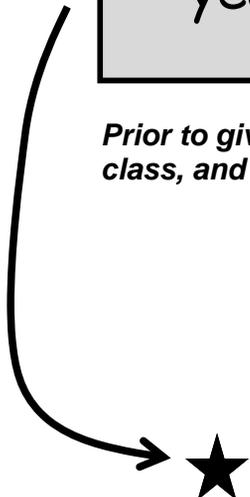
You would like to convince your teacher to take the class on a field trip to learn about local history. What destination would you suggest, and what do you need to consider as you plan?

*In order to work with a complicated scenario like the one above, you must view it from different points-of-view. In this case, we will look at the following:*

**SAMPLE**

Some things to think about:  
How might the weather and time of year have an impact on your decision?

*Prior to giving an answer, you will review several resources, talk it over as a class, and take time to get your thoughts in order.*



★ *As you work on this exercise, remember that this is primarily a **science question**. This means that scientific facts will be needed to support your ideas!*

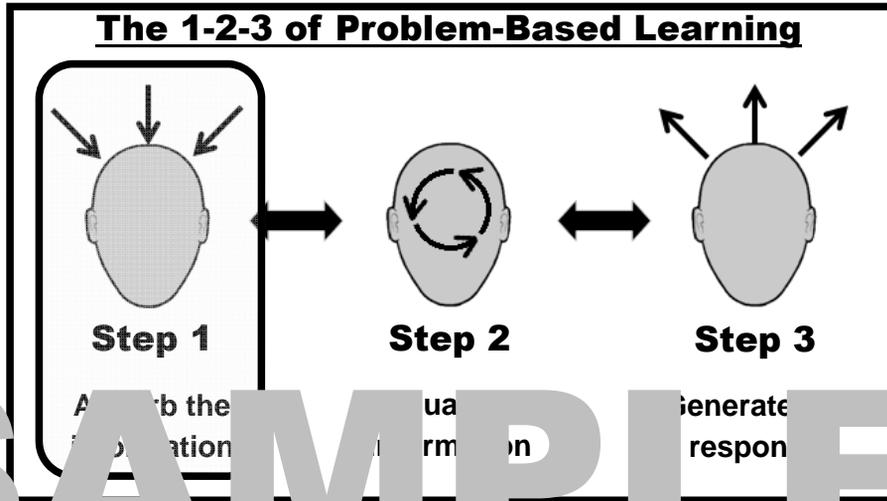
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The SCIENCE ANGLE

SAMPLE

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--	---

The Stimulus Items you'll see for this section of the exercise include:

## Stimulus Item #1

— “Weather and Seasons” (video)

Stimulus Item #2  
— “Weather and Seasons” (chart)

# SAMPLE

## Stimulus Item #3

— “Planning for the Weather” (article)

### A Few Notes:

There are a few things we'd like to highlight as your students get ready to dive into the Stimulus Items. First, these are actual sources that have been gathered for the topic at hand, even if they have been edited or adapted at times due to length, format, or readability. That means that they don't necessarily reflect our personal opinions, and we certainly don't want to take credit for the hard work of others (all source information will be provided). It does, however, provide a nice mix for your students.

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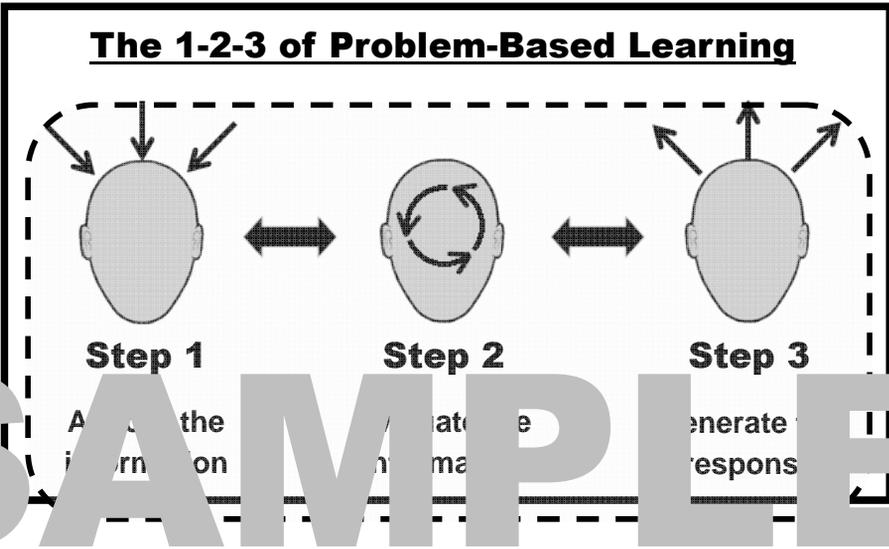
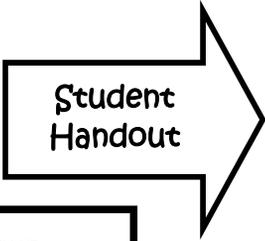
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# “Thought-Gathering” Sheet

*The “Thought-Gathering” Sheet is an interim step prior to the student responses.*



**The SCIENCE ANGLE**

SAMPLE

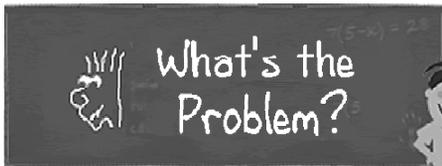
So, by this point, you’ve had students review Stimulus Items related to the Problem Scenario. That led to a stimulating (we hope) classroom discussion on the topic.

Often times, there is a feeling of “information overload” at this stage. Students have enough information to generate their constructed responses and/or fulfill their product options (we’ll talk about these on the upcoming pages), but their thoughts may be all over the place. They may still have to pick their position, refine their arguments, focus their proposal, perfect their design... and so on.

That’s where the “Thought-Gathering” Sheet comes in. This isn’t to be confused with any “note-taking sheets” your students may have written while they were looking through the Stimulus Items or listening to the discussion. Rather, this is a final stage where they sort everything (including their own notes) to prepare for their response. It is a chance to tie together Step 1, Step 2, and Step 3 (shown above).

