How long does it take to do a Problem-Based Scenario?

How much time do you have?

10 to 15 minutes	Less than an hour	1 or 2 periods/ blocks	A week or more
The Critical Thinking Exercises, Creativity Drills, & "Woodchuck" Problems	A "Weekly Warm-up" or subject-specific problem, focusing only on the stimulus review and classroom discussion	A full PBL scenarios (one subject), with students answering the "Extended Response" questions	An entire PBL Integrated Scenario, with students doing the Product option, collaborating in groups, and giving presentations

The "Estimated Time"

You'll often see an "Estimated Time" sheet with the PBL Integrated Scenarios.

Don't read too much into it!

An estimated time is offered for each step, with a total time calculated (usually a couple of hours from start to finish)

The **Product Option** is never included in the estimated time since it is more involved and can be adjusted by the teacher

Estimated Time

In most cases, we do **NOT** recommend adding time constraints to the Problem Scenarios because it may disrupt the thought process. There will be times when it will be helpful to go "under the clock" to prepare for the Performance Tasks. Therefore, we have included time estimates for you to use to prepare for testing.

Problem Scenario: *"Bigfoot"*

The Main Problem: There has been a rise of Bigfoot sightings in a wooded region in the Blue Ridge Mountains. Can these rumors be true?

Your students will be viewing this problem from a *science* perspective.

Total Time: 110 minutes

What habitat does Bigfoot require?
Students must decide if the Bigfoot rumor has any scientific merit.

They must consider the habitat of the creature, and what would be needed for survival, and present their argument for whether the Bigfoot rumor could or could not be true.

Step ① Review Stimulus Items 30 minutes

Stimulus Item #1 — Bear Habitats (website)
(students will learn about the habitat of bears, and then try to understand why that information might be relevant to the search for Bigfoot)

Stimulus Item #2 — Bigfoot or Bear? (news article)
(students will read about a Bigfoot sighting that is believed to have been a bear, and why this is significant)

Students should take notes as they review the Stimulus Items

Step ② Classroom Discussion 30 minutes

Lead a class discussion about issues related to the topic.
You are being provided a sheet to help you guide the classroom discussion.

Project Option: Have your students write a **journal entry** as they take a hike to the place where they plan to search for Bigfoot. They should describe the scene around them, including the trees, plants, and animals that are nearby. They should describe why they think Bigfoot would live in this area, and what the challenges might be for him there.

↑ The "Project Response" is NOT included in this time estimate ↑

Step ③ Student Response

***students should have access to their notes as they enter their answers

***students may also have access to the Stimulus Items as they enter their answers
40 minutes

"Testing Conditions" Option: Have students answer the following questions using the online assessment system. Remind students to use information from the Stimulus Items to support their response.

1) Bigfoot is believed to have a human-like shape, measure about 10-feet tall, and have hair all over his body. What is the best way to predict Bigfoot's habitat?
2) Why would it make sense to study black bears if you wanted to learn about the most likely habitat of Bigfoot?
3) How would understanding Bigfoot's habitat help you if you were leading an expedition to find Bigfoot?

Step ④ Analysis

Rubrics to grade student entries have been provided, and all questions have been mapped to the content standards. Results can be analyzed through the online system.

An important note:

This is a reminder that Problem-Based Learning works better when it is not "under the clock."

The teacher has the challenge of keeping things moving without rushing the process.

Teacher Tips

Time management is an enormous challenge in the classroom, and these Problem-Based scenarios can work within your constraints.

Because it's all about **"The Process"**, a PBL Scenario is divided into clear steps. *(stretching these out over a week makes it easy)*

Day 1: You present the problem and explain what students will be doing

Day 2: Students review information about the problem (i.e. the "stimulus items")

Day 3: Engage in classroom discussion about the problem

Day 4: Students write their written responses, and/or work in groups for the "Product" (this will spill over into **Day 5**)

Teacher Instructions:

Problem Scenario: *"Bigfoot"*

The Main Problem: There has been a rise of Bigfoot sightings in a wooded region in the Blue Ridge Mountains. Can these rumors be true?

Your students will be viewing this problem from a science *perspective.*

What habitat does Bigfoot require?
Students must decide if the Bigfoot rumor has any scientific merit.

They must consider the habitat of the creature, and what would be needed for survival, and present their opinion as to or whether the Bigfoot rumor could or could not be true.

Step ①
Review Stimulus Items

Stimulus Item #1 — Bear Habitats (website)
(Students will learn about the habitat of bears, and then explain why that information might be relevant to the search for Bigfoot)

Stimulus Item #2 — Bigfoot or Bear? (news article) Students will read about a Bigfoot sighting that is believed to have been a bear, and why this is significant?)

**Students should take notes as they review the Stimulus Items.
If time allows, students are encouraged to conduct their own research!

Step ②
Classroom Discussion

Lead a class discussion about issues related to the topic.
You are being provided a sheet to help you guide the classroom discussion.

Step ③
Student Response

***students should have access to their notes as they enter their answers

***students may also have access to the Stimulus Items as they enter their answers

Product Option: Have your students write a **journal entry** as they take a hike to the place where they plan to search for Bigfoot. They should describe the scene around them, including the trees, plants, and animals that are nearby. They should describe why they think Bigfoot would live in this area, and what the challenges might be for him there.

Extended Response: Have students answer the following questions using the online assessment system. Remind students to use information from the Stimulus Items to support their response.

1) Bigfoot is believed to have a human-like shape, measure about 10-feet tall, and have hair all over his body. What is the best way to predict Bigfoot's habitat?
2) Why would it make sense to study black bears if you wanted to learn about the most likely habitat of Bigfoot?
3) How would understanding Bigfoot's habitat help you if you were leading an expedition to find Bigfoot? What habitat characteristics to the states with the most sightings share?

Step ④
Analysis

Rubrics to grade student entries have been provided, and all questions have been mapped to the content standards. Results can be analyzed through the online system.