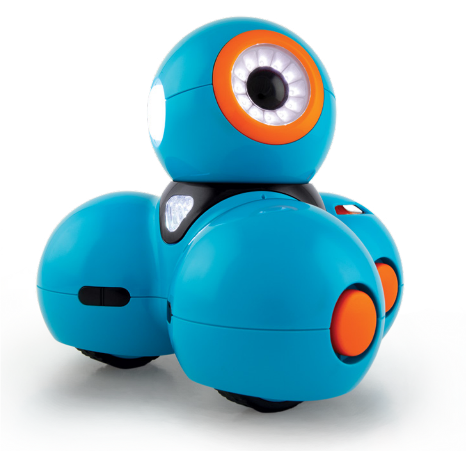
Grant Proposal Guide

Steps to Fund a STEM Initiative in Your District

Introducing coding, robotics, and STEM programs into schools is a powerful way to inspire creativity and critical thinking while ensuring that students are future-ready. Even so, launching these programs may require funding beyond what many school budgets can support.

A variety of external funding streams are available to help your school implement STEM programs built around Dash robots and Make Wonder software. Federal grants, state-level funding opportunities, and private grants offered by foundations or corporations may each have unique requirements, but the process for crafting a strong and impactful grant proposal is often similar.

This guide is designed to simplify the funding journey for educators and schools. It will help you create a proposal and plan to enhance your STEM programs using Wonder Workshop's comprehensive solutions. In this guide, you'll find a step-by-step framework for writing effective grant proposals, tips for aligning your vision with funder priorities, and a tool for calculating your budget.



A strong proposal will demonstrate the value of your project and its potential impact on student learning, present evaluation criteria, and include evidence of how your school will use the funds. We encourage collaboration in all things, but especially when it comes to writing grant proposals. Partner with your administrators and fellow teachers to explore the funding opportunities most relevant to your school and coordinate how you will implement and evaluate your plans once you have the funding.

Creating a comprehensive program to support the purchase of technology requires careful planning, implementation, and evaluation. Below is a step-by-step guide that outlines how to conceive, plan, and evaluate such a program, ensuring compliance with government requirements for demonstrating evidence of fund utilization.

Step 1: Conceiving the Program

Identify Needs: Conduct a needs assessment to understand the areas of greatest learning loss and the technology needs within your district.

Define Objectives: Clearly define the objectives of your program. Objectives should be SMART (Specific, Measurable, Achievable, Relevant, Time-bound) and directly address identified needs, such as improving STEM skills or increasing access to digital learning tools.

Identify Evidence-Based Strategies: Teaching students to code with Wonder Workshop Dash robots, the Make Wonder curriculum, and our Teach Wonder professional development, effectively addresses learning loss and empowers teachers to utilize new technology in an innovative way.

Step 2: Planning the Program

Develop a Detailed Plan: Create a comprehensive plan that outlines the program's activities, timeline, budget, and the personnel involved. Make sure the plan includes:

- Specific interventions to address learning loss.
- Technology purchases needed to support learning.
- Professional development for teachers and staff.
- Metrics for measuring progress toward objectives.

Budgeting: Allocate funds to different components of the program, ensuring that funds are used specifically to address the objectives defined in the grant program. Be sure to include costs for technology purchases, training, and any additional resources needed for implementation.

Approval and Application: Submit your program plan for approval as required by your state or local education agency. Ensure that your application clearly outlines how the program meets fund usage requirements.

Step 3: Implementing the Program

Launch the Program: Implement the program as outlined in the plan. Purchase technology, launch programs, and conduct professional development sessions.

Monitor Progress: Regularly monitor the program's progress toward its objectives. Collect data on student learning outcomes, technology usage, and overall participation.

Adjust as Needed: Be prepared to make adjustments to the program based on monitoring data and feedback from stakeholders.

Step 4: Evaluating and Reporting the Program

Evaluate Outcomes: Conduct a formal evaluation of the program's impact on learning loss and technology integration. Refer to pages 4 and 5 for recommended models of evaluation.