**We have provided a “Thought-Gathering” sheet that works with this exercise and is a good chance for students to organize their ideas prior to creating their responses.**





# Field Trip

## "Thought-Gathering" Sheet



What is a field trip idea that fits with each season. Why?

Spring

Summer

SAMPLE

Fall (Autumn)

Winter

A large selection of pages has been chosen for you to review (full book = 88 pages).

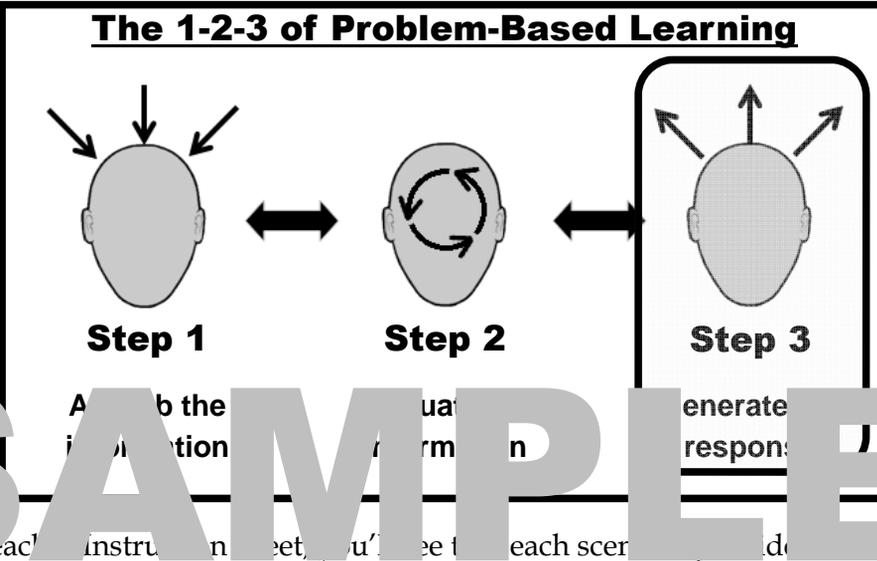
Teacher Instruction Sheet

Problem-Based Scenario	
Section ① -	Stimulus Review
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Section ③ -	Student Response
Section ④ -	Grading & Analysis

# Student Responses (Extended Response)

The Student Responses are **Section 3** on your Teacher Instruction Sheet.

Student Handout



The SCIENCE ANGLE

SAMPLE

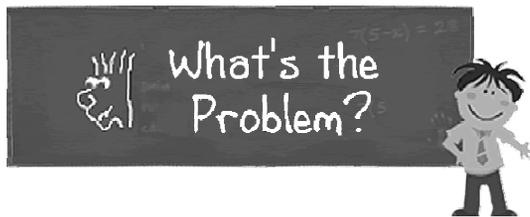
types of response options for your students – Extended Responses and the Product Option. Let’s look at the “Extended Responses” first.

As you would expect, the Extended Responses are simply questions centering around the Problem-Based Scenario that the students answer through their writing.

Most likely, the Extended Responses are similar to what you might see during a Performance Task of a comprehensive assessment (where students are given a range of information to review, and then must give their conclusions based on the evidence). The “test prep” benefits alone make it worthwhile for students to complete the Extended Responses, but the broader benefit is their ability to take the information they’ve been exposed to and generate a logical response to a problem scenario.

The rubric and process for grading Extended Responses is on the following pages. Also, we will leave it up to you whether you want to allow students to use notes they have taken throughout (we think it’s fine for them to do so), and also how strict you want to be with time limits (a half hour or so should be fine).

Here are the Extended Response questions for this scenario.



# What do you think?

The questions below are centered around the Problem-Based Scenario you've been reviewing. Please answer the questions on separate sheets of paper.

1) How can weather have an impact on a field trip? What can be done to prepare for weather conditions when planning a field trip?

# SAMPLE

2) Using the weather forecasts provided, when would be the best time to take your field trip? Why?



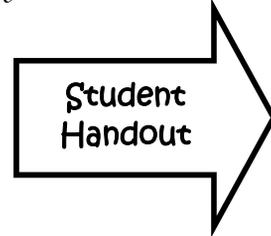
*Remember to support your answers with evidence that you've gathered from what you've read and discussed in class!*

Teacher Instruction Sheet

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Section ④ -	Grading & Analysis

# Grading Rubric (Extended Responses)

The Grading Rubric is **Section 3** on your Teacher Instruction Sheet.



The SCIENCE ANGLE

One thing that your students must understand about these Problem-Based Scenarios is that the answer is never “yes” or “no”. Instead, students must think their way through the muddy waters of different situations and challenges, while you guide them along the journey.

...course, the e...ult ne...o b...e th...a p...n t...ack—ar...at s... why prop...ing...o i...orta...n...s...len...el th...grades ex...y... cause...as a...ill...pac...or...ep...ca...he broad...ec...is t...when students are graded in a clear and fair way, it enables them to continually improve their approach and response.

The Extended Responses for this scenario can be graded using the rubric to the right. It is divided into four sections:

- 1) Science Content** (*What do you want students to bring to the table based on previous lessons?*)
- 2) Writing Focus** (*Was it clear what point the students were trying to make?*)
- 3) Use of Evidence** (*Did the students back up their position with evidence, quotes, statistics, and facts?*)
- 4) Language & Conventions** (*Did students limit mistakes and respond in a thorough and professional manner?*)

Here is a copy of the rubric for your students to review.



What's the Problem?



## How do I get a great score?

Listed below are the four different areas that will be evaluated as your responses are graded. Be sure to consider each area as you write.

Rubric Section #1: **Science Content** – you must show a high level of background knowledge and general understanding of the topic

**\*\*in other words:** *What have you learned from previous lessons?*

You showed a great understanding of the subject.



You showed barely any understanding of the subject.

Rubric Section #2: **Production & Distribution of Writing** – you must organize and sustain your writing based on a defined purpose

**\*\*in other words:** *Was it clear what point you were trying to make, and did you focus on that point?*

You had a clear purpose and organized your writing around that purpose.



