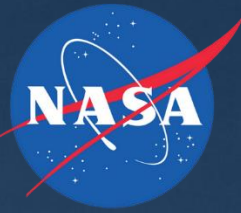


National Aeronautics and Space Administration

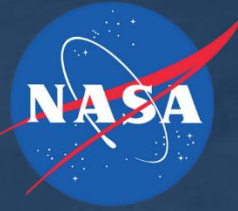


Bringing NASA Technology to
the Classroom
Science Startup

Erin Majerowicz
Strategic Partnerships Office
May 12, 2021

Photo Credit: NASA





What is Science Startup?

An integrated approach for technology infusion through STEM engagement

This effort is designed to be a flexible and scalable framework for authentic learning opportunities that can be adopted by any NASA facility. Each level of learning has different outputs that build upon one another to form a fully immersive STEM learning experience throughout a student's educational lifecycle. Each year, there will be a different focus area- area of science or NASA theme, so students who have graduated to the next level will have a new learning opportunity and a new connection to NASA's mission and work.



What is Science Startup?

An integrated approach for technology infusion through STEM engagement

OBJECTIVES

- To engage with students at various levels of learning in order to contribute to building the pipeline for a diverse future STEM workforce
- To strengthen students understanding of NASA technology, entrepreneurial-like thinking and engineering practices by enabling powerful connections to NASA's mission, work and the community

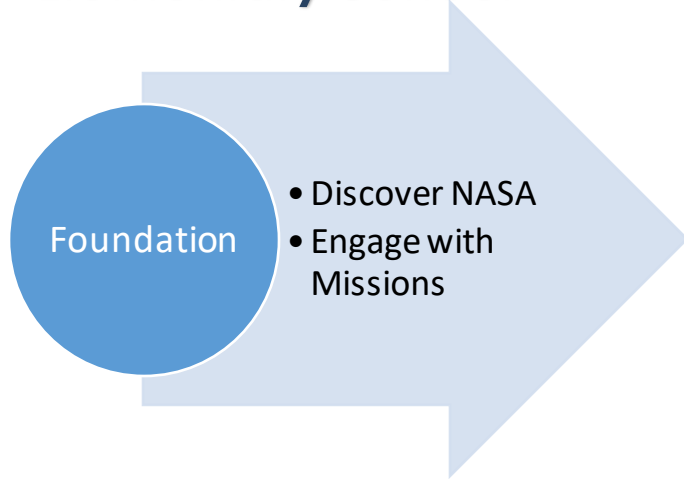
GOALS

- Provide students with the foundational knowledge of technology transfer and a way to interact with NASA's workforce in a fun and meaningful way
- Provide access to NASA content and subject matter experts (SME) to underserved and underrepresented communities
- Align with NASA's Office of STEM Engagement (OSTEM) goals
- Provide access to NASA-based learning throughout the education growth cycle
- Gather useful data to help NASA's technology transfer office's marketing and licensing efforts