Document Use of Funds: Keep detailed records of how funds were spent, including receipts, contracts, and documentation of activities. This recordkeeping will be critical for demonstrating compliance with funding requirements.

Prepare and Submit Reports: Compile a comprehensive report that includes the program's objectives, activities, outcomes, and evidence of fund utilization. Submit it to the relevant agency as required.

Share Lessons Learned: Share results and insights from the program with stakeholders and other educational institutions. This can help inform future efforts to address learning loss and integrate technology in education.

Sample Program

Sample Goal:
Incorporate STEM (Science, Technology, Engineering, and Mathematics) education into every K-8 classroom to **enhance students' abilities in teamwork, effective communication, and problem-solving.** This can be achieved by establishing makerspaces, granting access to STEM laboratories, adding after-school opportunities, equipping libraries and classrooms with the latest technology, and investing in professional development for teachers.

By creating learning environments that reflect the demands of the 21st century, we equip our students with the skills and knowledge they need for the future workforce, such as collaboration, communication, and problem-solving skills.

Sample Plan
Implement a multi-year, comprehensive coding and robotics program that guides students on a journey to coding literacy.

Wonder Workshop's Make Wonder platform includes standards-aligned, student-facing coding lessons, coding challenges completed with an onscreen virtual robot, math activities that bolster math fluency while testing coding skills, science activities that reinforce science concepts while applying them to coding challenges, and dozens of puzzles and cross-curricular coding lessons to keep students engaged.

Combine that with Wonder Workshop's physical robots and accessories, and the Wonder League Robotics competition, and students will find themselves engaged in a series of collaborative, creativity-demanding challenges that foster 21st-century skills in addition to reinforcing computer science concepts.

Maximize the longevity of your funds by purchasing a 3-year subscription to the Make Wonder platform that includes access for all students and teachers in one school in your district.

Sample Implementation Considerations
To implement a new STEM technology program successfully, it's crucial to prioritize both professional development and measuring the program's effectiveness. **Educators must receive ongoing training and support** to integrate concepts and technology effectively into their teaching practices. This ensures they can confidently use the new tools and methodologies to enhance student learning.

Wonder Workshop provides both **onsite and virtual professional development programs** that ensure educators gain hands-on experience learning and teaching coding and computer science with Dash using both Block code and JavaScript.

To enhance a school's ability to track and report on the efficacy of the new STEM program, the Make Wonder platform provides teacher dashboards that track student progress and include information on how to best support students who might be struggling. **Assessments inside of platform test for understanding,** and standards-alignment information ensures teachers can verify students are meeting what's required.

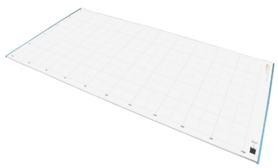
Make Wonder STEM School Suite

Hardware Included:
8 - Dash robots
4 - Sketch Kits
4 - Launchers
4 - Gripper Building Kits
16 - Building Brick Connectors

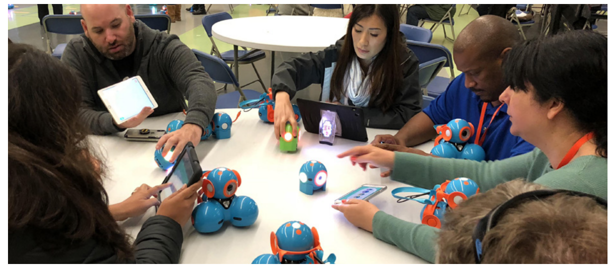
Software Included:
Make Wonder license for all students and 5 teachers at one school for up to 3 Years.

Wonder Pack

Included:
1 - Dash robot
1 - Sketch Kits
1 - Launchers
1 - Gripper Building Kits
2 - Building Brick Connectors



Whiteboard Mat
For use w/Sketch Kit



Professional Development
Full-day, In-Person Training for 30 teachers
Additional days available

PROPOSAL CALCULATOR

Use this tool to determine the cost of the program ideal for your educational setting. Need additional assistance determining the best package? Reach out to our team at direct-sales@makewonder.com

How many schools?	
How many classrooms?	