You didn't have a purpose and there was little organization.

**SAMPLE**

Rubric Section #3: **Combining Knowledge and Ideas (use of "evidence")** – you must support your arguments and positions with outside information

**\*\*in other words:** *Did you back up your position with facts, evidence, quotes, or statistics?*

You supported your main idea with evidence and provided key facts and details.



You provided almost no support for your main idea and provided few facts or key details.

Rubric Section #4: **Command of the English Language** – you must use proper grammar, spelling, vocabulary, and other conventions of the English language

**\*\*in other words:** *Did you limit mistakes and respond in a thorough and professional manner?*

You were professional and showed a command of the English language.

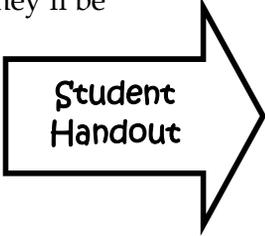


You were sloppy and need to do a better job following the rules of the English language.

# Social Studies Standards

As students work through this section of our Problem-Based Scenario, they'll be focusing on several social studies content areas. This includes:

- **Definition of "Social Studies"**
- **History (value of local historical sites)**



In addition – and perhaps more importantly – students will need to understand basic principles of social studies, which is a key benefit of Problem-Based Learning. This means that in addition to the basic disciplinary standards, students will become familiar with the broader themes of social studies. For example:

- **Culture and Cultural Diversity**
- **Time, Continuity, and Change \***
- **People, Places, and Environments**
- **Individual Development and Identity**
- **Individuals, Groups, and Institutions**
- **Power, Authority, and Governance**
- **Production, Distribution, and Consumption**
- **Science, Technology, and Society**
- **Global Interactions**
- **Civic Ideals and Practices \***

SAMPLE

\*an asterisk indicates that each theme is a major part of the PBL exercise

The SOCIAL STUDIES ANGLE

You may want to share the themes listed above with your students prior to beginning the exercise, but the best part is that they'll be developing this broader understanding whether they realize it or not!

The most important thing to remember when introducing the Problem-Based Scenario is to grab student interest right away. It is a fun and challenging exercise, and you certainly want students to approach it that way.

To make this easy for you, we have created a handout to introduce the "social studies angle" to your students for this Problem-Based Scenario. This will help them see that they will be looking at the Main Problem Scenario from a specific point-of-view, in this case with a focus on society and historical trends.

**Make photocopies of the next page to introduce the "Social Studies Angle" of this Problem-Scenario to your students**





What's the Problem?



*Are you ready to tackle the problem?*

### The Scenario:

You would like to convince your teacher to take the class on a field trip to learn about local history. What destination would you suggest, and what do you need to consider as you plan?

*In order to work with a complicated scenario like the one above, you must view it from different points-of-view. In this case, we will look at the following:*

**SAMPLE**

Something to think about:

What will you learn by visiting the historical site?

*Prior to giving an answer, you will review several resources, talk it over as a class, and take time to get your thoughts in order.*



*As you work on this exercise, remember that this is primarily a **social studies question**. This means that you must consider how people live and work together when coming up with your ideas!*

A large selection of pages has been chosen for you to review (full book = 88 pages).

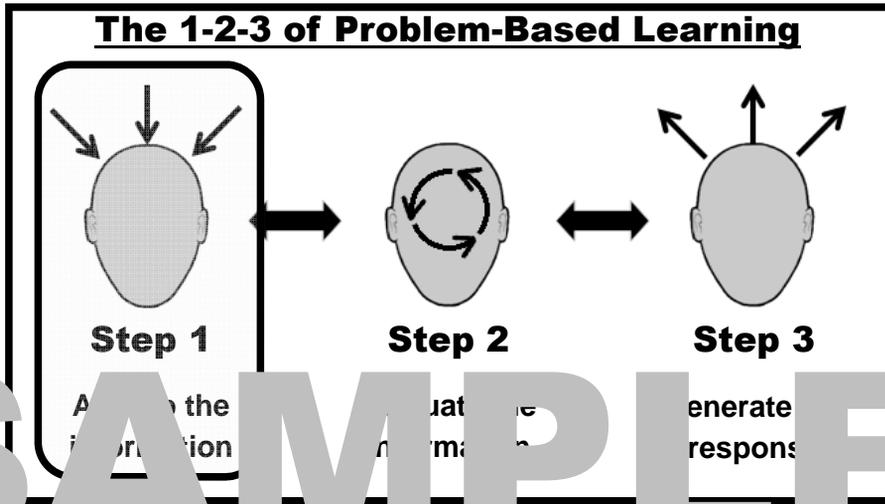
Teacher Instruction Sheet

Problem-Based Scenario	
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# Stimulus Review

The Stimulus Review is **Section 1** on your Teacher Instruction Sheet.

**The SOCIAL STUDIES ANGLE**



It's a fancy term, but the "Stimulus Review" is simply the first step in Problem-Based Learning where students review a variety of information surrounding the specific problem or challenge.

In our Problem Scenario, all of the Stimulus Items have been provided for you. We have intentionally gathered a variety of different types and sources. This is important in today's modern world where information comes from all directions, and also sets the stage for Step 2 (Evaluating the Information).

A few examples of the types of Stimulus Items you might see in a Problem-Based Scenario include:

- **Articles**
- **Statistics**
- **Audio Recordings**
- **Videos**
- **Lists**
- **Cartoons**
- **Infographics**
- **Websites**
- **Primary Sources**
- **Blogs**
- **Editorials**
- **Advertisements**

*...and much more!*

For your convenience, we've placed all of the Stimulus Items for this Problem-Based Scenario on a special website where **both you and your students** can have full access to them. To access these resources, you will go to:

<b><a href="http://www.pblproject.com/students">http://www.pblproject.com/students</a></b>	
Login: <input type="text"/>	
Password: <input type="password"/>	
	<input type="button" value="Login"/>

The Stimulus Items you'll see for this section of the exercise include:

## Stimulus Item #1

— “Suggested Field Trips for Social Studies” (chart)

stimulus item #2  
— “Virtual Field Trips” (video)

# SAMPLE

## Stimulus Item #3

— “Why Is Social Studies Important?” (article)

### A Few Notes:

There are a few things we'd like to highlight as your students get ready to dive into the Stimulus Items. First, these are actual sources that have been gathered for the topic at hand, even if they have been edited or adapted at times due to length, format, or readability. That means that they don't necessarily reflect our personal opinions, and we certainly don't want to take credit for the hard work of others (all source information will be provided). It does, however, provide a nice mix for your students.