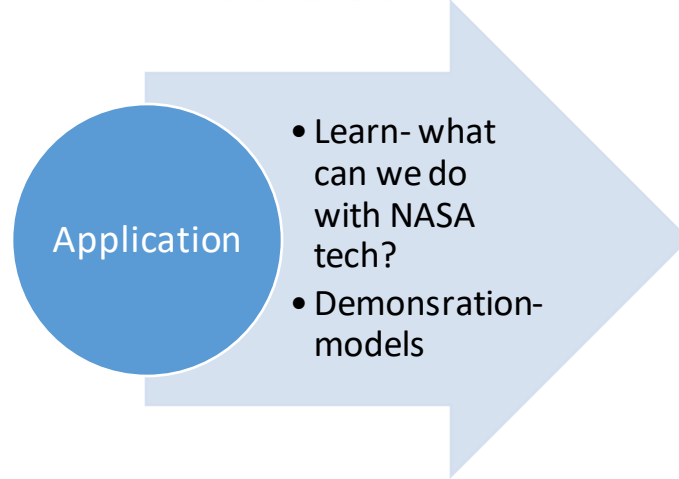


Comprehensive Science Startup Plan

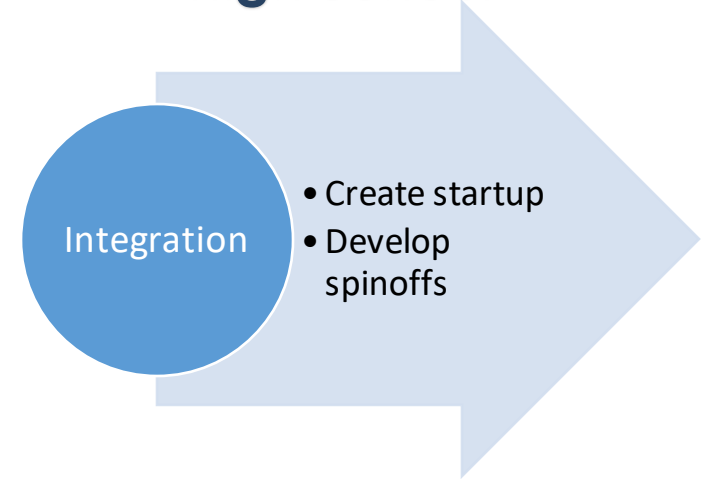
Elementary School



Middle School



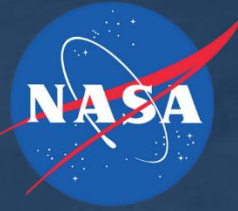
High School



- Learn about NASA's projects, missions, capabilities and technology
 - Destination Mars
- Focus on 1 project/mission/theme per year (theme carries across each level of learning)
 - Loop Box
- Basic concept of spinoff
 - NASA Home & City
 - NASA Scavenger Hunt
- Continued learning through Astro Science Summer Camp

- Learn about NASA's projects, missions, capabilities and technology
 - Destination Moon
 - Begin foundational learning about NASA Spinoffs
 - NASA Home & City
 - Spinoff Scavenger Hunt
 - Create your own spinoff- 3d Model Building
 - Present about how spinoff can make the world a better place
- Potential for College (community college, undergrad)
Mentor Assistance with model building*

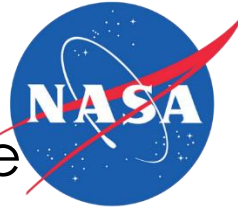
- Grade 9**
- Learn about NASA's projects, missions, capabilities & technology
 - Create your own spinoff
 - Develop a business plan
 - Create a model of your technology (InWorld)
- Grades 10/11 (rising Jr/Sr)**
- Capstone Project (~8 week curriculum)
 - SME & Entrepreneur Q&A's
 - Shark Tank Style Presentation to Entrepreneurs
- Potential for College Mentor Assistance for both groups*



Science Start-Up Pilot with DuVal

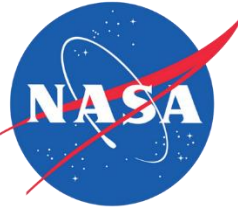
(Rising Juniors & Seniors - Spring 2022)

- **Week 1- NASA/Center overview & NASA/Center [Area of] Science Overview**
 - Presentation(s) to class along with and activity or “homework”
- **Week 2- [Area of Science] Mission Spotlight**
 - Presentation/Activities focused on a particular project/mission
- **Week 3- What is Technology Transfer and How is NASA Tech in Our Lives?**
 - Overview of NASA Tech Transfer and Spinoffs
 - Introduction to NASA [Theme/Area of Science] Sci Tech
 - Homework- research spinoffs, what they are, and some examples of NASA tech in your home (spinoff scavenger hunt)
- **Week 4- Create your own spinoff using NASA tech**
 - In teams (or as individuals), develop a spinoff idea using NASA [area of science/ mission] tech that was introduced in week 3
 - Could take it a step further and develop a business plan for a “fake” spinoff company using tech—create SWOT analysis and marketing plan for business/product
 - Q&A/Panel with innovator or scientist & Tech Transfer Tech Manager
- **Weeks 5-7- Special SME presentations**
 - Model Building, Public Speaking, Entrepreneurship/Business, etc
- **Week 8- ~ 1 month after week 4**
 - Present your idea/business!—Students present out to NASA—could be shark tank style if they create their own spinoff company



Benefits to the GCA

- Collaboration with NASA outside of work for the Agency
- Building the pipeline for future STEM careers
 - Future interns
 - Future employees
- Positive publicity
- Chance to “give” back to the community
 - Repeated engagement in underserved communities



How to get involved

Current (Spring 2022)

- Presenter
 - Project/Mission/Session Theme
- Q&A/Panel Member
- Subject Matter Expert
 - Technical SME
 - Business SME
 - Entrepreneur SME
- “Shark Tank Judge”
- Mentor Student Teams
- Intern Recruiter

Future (as program expands across MD)

- Adopt a School

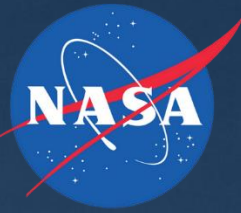


QUESTIONS?

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THANK YOU!

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