STEAM Design Elements Reflection Tool

This tool was created to help teachers in assessing, planning and designing STEAM projects.

Name(s): _____

Project: _____

Grade Level: _____ School: _____

Self-Assessment Scale:

5: We feel like we could lead a session for other teachers on how to implement this design element into their project.
4: The project fully demonstrates this design element and we have a well-developed plan for how to scaffold and facilitate its implementation.
3: The project demonstrates this design element.
2: The project lightly addresses this design element. We need to do some revision to our plan for how to scaffold and facilitate its implementation.
1: We need to rethink the project design in order to embed this design element.

Design Element	Components	Reflection and Notes
Anchor Phenomenon	• Engages students and is relevant to their lives. • Sparks curiosity and encourages students to ask questions and investigate further. • Requires significant or in depth understanding of several science ideas, is not easily explained. • Students work to explain the anchor phenomenon throughout the project.	
NGSS 3-Dimensional Learning	• Students demonstrate their learning using the three dimensions. Students show what they know (DCI), what they can do (SEP), and how they think and link ideas together (CCC). • Students develop sense-making through discourse and notebooking.	
Inquiry	• Students' questions about the anchor phenomenon drive the science learning throughout the project. • Essential question encourages multi-disciplinary thinking, promotes creative problem solving, and allows students to come to different conclusions. • Investigative phenomena and questions to investigate help students build their understanding of the anchor phenomenon. • Students reflect on their learning throughout the project.	

Created by Lacy Szuwalski and Zoë Randall. Adapted from Amy Stewart's Reflection Tool & High Tech High PBL Design Elements.

Design Element	Components	Reflection and Notes
Content Integration	● Integrates content areas in a meaningful way. Students need understanding across multiple content areas to build their understanding of the anchor phenomenon and essential question.	
Student Discourse	● Norms and structures for discourse provide an equitable learning environment where all voices are heard. ● Students have multiple opportunities to express, clarify, justify, interpret, and represent their ideas. ● Supports a culture of talk where students build on their prior knowledge, listen to different perspectives, and make meaning of scientific phenomena. (i.e. turn and talk, think-pair-share, whole group/small group discussions, etc.)	
Student Agency	● Students are encouraged to share their prior knowledge, cultural backgrounds, interests and strengths. ● Students develop identity and academic mindsets through integration of the Habits of Mind. ● Students self-assess their growth and development of skills.	
Community Connections	● Connects students to the world through relevant field work, community service, and outside experts. ● Allows students to see themselves in professional roles and careers.	
Final Product	● Students' work has purpose and serves others. ● Students create their final product for an authentic audience beyond the teacher. ● Students generate multiple iterations using critique, models, and instruction to create beautiful and meaningful work. ● Students showcase their final product in an exhibition of learning.	
Assessment	● Ongoing and dialogical (peer and self critique, expert consultation). ● Creates opportunities for all students to find success and challenges students to continue to grow. ● Comes in multiple forms through reflections, performance assessments, self-assessments, formative and summative assessments.	
Exhibition	● Celebrates students' learning and their project process. ● Students share their work with an authentic audience. ● Provides authentic dialogical assessment.	