Next, the Stimulus Items should give your students the background information they need to generate their responses to the Problem-Based Scenario. There is no need for you to seek out other resources or for students to do their own research.

With that said, it is always great if there is an opportunity for students to get on a computer or head to the library to find their own background information. Being able to conduct your own research is a vital skill to have, and it is referenced throughout Language Arts standards.

Again, this extra step is not necessary to successfully go through the exercise (we know you're already crunched for time!), but we figured it was worth mentioning!

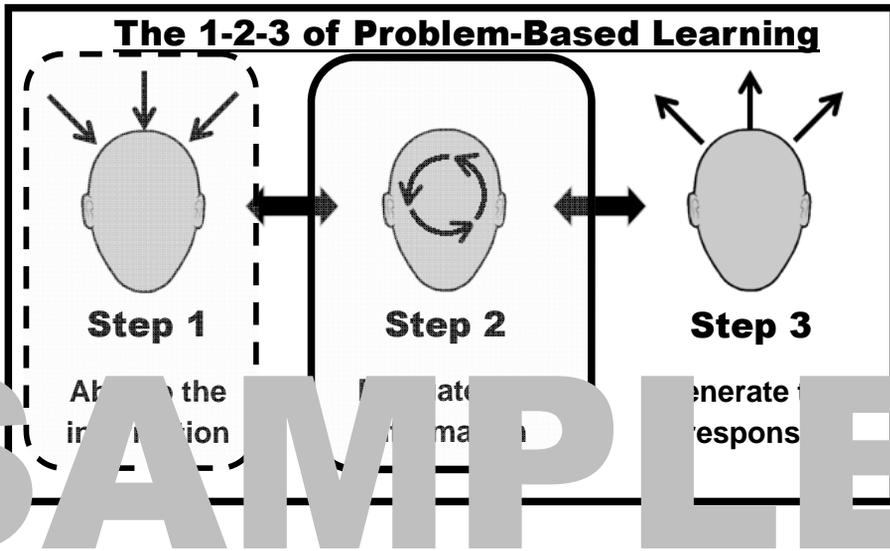
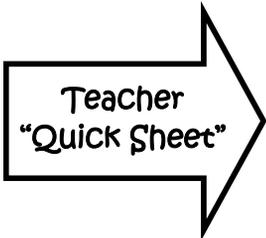
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# Classroom Discussion

The Classroom Discussion is **Section 2** on your Teacher Instruction Sheet.



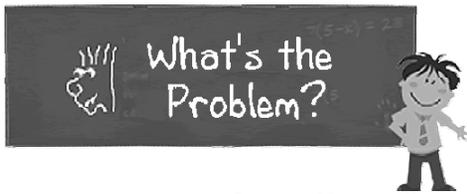
**The SOCIAL STUDIES ANGLE**

Now that your students have reviewed the Stimulus Items, it is a fitting time to have a **class discussion** about the Problem-Based Scenario (specifically, the “subject angle” that you’re working with).

At this stage, there will be a limited amount of new information brought to the table (Step 1), although you might want to introduce ideas not covered in the Stimulus, and perhaps students will share original thoughts and experiences. For the most part, though, the classroom discussion is where you want students to evaluate the information (Step 2) to which they’ve been exposed. It is now that they will begin to organize it all and decide how it will fit together in their response.

The key to a classroom discussion, of course, is keeping everything focused and moving it in the direction you want, and at the same time creating a free environment for students to share and build on ideas. This is certainly where teachers earn their pay! One way we’ve tried to help (a little bit, at least) is to provide you with the talking points that work well for this scenario. The bold questions are what you will ask your students, and each has bullet points that you can use to guide the discussion.





## **Leading Questions for Classroom Discussion** **The Field Trip (social studies angle)**

### **Why should students study social studies?**

- Consider the definition of “social studies,” which is the study of our society and how people interact... therefore, social studies helps us to understand how the community, nation, and world we live in works and how it came to be
- Consider that learning social studies helps us to develop essential skills for good citizenship
- Consider that a good understanding of history gives kids an idea and appreciation of how the country came to be the way it is today.

### **What historical site would you like to visit? Why is first-**

**SAMPLE**  
... experience of a field trip... with the learning about the...  
... thing in the classroom?  
... Consider... historical sites in your community and which site strike you as...  
... educationally, exciting, unique, or intriguing.

- Consider how a field trip and classroom learning go hand-in-hand... the field trip allows students to make connections with things they learn about in class
- Consider how a field trip gives students access to culture, history, and artifacts that may be left out of the regular curriculum.
- Consider how the sensory, physical, and social aspects of field trips enrich learning

