



(2025)

PBL



Guide

/Project Based Learning

@castschools

(Summer 2025)

A guide for teachers
of all experience levels.



www.castschools.com



Welcome to the PBL Journey

Introduction

This is **not** a textbook!

Welcome to an exciting adventure in Project Based Learning (PBL)! Whether you're new to PBL or have years of experience, this guide is designed to meet you where you are and help you take the next step in transforming your classroom into a hub of curiosity, creativity, and collaboration. Instead of thinking of it as a textbook, think of it as a toolkit, resource, troubleshooting guide, and spark.

Project Based Learning is more than a teaching strategy; it's a way of thinking about education that puts students in the driver's seat. By working on meaningful projects tied to real-world challenges, students build critical thinking, communication, collaboration, and problem-solving skills while mastering academic content. The result? Deeply engaged students who see the value in what they're learning.

“ One thing I love
about PBL is that
I learn a lot from
the students.”

What is Project Based Learning?

Project-Based Learning (PBL) is an instructional approach and process where teams of students gain knowledge and skills by working for an extended period to investigate, research, and respond to a complex, real world or community-based question, problem, or challenge. Students actively explore real-world issues and create meaningful projects that demonstrate their understanding and knowledge with authentic applications or actions.

Core Features of PBL:



Student-centered: Students take an active and personal role in their learning process.



Real-world relevance: Authentic: Projects often address real-life problems or authentic questions. Learning is connected to real-world problems, local and community issues, “known” audiences, or practical tasks.



Inquiry-driven: Learning is guided by a central question, problem or challenge.



Collaborative: Students typically work in teams with guidance and feedback from teachers, peers and experts.



Research-based: Students gather multiple sources of research from valid and reliable studies, databases, experiments, questionnaires, observations, interviews, surveys, etc.



Multidisciplinary: Projects may integrate knowledge from different subjects and content areas. Projects can also be aligned to school pathways and internships.



Reflective: Students reflect on their learning and the project process.

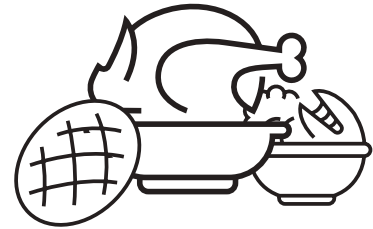


Public Product or Showcase: Students present their work to an audience beyond the classroom.



“Doing a Project” Dessert

VS



Project Based Learning Main Course

We like to say PBL is the main course, not dessert!

Visit a traditional classroom, and you'll probably find that students have done “dessert” projects in at least one unit during the school year. From shoebox dioramas to hand-built models to poster presentations, students are often tasked by the teacher with creating something related to the topic of the unit. It's usually done at the end of a unit – after the main course of content is delivered via traditional lessons, lectures, worksheets, and readings.

A “dessert” project offers a fun or creative challenge for the student, so it seems like a special treat. But what's missing? Without the key ingredients of Project Based Learning, a project like this in and of itself is not enough to deliver deeper learning.

With PBL, the project is the “main course.” It provides the framework for student learning in the unit.

What's the Difference?

Dessert: “Doing a Project”

- An add-on to the traditional instruction; at the end (or alongside) of the unit
- Follows direction of the teacher
- Focused on the product
- Often unrelated to standards and skills
- Can be completed alone and/or at home
- Remains within the school world
- End result of project displayed in classroom

Main Course: Project Based Learning

- Instruction integrated into the project (the project *is* the unit).
- Driven by student inquiry
- Focused on product *and* process
- Aligned to academic standards and success skills
- Involves collaboration with students and in-class guidance from teacher
- Has a real-world context and application
- Results of project shared beyond the classroom with a public audience.

Key Terms

Authentic Learning-Learning connected to real-world problems, local and community issues, “known” audiences, or practical tasks.

Classroom and Team Norms-Standards for interaction, outlining how group members should treat each other. Sometimes called agreements.

Collaboration-Working together in teams to achieve shared goals related to the driving question.

Contract/Compact-A document created and agreed upon by group members. This document governs how group members will interact over the course of a project.

Critical Friends- A practice and review technique that provides a way for peers to share their work and get constructive feedback for improvement prior to the actual presentation.

Critical Thinking-Analyzing and evaluating information to solve complex problems.

Driving Question- A clear, open-ended question that guides the project’s purpose and inquiry. This can be teacher developed; however, if the teacher lets the student teams create their own driving question focused on a topic, problem or question, this can offer students more agency over their research, their methods of sharing their findings and project design and project showcase.

Some teachers like to start with an overarching theme, topic, essential question, real problem or issue that they have developed and have the

students brainstorm their own ideas and questions related to the topic, problem, issue, etc. The students then form teams around “like” topics and develop their own driving question to “drive” their research and projects.

Essential Question- Teacher created overarching theme or topic embedded in an open-ended question or problem statement that allows student teams multiple pathways aligned to the Essential Question yet, to form their own to form their own Driving Question

Inquiry-Based Learning-A process where learners ask questions, research, and explore to construct new understanding.

