TinkRworks®
transforming learners to innovators

High Performing STEAM Classroom

PROFESSIONAL DEVELOPMENT KIT

Create a Culture of STEAM Excellence

Creating a STEM-focused school culture starts in the classroom. Use these resources to set your STEAM classroom up for success.

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5 Characteristics of a High Performing STEAM Classroom

TIP SHEET

1 PRODUCTIVE STRUGGLE

Don't just allow for multiple pathways to find solutions—encourage it! Reframe failure as a necessary part of learning and a productive step toward solving problems.

Due to a lack of confidence in math and science abilities, many students have a negative or "fixed" mindset toward STEAM. They fear failure and are less likely to take risks. By adopting a growth mindset, students who previously struggled learn that they can overcome setbacks and excel.

2 RELEVANCE

Focus on real-world issues and problems.

To young learners, hefty scientific or technological terms can be daunting. Let the exploration start in real-world terms, and build upon the learning as you go. Allow students the chance to grasp the concepts through hands-on learning in order to show them real-world applications. This should make learning more meaningful and interesting.

3 PROBLEM SOLVING

Take students from identifying a problem—or a design challenge—to creating and developing a solution.

Research shows students' robust problem-solving skills prepare them for college and careers. Not only does problem solving flexibility form a strong foundation for intellectual development, it also produces positive attitudes towards new ideas, fosters creativity, and encourages cooperative skills.

4 TEAMWORK

Involve students in productive teamwork.

Collaboration is essential in the 21st century workplace. Helping students work together as a productive team in STEAM classrooms unifies students around exploration. Asking questions and testing solutions together will allow students to grow their understanding of the different ways they can approach all types of problems.

5 RIGOR

Every child has the capacity for STEAM.

According to the most recent research, focus and coherence are meant to fuel greater achievement in a deep and rigorous curriculum – one in which students acquire conceptual understanding, procedural skill and fluency, and the ability to apply the scientific method to solve problems. The word "rigor" isn't a code word for just one of these three; rather, it means equal intensity in all three.

5 Characteristics of a High Performing STEAM Project Planner

SECTION 1

STEM/STEAM Project: _____

Fill out section 1 of this chart prior to your STEM/STEAM project. Afterward, add your reflection to section 2.

CHARACTERISTICS	ACTION PLAN
1. Productive Struggle Allow for multiple pathways to find solutions and reframe failure as a necessary part of learning.	
2. Relevance Focus on real-world issues and problems.	
3. Problem Solving Take students from identifying a problem–or a design challenge–to creating and developing a solution.	
4. Teamwork Involve students in productive teamwork and collaboration.	
5. Rigor Help students acquire conceptual understanding, procedural skill and fluency, and the ability to apply the scientific method to solve problems.	

5 Characteristics of a High Performing STEAM Project Survey

SECTION 2

STEM/STEAM Project: _____

As a whole, rank the abilities of your class in each of the characteristics. Add comments, suggestions for improvement, and general reflections to the column on the right.

CHARACTERISTICS	5 Complete confidence	4 Strong demonstration of ability with some room for improvement	3 Some demonstration of ability or understanding	2 Minimal understanding	1 Needs significant imporvement	REFLECTION WAYS TO IMPROVE
1. Productive Struggle Allow for multiple pathways to find solutions and reframe failure as a necessary part of learning.						
2. Relevance Focus on real-world issues and problems.						
3. Problem Solving Take students from identifying a problem–or a design challenge–to creating and developing a solution.						
4. Teamwork Involve students in productive teamwork and collaboration.						
5. Rigor Help students acquire conceptual understanding, procedural skill and fluency, and the ability to apply the scientific method to solve problems.						

TinkRworks Helps Educators Meet These 5 Characteristics!

1 PRODUCTIVE STRUGGLE

TinkRworks curriculum is designed to help students develop their STEAM "muscles." Our projects are designed to allow for multiple pathways to find solutions and reframe failure as a necessary part of the learning process.

2 RELEVANCE

TinkRworks helps educators lay the groundwork for transforming young learners into innovators that will eventually tackle the world's problems. It does this by connecting persistence to results and by encouraging innovation and exploration. Real-world problems and difficult questions provide the organizing structure for TinkRworks' projects and make learning meaningful by giving it a purpose.

3 PROBLEM SOLVING

TinkRworks transforms students' problem-solving skills with project based learning (PBL). Problem-solving is one of the fundamental human cognitive processes and an essential 21st century skill. Students apply problem-solving skills as they test possible solutions and develop actionable plans to build projects. Problems or questions provide the organizing structure for PBL and make learning meaningful by giving it a purpose – students are not just gaining knowledge in order to remember it; they're gaining knowledge in order to use it.

4 TEAMWORK

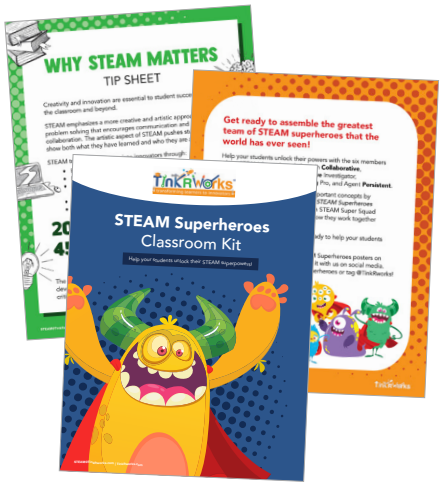
TinkRworks fosters the foundational skills students need to be future-ready professionals and team members. Through collaborative-problem solving and engagement with the Arts in STEAM, students develop the social and emotional competence and 21st century skills necessary for success in college and career.

5 RIGOR

TinkRworks curriculum reinforces common core topics through projects that connect ELA, art, coding, math, design, science, engineering, and data analysis. Helping students achieve conceptual understanding, procedural skill and fluency, and the ability to apply the scientific method to solve problems.

You're ready to create a STEAM-focused school culture that both students and faculty will love!

Check out additional resources that will help bring STEAM to life.



Introduce students to the six skills every STEAM superhero must have and teach them how to use these skills together to creatively solve problems with the ***STEAM Superheroes* Classroom Kit**.

DOWNLOAD NOW

Spark creativity and innovation with hands-on STEAM. Our projects are designed to promote cross-curricular connections and engage students in unprecedented ways—plus they are fun! Get a pilot of our Art Electric project for grades 1–8 and see for yourself!

ACCESS YOUR PILOT NOW

Our hands-on supplemental STEAM curriculum supports and promotes cross-curricular connections to ELA, math, science, coding, computer science, data analysis, design, and engineering. Check out our standard-rich projects for K–8.

VIEW PROJECT CATALOG