	Unit Price	Units	Total Cost
Make Wonder STEM School Suite 3 -Year Subscription (1 Per School)	**$8,495**		
Wonder Packs (6 Per Classroom)	**$269.99**		
Whiteboard Mats (6 Per Classroom)	**$179.99**		
In-Person Professional Development (For 30 Teachers) (Recommended 2X Per Year for 3 Years)	**$5,000**		
		Total:	

Tracking Evidence of Impact

In today's fast-paced world where technology plays a pivotal role in shaping learning experiences, frameworks such as the **SAMR** model and the **Technology Integration Matrix (TIM)** provide essential guidance for educators and administrators. These models offer structured approaches to incorporating technology into teaching and learning, ensuring that this integration promotes deeper engagement, enhances student learning, and prepares learners for the future.

Below, we provide more detail on how these models can assist in both the drafting and implementation of an ESSER-funded, technology-forward program.

The SAMR model, developed by Dr. Ruben Puentedura, offers a framework for evaluating and designing technology integration in educational settings. It stands for **S**ubstitution, **A**ugmentation, **M**odification, and **R**edefinition, representing different levels of technology integration and the impact it is having on teaching and learning.

Learning to code with robots takes STEM learning to the next level, and the Make Wonder platform gives teachers the tools they need to transform how they approach teaching about coding and computer science in the classroom.

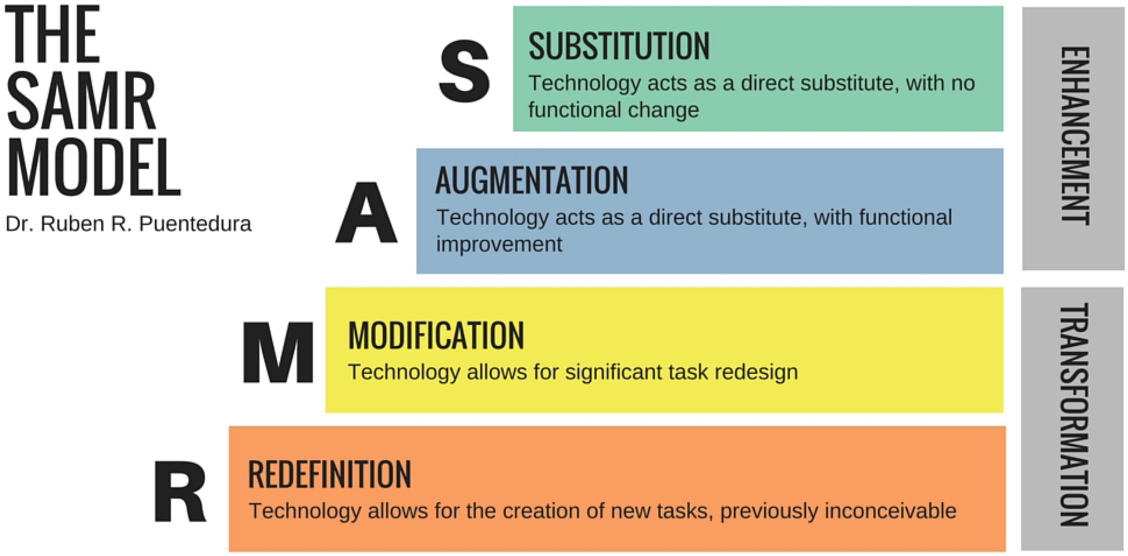
Schools leap up the SAMR ladder when implementing our comprehensive solution.

Modification

Examine Transformation of Learning Tasks: At this level, technology allows for significant task redesign. For example, students program a Dash robot to perform a set of tasks that solve a problem, demonstrating their understanding of coding concepts as well as problem-solving strategies. Teachers can document how these experiences contributed to **deeper learning, enhanced critical thinking skills, and created more personalized learning experiences.**

Redefinition

Analyze Creation of New Learning Experiences: Technology integration at the redefinition level allows for the creation of new tasks that were previously inconceivable. An example could be **students collaborating with peers across the district or even globally on a Wonder League Robotics Competition Mission** using Dash Robots, Blockly, and digital collaboration tools. Evaluate how these new learning experiences have expanded students' perspectives, fostered innovation and creativity, and prepared them for a digital world.