### **What are “virtual field trips”, and how can they be useful?**

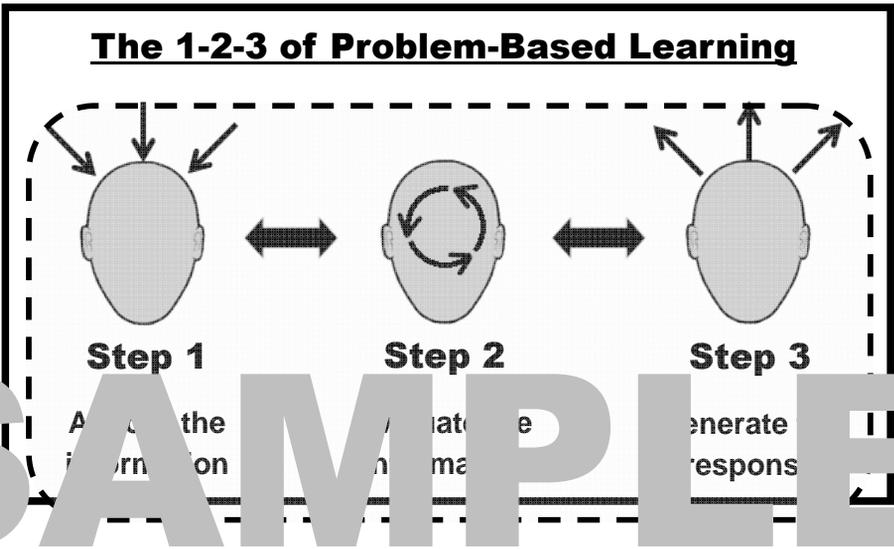
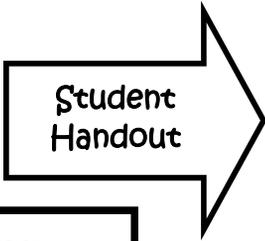
- Consider the definition of a “virtual field trip”, which is a simulated field trip through the internet or some other device
- Consider that a virtual field trip provides the opportunity to explore and see places, things, and people that might not otherwise be possible or practical (for example, you could take a virtual field trip to Moscow, or even the moon)
- Consider that a virtual field trip saves time and money, not to mention the logistical challenges of planning a real field trip

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# “Thought-Gathering” Sheet

*The “Thought-Gathering” Sheet is an interim step prior to the student responses.*



**The SOCIAL STUDIES ANGLE**

**SAMPLE**

So, by this point, you’ve had students review Stimulus Items related to the Problem Scenario. That led to a stimulating (we hope) classroom discussion on the topic.

Often times, there is a feeling of “information overload” at this stage. Students have enough information to generate their constructed responses and/or fulfill their product options (we’ll talk about these on the upcoming pages), but their thoughts may be all over the place. They may still have to pick their position, refine their arguments, focus their proposal, perfect their design... and so on.

That’s where the “Thought-Gathering” Sheet comes in. This isn’t to be confused with any “note-taking sheets” your students may have written while they were looking through the Stimulus Items or listening to the discussion. Rather, this is a final stage where they sort everything (including their own notes) to prepare for their response. It is a chance to tie together Step 1, Step 2, and Step 3 (shown above).

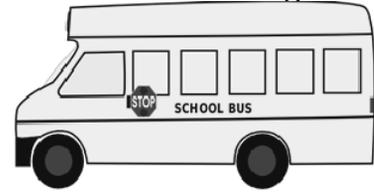
We have provided a “Thought-Gathering” sheet that works with this exercise and is a good chance for students to organize their ideas prior to creating their responses.





# Field Trip

## "Thought-Gathering" Sheet



Where should we go on our field trip?

Field Trip Suggestions:

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---



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**SAMPLE**

Should we take a "virtual field trip" instead?

	PROS ("good things")	CONS ("bad things")
Regular Field Trip		
Virtual Field Trip		

A large selection of pages has been chosen for you to review (full book = 88 pages).

Teacher Instruction Sheet

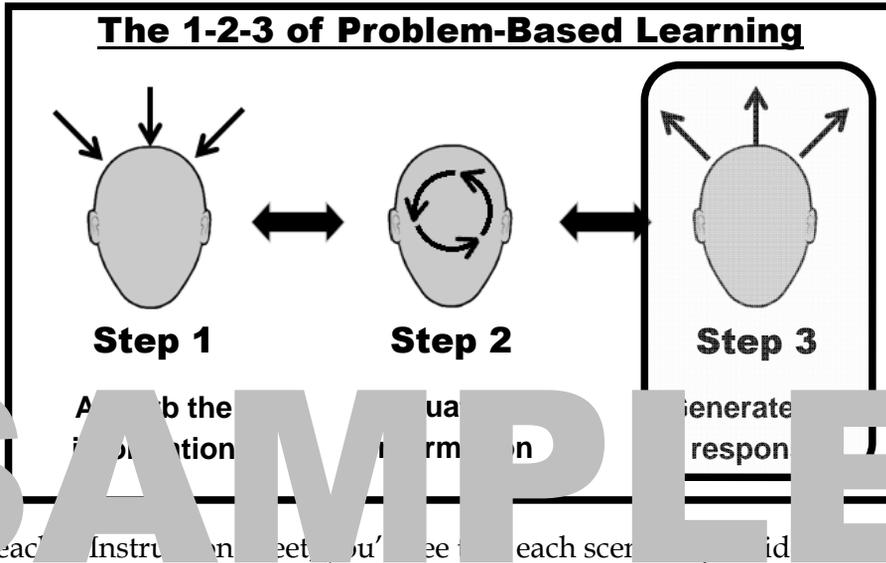
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# Student Responses (Extended Response)

The Student Responses are **Section 3** on your Teacher Instruction Sheet.

Student Handout

The SOCIAL STUDIES ANGLE



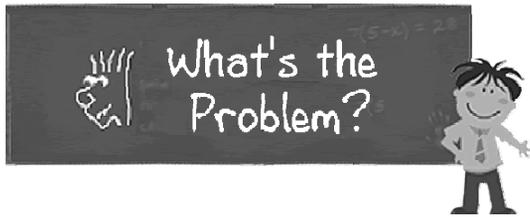
types of response options for your students – Extended Responses and the Product Option. Let’s look at the “Extended Responses” first.

As you would expect, the Extended Responses are simply questions centering around the Problem-Based Scenario that the students answer through their writing.

Most likely, the Extended Responses are similar to what you might see during a Performance Task of a comprehensive assessment (where students are given a range of information to review, and then must give their conclusions based on the evidence). The “test prep” benefits alone make it worthwhile for students to complete the Extended Responses, but the broader benefit is their ability to take the information they’ve been exposed to and generate a logical response to a problem scenario.

The rubric and process for grading Extended Responses is on the following pages. Also, we will leave it up to you whether you want to allow students to use notes they have taken throughout (we think it’s fine for them to do so), and also how strict you want to be with time limits (a half hour or so should be fine).

Here are the Extended Response questions for this scenario.



# What do you think?

The questions below are centered around the Problem-Based Scenario you've been reviewing. Please answer the questions on separate sheets of paper.

