






PITSCO STEM PBL COMPARISON

| Pitsco STEM PBL | PBLWorks Gold Standard | HQPBL | The Legacy Cycle <small>(Based on How People Learn)</small> |
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|  <p>STEM CHALLENGE The project should provide a meaningful STEM challenge that requires students to think critically about multiple possible solutions. Students should be given ample time and space for completion.</p> | <p>CHALLENGING PROBLEM OR QUESTION (Driving Question) The project is framed by a meaningful problem to be solved or a question to answer, at the appropriate level of challenge.</p> | <p>INTELLECTUAL CHALLENGE AND ACCOMPLISHMENT (GUIDING QUESTIONS) A high quality project requires students to think critically about a complex problem, question, or issue with multiple answers, and then work on that project over the course of days, weeks, and even months.</p> | <p>CHALLENGE Begins with initial thoughts on the challenge to capture preconceptions.</p> |
|  <p>AUTHENTIC INQUIRY Students engage in a rigorous process of creatively solving real-world problems. Apply appropriate regulations, techniques, and technologies. Local application should be used when applicable.</p> | <p>SUSTAINED INQUIRY Students engage in a rigorous, extended process of posing questions, finding resources, and applying information.</p> <p>AUTHENTICITY The project involves real-world context, tasks and tools, quality standards, or impact, or the project speaks to personal concerns, interests, and issues in the students' lives.</p> | <p>AUTHENTICITY To motivate students and show them the relevance of what they are learning in school, projects should be experienced as "real." A high quality project reflects what happens in the world outside of school. It uses the tools, techniques, and technology found there. It can make an impact on other people and communities, and it can connect to the interests and concerns of young people.</p> | <p>GENERATE IDEAS Initial individual brainstorming of ideas on how to tackle the challenge.</p> |
|  <p>STUDENT DRIVEN Students make decisions about how they will solve the challenge. This will include managing all aspects of the project to completion.</p> | <p>STUDENT VOICE AND CHOICE Students make some decisions about the project, including how they work and what they create.</p> | <p>PROJECT MANAGEMENT In high quality PBL, students learn and make use of project management processes, tools, and strategies similar to those used in the world beyond school. Students may also follow the steps of design thinking as they manage projects.</p> | <p>MULTIPLE PERSPECTIVES Share thoughts with others and think about others' ideas.</p> |
|  <p>APPLIED DEVELOPMENT Students use the engineering design process to test, revise, and reflect on outputs while working collaboratively.</p> | <p>REFLECTION Students and teachers reflect on the learning, the effectiveness of their inquiry and project activities, the quality of student work, and obstacles that arise and strategies for overcoming them.</p> <p>CRITIQUE AND REVISION (PEER REVIEW PROTOCOLS) Students give, receive, and apply feedback to improve their process and products.</p> | <p>REFLECTION In a high quality project, students learn to assess the quality of their work and think about how to make it better. By reflecting on what they have accomplished, students retain project content and skills longer, develop a greater sense of control over their own education, and build confidence in themselves.</p> <p>COLLABORATION When students truly collaborate, they are contributing individual voices, talents, and skills to a shared piece of work, while respecting the contributions of others.</p> | <p>RESEARCH AND REVISE</p> <p>TEST YOUR METTLE Can be formative assessments, opportunities to test designs, etc.</p> |
|  <p>PUBLIC ENGAGEMENT Students communicate their projects to any appropriate audiences outside the classroom.</p> | <p>PUBLIC PRODUCT Students make their project work public by explaining, displaying and/or presenting it to audiences beyond the classroom.</p> | <p>PUBLIC PRODUCT In a high quality project, students make their work public by sharing it not only with the teacher but also with each other, experts, and other people beyond the classroom.</p> | <p>GO PUBLIC Makes thinking visible, provides motivation to do well (high stakes), and students to learn from each other.</p> |