

# Problem Based Learning

## STEM Launch K-8

### Thornton, CO



**COLORADO**  
Department of Education

The goal of Problem Based Learning (PBL) is to present local, real-world problems to students, as well as provide field experts, research, and experiences, so that students can develop and use 21st century skills. Students then present solutions to the community members which presented the problem. In order to successfully implement the PBL model, there must be a strong school-community partnership.

Community members and parents serve as field experts and panelists within each PBL. STEM Launch relies heavily on its community partners and parents to present students with problem-based opportunities, learn from their expertise, and listen with an open mind to the students' solutions. The ultimate goal of PBL is for students, working with the local community, to solve or diminish problems occurring within their neighborhoods and communities.

Teachers work with their STEM coordinators to develop the problem statement for each PBL. The 'problem' may come from a member of the community, the parent group, or local news organizations. As teachers and coordinators build out the PBL, they reach out to local experts. Community members and parents join the PBL as guest speakers, vetting participants, thought partners, and finally as panelists. The panel is comprised of community members and parents who have a stake in the solutions to the issue at hand.

A PBL begins with the development of a problem statement based on a real-world issue/concern. Students gather research through articles, scholarly research, expert testimony, and real-world experience with the problem. As the PBL begins, students are presented with the problem statement, complete research, and interact with community experts. When possible, students partake in a field experience to witness the problem firsthand. Time is then provided for students to develop and design their solutions. Prior to the Panel, students complete a vetting process in order to receive feedback and questions pertaining to their solution. Students work on furthering their solution and present their current best thinking to a group of community experts at the Panel.

This model brings learning to life. Students are working through their standards in a way that contributes to the betterment of their community. The effects of PBL are long-lasting. Students become proficient in communication, collaboration, design thinking, and problem solving. These skills are vital to their future aspirations.

The evaluation of PBL is multifaceted. Community members and parents that serve as experts and panelists are asked for their feedback regarding the PBL in which they participated. Students and teachers also have an opportunity to share feedback about ways to improve future PBLs.

STEM's instructional coach shares: "The advice that I would give to someone just beginning to delve into PBL is to be creative, think outside the box, and don't be afraid to fail. Reach out to community members and parents. It is very exciting to work with community partners in order to build the school-community partnership in a way that benefits everyone."