1) What is "social studies", and how does learning the subject help you understand your local community?

# SAMPLE

2) What local historical site would you like to visit? Why do you want to go in person rather than learning about it in the classroom?



*Remember to support your answers with evidence that you've gathered from what you've read and discussed in class!*

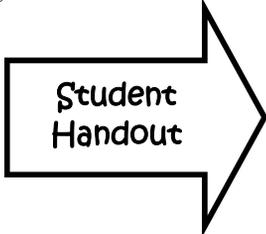
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# Grading Rubric (Extended Responses)

The Grading Rubric is **Section 3** on your Teacher Instruction Sheet.



The SOCIAL STUDIES ANGLE

One thing that your students must understand about these Problem-Based Scenarios is that the answer is never “yes” or “no”. Instead, students must think their way through the muddy waters of different situations and challenges, while you guide them along the journey.

...count, the... result... to be... a person... back — and... that's why... grading... important... grades... cause... fill... the broad... reason is... when students are graded in a clear and fair way, it enables them to continually improve their approach and response.

The Extended Responses for this scenario can be graded using the rubric to the right. It is divided into four sections:

- 1) Social Studies Content** (*What do you want students to bring to the table based on previous lessons?*)
- 2) Writing Focus** (*Was it clear what point the students were trying to make?*)
- 3) Use of Evidence** (*Did the students back up their position with evidence, quotes, statistics, and facts?*)
- 4) Language & Conventions** (*Did students limit mistakes and respond in a thorough and professional manner?*)

Here is a copy of the rubric for your students to review.



# How do I get a great score?

Listed below are the four different areas that will be evaluated as your responses are graded. Be sure to consider each area as you write.

Rubric Section #1: **Social Studies Content** – you must show a high level of background knowledge and general understanding of the topic

**\*\*in other words:** *What have you learned from previous lessons?*

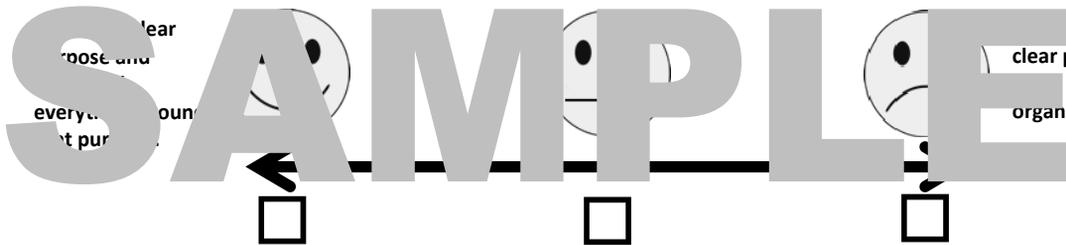
You showed a great understanding of the subject.



You showed barely any understanding of the subject.

Rubric Section #2: **Production & Distribution of Writing** – you must organize and sustain your writing based on a defined purpose

**\*\*in other words:** *Was it clear what point you were trying to make, and did you focus on that point?*



Rubric Section #3: **Combining Knowledge and Ideas (use of “evidence”)** – you must support your arguments and positions with outside information

**\*\*in other words:** *Did you back up your position with facts, evidence, quotes, or statistics?*

You supported your main idea with evidence and provided key facts and details.



You provided almost no support for your main idea and provided few facts or key details.

Rubric Section #4: **Command of the English Language** – you must use proper grammar, spelling, vocabulary, and other conventions of the English language

**\*\*in other words:** *Did you limit mistakes and respond in a thorough and professional manner?*

You were professional and showed a command of the English language.



You were sloppy and need to do a better job following the rules of the English language.

# Thinking Exercises

As you wrap up this “subject angle” for the Problem-Based Scenario, it might be worthwhile to go through a few Thinking Exercises with your students. These are extremely effective for early elementary students because they are a simple, engaging way to review content while developing problem-based learning skills. We’ve provided a variety of different types of exercises that work great with this particular “subject angle”:

**Critical Thinking Exercises** - these are problems where students must determine what they are truly being asked, and how they are expected to respond

This sample is an **Abstract Question**. This is where students are asked to answer a question that they do not have a definite answer to. It is up to the student to consider the question and determine for themselves what is being asked and how to answer it.

***“Those who don't know history are destined to repeat it.”***

**What does this mean?**

**Creativity Drills** - these are problems that can be approached from a number of different ways, and students must provide multiple responses

This sample is a **“How Many?” Drill**. This is where students are asked to come up with as many situations as possible that fit a set of criteria. This should include the obvious answers, as well as those that require more creative thinking.

***If you could travel anywhere in the world instantly  
(and at no cost), where would you want to take a field  
trip with your class?***

---

**Missing Information Problems** - these are problems where students need to ask questions and seek out more information before they can provide a logical answer. Teachers should provide students with relevant and irrelevant information as they seek out the details.

***Sally has a big decision to make, and wants to handle it like a responsible American citizen. What should she do?***

(Remember, you can decide on the details of this scenario and create whatever backstory you'd like. It is up to students to seek out more information from you to uncover the elements of the story and provide a reasonable answer.)

---

# SAMPLE

...es think. Exercise the ability to put a "different angle" before calling it complete. Obviously, when working with early elementary students on a Problem-Based Scenario, the teacher carries a heavy role as the mediator. After all, this process of absorbing information, evaluating it, and responding in different ways is new to these younger students (and it's a challenging task for students of all ages).

As you know, clever students can often "trick" us into thinking they understand an entire concept simply by recalling facts and figures, or perhaps a tricky definition, at key times. These Thinking Exercises are a good litmus test to see if students really have a deeper understanding of the content. It also gives them the opportunity to take ownership of the information and answer in their own way without trying to match an answer key or adhere to a strict rubric.

A large selection of pages has been chosen for you to review (full book = 88 pages).