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Applying SAMR to Program Evaluation

Set Evaluation Goals: Define what success looks like at each level of the SAMR model in the context of your program. This could include specific learning outcomes, engagement metrics, or digital literacy skills.

Collect Data: Gather quantitative and qualitative data on technology use and its impact on learning. This could involve surveys, interviews, analytics from learning management systems, and academic performance indicators.

Analyze and Reflect: For each level of the SAMR model, analyze the data to understand how technology integration has transformed teaching and learning. Reflect on the following questions:

- How has technology substituted or augmented traditional learning tools and practices?
- In what ways has technology modified or redefined learning tasks and experiences?
- What evidence shows improvements in student engagement, learning outcomes, or teacher practices?

Identify Improvements: Based on the analysis, identify areas where technology integration could be improved or scaled. This might involve investing in more advanced technologies, providing additional professional development for teachers, or redesigning learning activities to move from augmentation to modification or redefinition.

Report Findings: Compile findings into a comprehensive report that outlines how the SAMR model was used to evaluate the program, what was learned at each level of technology integration, and recommendations for future improvements. This report can be used to demonstrate the program's efficacy to stakeholders and guide decision-making for continued investment in technology-enhanced learning.

The Technology Integration Matrix
Table of Summary Descriptors

The Technology Integration Matrix (TIM) provides a framework for describing and targeting the use of technology to enhance learning. The TIM incorporates five interdependent characteristics of meaningful learning environments: active, collaborative, constructive, authentic, and goal-directed. These characteristics are associated with five levels of technology integration: entry, adoption, adaptation, infusion, and transformation. Together, the five characteristics of meaningful learning environments and five levels of technology integration create a matrix of 25 cells, as illustrated below.

LEVELS OF TECHNOLOGY INTEGRATION → / CHARACTERISTICS OF THE LEARNING ENVIRONMENT ↓	**ENTRY LEVEL** The teacher begins to use technology tools to deliver curriculum content to students.	**ADOPTION LEVEL** The teacher directs students in the conventional and procedural use of technology tools.	**ADAPTATION LEVEL** The teacher facilitates the students' exploration and independent use of technology tools.	**INFUSION LEVEL** The teacher provides the learning context and the students choose the technology tools.	**TRANSFORMATION LEVEL** The teacher encourages the innovative use of technology tools to facilitate higher-order learning activities that may not be possible without the use of technology.
ACTIVE LEARNING Students are actively engaged in using technology as a tool rather than passively receiving information from the technology.	**Active Entry** Information passively received	**Active Adoption** Conventional, procedural use of tools	**Active Adaptation** Conventional independent use of tools; some student choice and exploration	**Active Infusion** Choice of tools and regular, self-directed use	**Active Transformation** Extensive and unconventional use of tools
COLLABORATIVE LEARNING Students use technology tools to collaborate with others rather than working individually at all times.	**Collaborative Entry** Individual student use of technology tools	**Collaborative Adoption** Collaborative use of tools in conventional ways	**Collaborative Adaptation** Collaborative use of tools; some student choice and exploration	**Collaborative Infusion** Choice of tools and regular use for collaboration	**Collaborative Transformation** Collaboration with peers, outside experts, and others in ways that may not be possible without technology
CONSTRUCTIVE LEARNING Students use technology tools to connect new information to their prior knowledge rather than to passively receive information.	**Constructive Entry** Information delivered to students	**Constructive Adoption** Guided, conventional use for building knowledge	**Constructive Adaptation** Independent use for building knowledge; some student choice and exploration	**Constructive Infusion** Choice and regular use for building knowledge	**Constructive Transformation** Extensive and unconventional use of technology tools to build knowledge
AUTHENTIC LEARNING Students use technology tools to link learning activities to the world beyond the instructional setting rather than working on decontextualized assignments.	**Authentic Entry** Technology use unrelated to the world outside of the instructional setting	**Authentic Adoption** Guided use in activities with some meaningful context	**Authentic Adaptation** Independent use in activities connected to students' lives; some student choice and exploration	**Authentic Infusion** Choice of tools and regular use in meaningful activities	**Authentic Transformation** Innovative use for higher-order learning activities connected to the world beyond the instructional setting
GOAL-DIRECTED LEARNING Students use technology tools to set goals, plan activities, monitor progress, and evaluate results rather than simply completing assignments without reflection.	**Goal-Directed Entry** Directions given; step-by-step task monitoring	**Goal-Directed Adoption** Conventional and procedural use of tools to plan or monitor	**Goal-Directed Adaptation** Purposeful use of tools to plan and monitor; some student choice and exploration	**Goal-Directed Infusion** Flexible and seamless use of tools to plan and monitor	**Goal-Directed Transformation** Extensive and higher-order use of tools to plan and monitor

