

STEM & Project-Based Learning (PBL): Connect for Success

Video Reflection: STEM & Project-Based Learning (PBL): Connect for Success

Instructions:

After watching the video, rate your confidence for each statement using the following scale.

Confidence Scale

Rating Confidence Level

- | | |
|---|----------------------|
| 1 | Not Confident |
| 2 | Slightly Confident |
| 3 | Moderately Confident |
| 4 | Very Confident |
| 5 | Extremely Confident |

Section 1: Understanding STEM & Project-Based Learning

Statement	1	2	3	4	5
I can explain the difference between a traditional project and Project-Based Learning (PBL).	☐	☐	☐	☐	☐
I understand how STEM naturally connects with Project-Based Learning.	☐	☐	☐	☐	☐
I understand the purpose of using real-world problems in STEM instruction.	☐	☐	☐	☐	☐
I understand the role of student inquiry within PBL.	☐	☐	☐	☐	☐
I can identify the essential components of a high-quality PBL lesson.	☐	☐	☐	☐	☐

Section 2: NGSS Connections

Statement	1	2	3	4	5
I can connect a STEM project to NGSS Performance Expectations.	☐	☐	☐	☐	☐
I understand how Science and Engineering Practices fit into a PBL lesson.	☐	☐	☐	☐	☐
I can incorporate Crosscutting Concepts into project-based investigations.	☐	☐	☐	☐	☐
I understand how engineering design supports NGSS instruction.	☐	☐	☐	☐	☐

Section 3: Classroom Implementation

Statement	1	2	3	4	5
I feel confident designing a STEM project around a real-world problem.	☐	☐	☐	☐	☐
I can create meaningful driving questions for student projects.	☐	☐	☐	☐	☐
I can facilitate student collaboration during STEM projects.	☐	☐	☐	☐	☐
I can guide students without providing all of the answers.	☐	☐	☐	☐	☐
I can incorporate student choice and voice into a STEM project.	☐	☐	☐	☐	☐

Section 4: Assessment & Reflection

Statement	1	2	3	4	5
I can assess student learning throughout a STEM project instead of only at the end.	☐	☐	☐	☐	☐
I can use student reflection to improve learning outcomes.	☐	☐	☐	☐	☐
I feel prepared to evaluate collaboration, creativity, and problem-solving skills.	☐	☐	☐	☐	☐

Section 5: Professional Growth

Statement	1	2	3	4	5
After watching this video, I feel more confident implementing STEM Project-Based Learning.	☐	☐	☐	☐	☐
I believe Project-Based Learning will increase student engagement.	☐	☐	☐	☐	☐
I am confident I can implement at least one STEM PBL lesson in my classroom this semester.	☐	☐	☐	☐	☐
I would recommend this instructional approach to another science teacher.	☐	☐	☐	☐	☐

Reflection Questions

1. What was the most valuable idea you learned from this video?

2. What concerns do you still have about implementing STEM Project-Based Learning?

3. What support or resources would increase your confidence?

4. Describe one STEM Project-Based Learning activity you plan to implement in your classroom.

5. How will you know your students are engaged in authentic Project-Based Learning rather than simply completing a project?

Alignment to NGSS & Project-Based Learning

Science and Engineering Practices

- Asking Questions and Defining Problems
- Developing and Using Models
- Planning and Carrying Out Investigations
- Analyzing and Interpreting Data
- Designing Solutions
- Constructing Explanations
- Engaging in Argument from Evidence

Crosscutting Concepts

- Cause and Effect
- Systems and System Models
- Structure and Function
- Stability and Change

Project-Based Learning Competencies

- Collaboration
- Critical Thinking
- Communication
- Creativity
- Problem Solving
- Reflection
- Student Voice and Choice

Professional Development Goal

This confidence survey is designed to help teachers reflect on their readiness to integrate STEM and Project-Based Learning into NGSS-aligned science instruction. It can be administered as both a **pre-workshop** and **post-workshop** assessment to measure growth in teacher confidence and instructional preparedness. Research indicates that effective PBL emphasizes authentic problems, student inquiry, collaboration, and real-world application of knowledge.