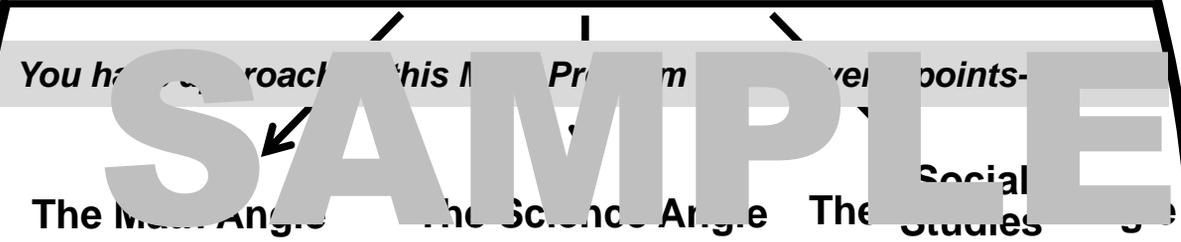
# Section 5:

## “The Language Arts Angle”

The Main Problem Scenario:

You want to convince your teacher to take the class on a field trip to learn about local history. Where will you go, and what do you need to consider?

The LANGUAGE ARTS ANGLE



How much time do you have to take the field trip?

How might the weather and time of year have an impact on your decision?

What will you learn by visiting the historical site?

Now it is time to take all you’ve learned and give your final response to the Main Problem.



Language Arts serves as the hub for the entire exercise. It is in ELA that all of the other “subject angles” are evaluated and measured against one another, and a final decision about how to approach the Main Problem Scenario is made based on all of the available information.

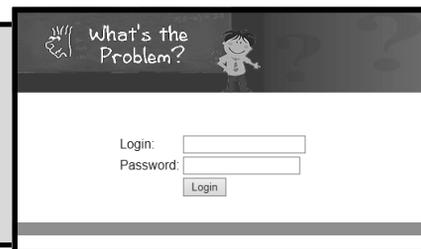
Throughout this book, we've been examining the Main Problem Scenario from multiple "subject angles." Well, now it's time to bring it all together. Everything that your students have been exposed to thus far is fair game in the Language Arts section. That means that they can pull from all **classroom discussion sessions, notes and "Thought-Gathering" Sheets**, and of course the **Stimulus Items** that provide information about the Main Problem.

For your convenience, we've placed all of the Stimulus Items for this Problem-Based Scenario on a special website where **both you and your students** can review them. To access these resources, you will go to:

<http://www.pblproject.com/students>

Login:

Password:



**SAMPLE**

the "Math Angle"

Stimulus Item #1 — "You on School Day" (for a project)

Stimulus Item #2 — "School Schedules" (fact sheet)

Stimulus Item #3 — "Comparing Cars to Buses" (chart)

### The "Science Angle"

Stimulus Item #1 — "Weather and Seasons" (video)

Stimulus Item #2 — "Weather Calendar" (chart)

Stimulus Item #3 — "Planning for the Weather" (article)

### The "Social Studies Angle"

Stimulus Item #1 — "Suggested Field Trips for Social Studies" (chart)

Stimulus Item #2 — "A Virtual Field Trip" (video)

Stimulus Item #3 — "Why Is Social Studies Important?" (article)

A large selection of pages has been chosen for you to review (full book = 88 pages).

# Student Responses

## Language Arts

In previous sections of this book, students have only concentrated on one piece of the puzzle. Now they will look at the Main Problem Scenario as a whole, incorporating everything that has been researched and discussed along the way.

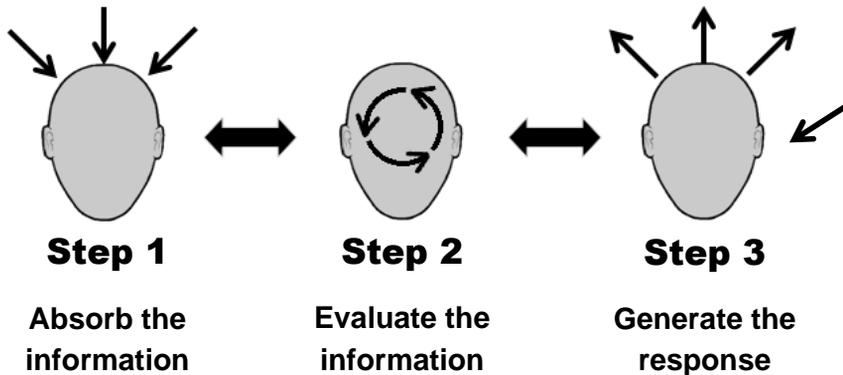
To respond to the Main Problem, a prompt has been provided (shown to the right). Your students' writing—and perhaps oral presentations—will need to meet several expectations from a Language Arts perspective. Students must:

- Show the ability to comprehend informative texts and resources
- Explain their position and overall reasoning
- Support their positions with evidence from their research
- Articulate clear conclusions (at least at the elementary level)
- Form conclusions and arguments (at least at the middle school level)
- Demonstrate speaking and listening skills

SAMPLE

The skills above will only be demonstrated if students are able to absorb the Stimulus Items, organize their thoughts, and approach the Problem Scenario in a logical way. If they fail in these tasks before a single word is written on paper, they'll never be able "write their way out of it" at this stage of the game. To put it another way:

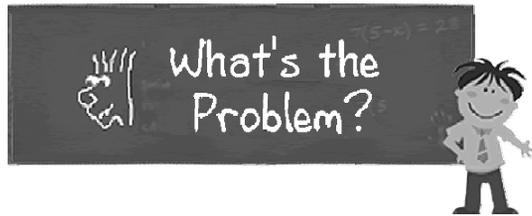
### The 1-2-3 of Problem-Based Learning



*This is not merely a writing exercise! Student responses will never satisfy all of the requirements listed above if Steps 1 and Steps 2 are incomplete.*

The LANGUAGE ARTS ANGLE

Here is the Language Arts prompt for this Problem Scenario.



# What do you think?

The prompt below is centered around the Problem Scenario you've been reviewing. Please provide your response on a separate sheet of paper.

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Choose a local site where you would like your class to take a field trip to learn about your community and its history.

