

PBL Refresher
~Quick Quiz~
Project-based learning.

The Project solving approach is incredibly important. Mathematics and physics are the two key aspects of engineering projects. In general, PBL is the creation of complex settings and environments where students develop important skill sets and apply prior knowledge in the creation of new flexible knowledge.

1. Data collection ***is*** important.
 True False
2. Numerical accuracy is an ***essential*** skill for a ***successful*** final product. .
 True False
3. Statistics is not ***important*** for making use of PBL.
 True False
4. Ethics and education in ethics are ***NOT*** a key component of project-based learning. .
 True False
5. Peer assessment is an ***important*** and ***essential*** aspect of PBL.
 True False

Aspects of PBL:

Please check all that apply to the ***key*** aspects of a ***well-developed*** PBL. If you do not place a check in the box, cross out or write in the word or phrase that would allow you to place a check in the box.

➤ **Structure of PBL**

- Problem solving is stressed.
- Projects should be irrelevant to students but closely address learning objectives.
- Teaching should be innovative with active learning.
- Learning objectives have no place in the design of PBL.
- Rigorous mathematics and science are integrated.
- Students work in groups.

- Team building is a secondary skill that should be addressed if everything else is working well.
- Exclusion from participation is a first line of behavior management.
- One group member selected at random presents the group's project.

➤ **Planning PBL**

- ONLY one project per semester will result in the learning outcomes I expect and the district will be satisfied.
- All the interpersonal, behavioral, and metacognitive skills students will need should be present before I try a PBL or they should have them all when they finish the first PBL.
- Projects are planned well in advance and all the teachers and administrators are stakeholders in making this a success.
- Training is ***not*** important to planning and conducting a meaningful PBL.
- Administrators have a very important role in a successful PBL, but they only need to give permission and provide supplies. They have no other role.
- Teachers should develop a set of common resources used for the PBL.
- On-going collaborative meetings across and among all teachers involved is necessary for a PBL success.

➤ **Assessment in PBL**

- Group work but individual accountability
- Individual accountability for all summative assessments
- On-going peer review only works when the teacher is completely in charge.
- Peer assessment is an essential component.
- The use of culminating events like developing a marketing plan, conducting a trial, or developing a persuasive exposé can be used to explain, justify, or sell the PBL to investors, argue evidence, or prepare a news article is important to the integration of writing and expressing ideas logically.
- Summative PBL reporting should be **only** in writing or **only** orally but **NEVER** both.

➤ **Student/Group Responsibility**

- Students should develop a design notebook that details what they did and how what they did crosses curriculum boundaries.
- Group members need to learn to engage in conflict
- Conflict resolution is idiosyncratic and does not need to be taught or modeled.
- Individuals are responsible for their behavior.

➤ **Implications of Teams and Team Building for PBL:**

- Improved attendance
- More confusion for parents

Improved engagement for teachers

More community concerns

➤ **Questions that Remain**

How do we make the PBL rigorous?

Is PBL aligned with effort-based intelligence?