The Technology Integration Matrix (TIM) provides a comprehensive framework for evaluating the integration of technology in education, focusing on five levels of technology integration (Entry, Adoption, Adaptation, Infusion, and Transformation) across five characteristics of the learning environment (Active, Collaborative, Constructive, Authentic, and Goal-Directed).

The TIM was developed by the Florida Center for Instructional Technology (FCIT) in 2005, the TIM is now in its third edition (2019).

Understanding the TIM Levels and Characteristics in the Context of Adopting Wonder Workshop's Program

Entry Level: *Technology is used by instructors to deliver content to students, where students passively receive information.*

Example: The teacher presents a live demonstration of Dash's basic movements without handing over control to the students. Learners merely watch the instructor manipulate the robot's forward/backward movements and listen to an explanation of simple coding concepts in a lecture-style format.

Adoption Level: *Technology use is directed by the teacher, with some student engagement in using tools as directed.*

Example: The instructor provides a step-by-step guide for coding Dash to perform a short dance routine. Students follow these instructions exactly as given—placing the specified coding blocks in the Blockly app—so Dash executes the dance with limited opportunities for student-driven exploration.

Adaptation Level: *Students start to use technology tools more independently, adapting them to their learning needs.*

Example: Students work together to solve a mission presented to them from the Wonder League Robotics Competition. They decide what additional supplies they need to fashion attachments that enhance what Dash can accomplish, and plan how to code Dash to achieve the mission. They engage in trial and error to determine ways to improve their solution and experiment with different coding choices to achieve an optimal outcome.

Infusion Level: *Technology is integrated seamlessly into teaching and learning, with students regularly using technology to help meet their learning goals.*

Example: While studying angles and distances in math, the teacher assigns a related math activity for students to complete using Virtual Dash and Blockly. Students apply their knowledge of angles to solve the problem and employ coding concepts to illustrate their knowledge.

Transformation Level: *Technology allows for the creation of new, previously inconceivable tasks, significantly transforming teaching and learning.*

Example: Learners conceptualize an open-ended robotics showcase where Dash demonstrates creative solutions to real-world issues. Each team chooses its own theme—like caring for the environment or disaster preparedness—and builds interactive experiences that integrate coding with artistic, social, or entrepreneurial elements.

Evaluating Program Efficacy with TIM:
How Make Wonder Enables Effective Evaluation

1. Set Evaluation Criteria: Define specific criteria for success at each level of the TIM, considering the characteristics of the learning environment. Criteria should be aligned with program objectives, such as addressing learning loss and enhancing technology use.