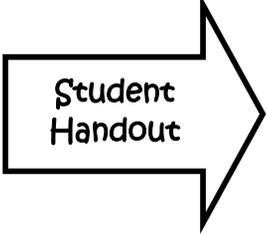
**SAMPLE**

You must explain why it is important for students to go, and why it is practical (consider things like distance, time, safety, weather, etc.).

Share your letter with other students to see if they would be convinced to plan the field trip if they were teachers.

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# Grading Rubric (Language Arts)



Student  
Handout

One thing that your students must understand about these Problem-Based Scenarios is that the answer is never “yes” or “no”. Instead, students must think their way through the muddy waters of different situations and challenges, while you guide them along the journey.

Of course, the end result needs to be more than a pat on the back – and that’s why proper grading is so important. While students may feel that grades exist only to cause stress and fill the blank spaces on a report card, the broader reason is that when students are graded in a clear and fair way, it enables them to continually improve their approach and response.

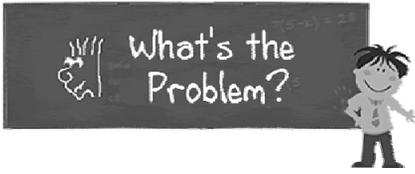
In many ways, Language Arts is more difficult than the other subjects because students are not given the boundaries of math, science, or social studies. Instead, they are given the green light, free to use the research from all other subjects (and anything else they want to bring to the table) to form their response. This may sound easier, but the truth is that the ability to organize information and pull out key evidence (a tricky task for students) becomes more critical and more difficult at this stage. Let’s see how they do!

The writing prompt for the Problem Scenario can be graded using the rubric to the right. It is divided into four sections:

- 1) Logical Approach** (*Did students use a reasonable strategy to deal with the Main Problem?*)
- 2) Writing Focus** (*Was it clear what point the students were trying to make?*)
- 3) Use of Evidence** (*Did the students back up their position with evidence, quotes, and facts?*)
- 4) Language & Conventions** (*Did students limit mistakes and respond in a thorough and professional manner?*)

**Here is a copy of the rubric for your students to review.**





# How do I get a great score?

Listed below are the four different areas that will be evaluated as your responses are graded. Be sure to consider each area as you write.

Rubric Section #1: **Logical Approach** – you must show that a thoughtful and sound process was used to solve the Main Problem

**\*\*in other words:** *Did you use a reasonable strategy to deal with the Main Problem?*

You provided a clear and sound strategy in your response.



You did not give details about a sound strategy in your response.



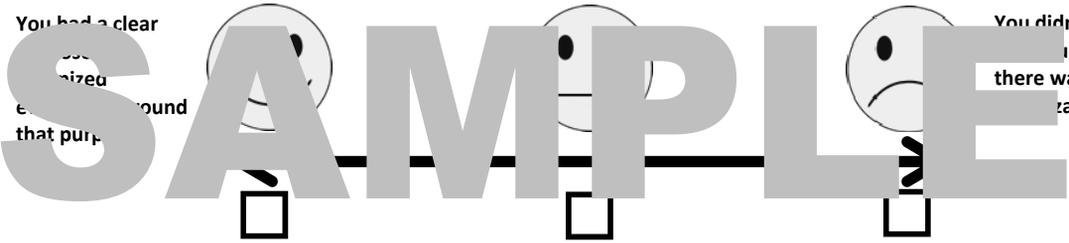
Rubric Section #2: **Production & Distribution of Writing** – you must organize and sustain your writing based on a defined purpose

**\*\*in other words:** *Was it clear what point you were trying to make, and did you focus on that point?*

You had a clear purpose and organized your writing around that purpose.



You didn't have a clear purpose and there was little organization.



Rubric Section #3: **Combining Knowledge and Ideas (use of "evidence")** – you must support your arguments and positions with outside information

**\*\*in other words:** *Did you back up your position with facts, evidence, quotes, or statistics?*

You supported your main idea with evidence and provided key facts and details.



You provided almost no support for your main idea and provided few facts or key details.



Rubric Section #4: **Command of the English Language** – you must use proper grammar, spelling, vocabulary, and other conventions of the English language

**\*\*in other words:** *Did you limit mistakes and respond in a thorough and professional manner?*

You were professional and showed a command of the English language.



You were sloppy and need to do a better job following the rules of the English language.



A large selection of pages has been chosen for you to review (full book = 88 pages).

# How long will it take?

Student Handout

Without a doubt, the most common question we are asked is:

***“How long is this going to take?”***

Our answer is, *“It’s up to you”* (which could be seen as dodging the question). The truth is that it’s all about options and flexibility. Obviously, the time will greatly vary if you just do a “subject-specific problem” (i.e. one section of this book) or do the entire integrated Problem Scenario (i.e. the whole book). Consider these guidelines:

**1 or 2 periods/  
blocks**

**About a week**

**2 weeks or more**

A specific “subject angle”, focusing on one in the stimulus review and classroom discussion

All subject angles “subject angle” with students answering the “Extended Response” questions

Entire PBL Scenario with students doing the Product Options, collaborating in groups, and giving presentations

If you’re crunched for time, you may concentrate on one section of this book (the “subject angle”), and probably won’t be able to dive into the Product Option. Still, this will be a great introduction into Problem-Based Learning for your students.

It will certainly take a week or more to go through this whole book, including the Product Options and presentations for each subject angle (i.e. everything in this book)

In the end, if you can take a Problem Scenario all of the way from beginning to end, including each “subject angle”, as well as the products, group work, and presentations that go with each one, your students will have accomplished quite a bit. For that reason, we have included a **“Certificate of Accomplishment”** that you may want to provide to show students that their efforts are appreciated. Remember, you want them to enjoy the whole experience!

**Photocopy this certificate to give to your students.**

Certificate

# ACHIEVEMENT

Awarded to \_\_\_\_\_

for completing \_\_\_\_\_ following:

## Problem-Based Scenario - "The Field Trip"

By completing this entire scenario, you have demonstrated that you have the ability to approach a real-world problem, learn about it through a variety of different sources, evaluate all of the information, and provide a logical response to the challenge.

Given this date \_\_\_\_\_ in the year \_\_\_\_\_

Signed \_\_\_\_\_

Great  
Job!