Launch or Entry Event- a strategic activity used to kick off a PBL project and engage students, sparking their interest and curiosity about the project’s real-world problem. It’s the “hook” that gets students excited and motivated to delve into the project.

Milestones- Key stages, checkpoints or deliverables in a project’s timeline. This is typically where the student teams receive and provide feedback on progress so far.

Need-to-Knows (NTK)-Skills, content, and logistical information required to complete a project. These are identified by learners as unknown or requiring teacher support in acquiring and mastering.

Public Product/Public Showcase- A final project or artifact that is shared beyond the classroom.

Reflection- Ongoing thinking about what was learned, how it was learned, and how to improve.

Research- student inquiry based on their driving question and need-to-know questions drives the in-depth research process which includes locating viable and reliable resources and studies from databases and collecting information from interviews, surveys, questionnaires, statistics, etc. Data analysis support is also offered by the teacher as facilitator.

Rubric- a rubric is a structured tool used to assess student work and provide clear expectations for success. It outlines specific criteria, performance levels, and scoring guidelines for distinct aspects of the project. It helps students and teachers understand what constitutes high-quality work and how it will be evaluated.

Scaffolding- Support provided to students to help them reach higher levels of understanding.

SEL- Social Emotion Learning (*See The Powerful Combination of PBL and SEL - John Spencer)

Sustained Inquiry- A long-term process of questioning, researching, and revising.

Voice and Choice; Student Agency- Allowing students to make decisions about their learning process, topics, or products. AGENCY-An attribute for self-improvement including the development of a growth mindset and taking ownership for one’s own learning.

Why Project Based Learning?



In traditional classrooms, learning can often feel disconnected from students' lives. PBL flips this script by asking students to explore real-world problems and create tangible outcomes. Imagine students:



Designing a campaign to raise awareness about climate change.



Building prototypes to solve local community issues.



Presenting their work to authentic audiences.

The purpose of Project-based Learning (PBL) at CAST Schools is to ensure the CAST Core Pillars focused on building strong relationships, ensuring equity, integrating youth voice and agency, and experiencing authentic learning are actualized by all students. PBL fosters the uniqueness of each CAST school and CAST student, while building shared beliefs, common language and collaborative practices around valuable PBL concepts, processes and community improvement.

This guide doesn't just describe PBL; it equips you to make this vision a reality. Get ready to dive in, embrace the possibilities, and watch your students thrive in ways you've never seen before.

Let's get started! ↘

First, Sign Up!

The Buck Institute for Education's PBLWorks website contains a massive, well-curated collection of PBL tools, templates, and more. At no cost to educators, you can sign up with the PBLWorks website to make sure that you have access to all of the resources found in this guide along with many others. Follow these directions to sign up:

1. Go to <https://accounts.pblworks.org/sign-up>

2. Use a Gmail Account or enter your information and click "continue".



3. Explore the site! Be sure to visit "Projects & Resources" for tools, templates, and more!



Create your account

to continue to PBLWorks



Continue with Google

or

First name

Last name

Email address

CONTINUE

Have an account? [Sign in](#)

Starting July 15th!

[Learn more!](#)

[Log](#) [Store](#) [Events](#) [Contact](#) [Book a Service](#) [Search](#)

[MyPBLWorks Login](#)

[Get Started](#) [Services](#) [Research](#) [Projects & Resources](#)

[Overview](#)

[Projects & Tools](#)

[PBL Handbooks](#)

[Remote Learning Resources](#)

[Free Webinars](#)

[The PBL Blog](#)

Next, Choose.

There are many ways to jump into this guide. Rather than navigating it chronologically (which is always an option), you can jump to a mini-guide or section below that best aligns with your needs and interests.



PBL Roadmap

Dive into an overview of the PBL Milestones that includes concepts to focus on and quick start spark ideas with links to helpful tools, templates, and ready-to-use activities.



PBL Step-by-Step

Need something more concrete? This Step-by-Step guide takes you through each step of conducting a successful PBL along with an actual example of a PBL from start to finish.



PBL Habits

To do PBL well, it requires a significant shift in how you and your students operate compared to a traditional classroom model. Explore key workflow shifts and habits that make PBL go.



PBL Core Values

At CAST Schools, our Pillars act as central values and guides to the learning model to which we are committed. Understand the connection between PBL and the CAST Pillars.



PBL Roadblocks

Running into roadblocks, frustration, or issues while implementing PBL? This section looks at common issues both students and teachers experience and how you might move past them.



PBL Student Agency

PBL doesn't work without student agency. PBL offers students plenty of opportunities to exercise their agency, and this section explores how to scaffold agency in ways that work.



PBL Technology

Designing and producing a functioning PBL can feel like a Herculean effort. These teacher-tested tech tools, including AI prompts, can improve your efficiency throughout the process.