Example of Evaluation Criteria for Each TIM Level When Implementing Dash and Make Wonder:

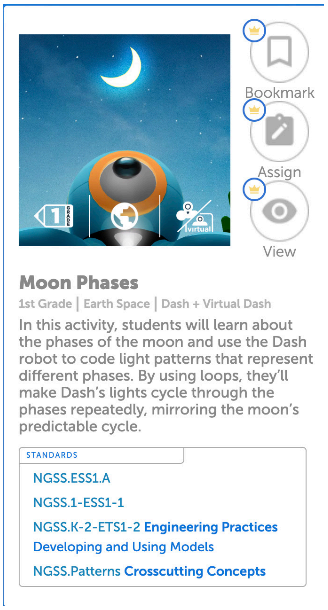
Entry: Students can power up and use one of Wonder Workshop's apps (Blockly, Wonder, Blockly Pro, Path, Go) to connect to Dash via Bluetooth. Success looks like more than 80% of students following a tutorial and solving simple block-based coding challenges to power Dash in basic ways, such as moving forward and making a sound.

Adoption: Students can follow teacher-directed instructions to use various coding blocks (loops, conditionals) in a short, teacher-designed challenge. Success would be measured by completion of a simple mission, such as getting Dash to move around a path that requires more advanced coding blocks.

Adaptation: Students independently modify code to solve a problem (e.g., adjusting Dash's speed or angle to navigate obstacles). A criterion for success might be: Students explain at least one strategy they applied to debug errors.

Infusion: Students regularly use Dash and coding to support other subjects (math, science, language arts). A success criterion might include: Students tackle math or science challenges assigned by a teacher using the Make Wonder platform. As they solve the challenges within these related disciplines, they are using coding as means to an end rather than an end in itself.

Transformation: Students design unique, open-ended challenges with Dash that would be difficult without technology (e.g., a mini "robotic carnival" showcasing cross-curricular connections). Success might be measured by the depth of creativity, real-world relevance, and collaboration observed.



2. Collect and Analyze Data: Gather data on technology use within the program, with a focus on whether it aligns with the TIM levels and characteristics. Data collection methods could include observations, surveys, interviews, and analysis of student work.

Wonder Workshop's Make Wonder platform includes tracking and reporting functionality that gives teachers and administrators a bird's-eye view of how students are performing on assigned challenges. Data at the individual level help teachers make informed decisions about how to proceed with instruction. Aggregate data reports enable administrators to identify broader trends in student skill acquisition and achievement.

3. Evaluate Technology Integration: Assess the level of technology integration within the program using the TIM. Evaluate how technology use has evolved from entry-level to transformational practices, and the impact on the learning environment's characteristics.

The Make Wonder platform provides users with metrics that indicate the level of adoption of Wonder Workshop's technology in the classroom. How many math activities have been completed? How far have students progressed in the puzzle challenges? These are metrics available at a glance.

4. Assess Impact on Learning: Analyze the impact of technology integration on reducing learning loss and achieving program goals. Consider changes in student engagement, collaboration, critical thinking, real-world application of knowledge, and achievement of learning objectives.

The Make Wonder platform provides students with pre-assessments and post-assessments to enable teachers and administrators to track student improvement. Since the platform includes math and science activities, in addition to the full scope and sequence of coding lessons and activities, schools and districts can measure how instruction has addressed learning loss in core areas. Students who engage with activities like the Wonder League Robotics Competition have opportunities to demonstrate engagement, problem solving, and real-world application beyond those in the Make Wonder puzzles and challenges.

5. Identify Areas for Improvement: Consider moving from lower to higher levels of integration, focusing on developing more active, collaborative, constructive, authentic, and goal-directed learning environments.

Make Wonder supports these actionable next steps:
Enhance Autonomy: If students rely heavily on step-by-step instructions, implement open-ended challenges available in the Wonder League Robotics Competition. They require creative coding solutions.

Increase Collaboration: Encourage pair or group work where students must communicate, divide tasks, and problem-solve together. This can be achieved using Make Wonder Challenge Cards or Wonder League Missions.

Integrate Authentic Tasks: Move beyond coding routines for their own sake—have students tie Dash projects to real-life concepts (e.g., a community service project).

Elevate to Transformation: Design or encourage student-led innovation challenges that transcend standard classroom activities, like themed showcases, partnerships with another class, or real-world problem-solving.

Looking for additional help purchasing a solution, finding funds, or crafting a grant application? Our team can help.

- Request a demo or a custom quote
- Visit makewonder.com/grants
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