

The Road to 2060

CAREER

GUIDE

Do you live for the rush
of leveling up in a game?

Have you ever felt that
spark of excitement
tearing into a new
Lego set?

Did you find yourself
geeking out while
building a smartphone
app in school?

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HERE'S THE TRUTH:

You aren't just "playing." You are already doing STEM.

Does that surprise you? It shouldn't. STEM fields are the literal building blocks of our world, and you are already testing the waters. It's no shock that 25% of today's jobs are in STEM ([NSF](#)), but let's delete the old stereotype from your database right now: STEM is so much bigger than a scientist in a lab coat.

We are talking about the architects of the future. Today's STEM heroes are AI Ethicists, Climate Change Analysts, Synthetic Biologists, and Cryptologic Mathematicians. These are the people solving the planet's biggest puzzles, challenges—and yes, they earn [higher salaries](#) than non-STEM workers, too.

THE ISSUE:

The STEM Readiness Gap Is Real

Most [high school graduates aren't prepared for college-level STEM coursework](#), and that needs to change.

Can you imagine where you fit into that picture?

The new movie *Project Hail Mary* – about a science teacher named Ryland Grace (Ryan Gosling) who has to save everything on Earth from extinction – is soon to hit theaters, and is an entertaining reminder that science is the ultimate adventure! It has inspired us to invite **YOU** to be an everyday hero – helping younger students explore and build STEM skills for themselves to help our planet thrive.

WE HAVE A CHALLENGE FOR YOU:

1. **Explore** what inspires you about STEM. What are you passionate about, excited by, or interested in from what you've learned so far?
2. **Reflect** on the STEM educators who gave you the tools to succeed. In what ways did they help spark or shape your interest in STEM?
3. **Imagine** the future we can build by empowering and inspiring younger generations to discover STEM.

SAVING YOUR PLANET STARTS NOW.



Checkpoint 1

Your Brief: The Road to 2060

The numbers are in, and we have a problem to solve.

Right now, only about **20% of high school graduates are ready for college-level STEM coursework** (ACT report). But here is the reality check: by 2034, **STEM jobs are projected to grow by 8%**, leaving non-STEM jobs in the dust at just 3% (Bureau of Labor Statistics).

We aren't just talking about staring at spreadsheets. We are talking about **Artificial Intelligence, Ethical Hacking, Rollercoaster Engineering, Flavor Chemistry, and Space Exploration**.

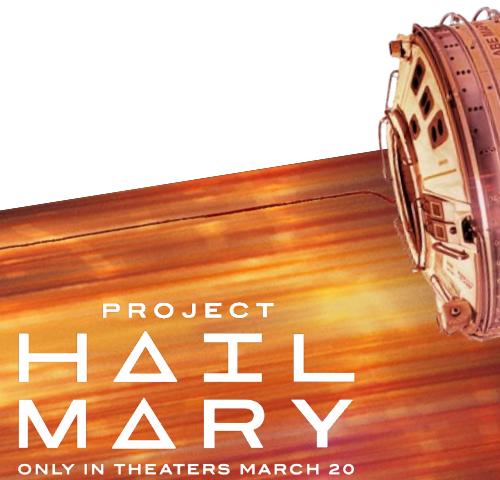
If that is what the world looks like now, imagine what STEM careers will look like in 2060, during the time of **Project Hail Mary**. As the trailer reminds us, when the world is on the brink, **"You are the solution"**.

So, how do you find your place in the world of STEM?

You don't need to be an astronaut to take off. Follow this flight plan to discover what STEM future belongs to you:

1. **Analyze Your Data** Think about the classes that actually light you up. Is it **Math, Computer Science, Health, Life Science, or Engineering?** Start there.
2. **Chart Your Course** Don't guess—get strategic. Match your favorite school subjects with real-world job categories using the [US Bureau of Labor Statistics' Periodic Table of STEM Occupations](#).
3. **Scan the Horizon** Investigate the unknown. Explore a massive range of career options using tools like [Science Buddies](#) or the [Discovery Education Career Finder](#).
4. **Level Up** You have the power to shape the future. **Take more STEM-related classes, join STEM-aligned activities, and get the experience** you need to turn “playing around” into a career.

The world is counting on you. Let's get to work.



Checkpoint 2

Build Your STEM Skills

You are the solution. In *Project Hail Mary*, the fate of the world comes down to science, math, and a community willing to step up. **YOU are part of that community!** But you don't need to wake up on a spaceship to get STEM ready. You can start right here, right now, in your classroom.

Whether you are designing the next Mars rover or coding an app to track climate change, you need the right tools in your toolkit. **How will you fill yours?**

If you are in Middle School: The Launchpad

Start building your foundation. These aren't just classes; they are the language of the future.

- » **Math:** Lock in the basics with **Pre-Algebra, Algebra, or Geometry.**
- » **Science:** Explore how the universe works in **Earth Science, Physics, or Chemistry.**
- » **Tech & Engineering:** Get your hands dirty with Robotics, speak the machine language with **Coding (Scratch, Python Basics)**, or visualize your ideas with **CAD/Design.**

If you are in High School: Forward Directive

No dream is too big. It's time to level up.

- » **Math Path:** Move from **Algebra I to Geometry**, then conquer **Algebra II and Pre-Calculus/Trigonometry.**
- » **Science Path:** advance from **Biology to Chemistry**, then tackle **Physics.**

Choose Your Loadout (Specialized Classes)

As a high school student, you have the chance to specialize. **Find your cause, find your people.** Which mission path calls to you?

The Builders (Engineering) If you want to construct the future, look for:

- » AP Physics, Introduction to Linear Algebra, or Engineering Design Statistics.
- » Engineering Prep: Introduction to engineering design, Principles of applied engineering, Robotics, Computer science, or Digital electronics.

The Coders (Computer Science & Data) If you want to speak the language of AI and security:

- » AP Computer Science Principles, AP Computer Science A, Data Structures, or Cybersecurity.



The Life Savers (Bio & Pre-Med) If you are driven to heal the world (literally):

- » AP Biology, AP Chemistry, Anatomy & Physiology, or Organic Chemistry Fundamentals.

The Planet Defenders (Environmental Science) If you want to protect our only home:

- » AP Environmental Science, Geology/Earth Science, or GIS/Mapping.

The Makers (Career & Tech Education / CTE) STEM isn't just theory; it's action. Get hands-on with:

- » Architectural design and drafting, Automotive technology, Information technology, Manufacturing (carpentry, electrical wiring, metalworking), or Welding.

Your training begins today. What class will you take next?

If you are in College: Advanced Maneuvers

You are entering the final stages of pre-mission training. In *Project Hail Mary*, Ryland Grace realized that saving the world required more than just courage—it required doing the math. Now is the time to master the heavy hitters that will define your career.

Load Your Core Database:

- » **Math: Calculus I and II.** (The language of the universe).
- » **Science: General Chemistry I and II and General Physics I.**
- » **Computer Science: Introduction to Programming and Discrete Mathematics.**

Deploy Your Secret Weapons (Related Courses)

Don't just stick to the lab. To change the world, you have to understand the people living in it. Even if you have the solution, you need the skills to make the world listen.

- » **Economics:** Math meets the real world. This is often classified as a STEM field because of the heavy math component, and many engineering programs require Engineering Economics to understand how projects actually get built.
- » **Communications:** You might discover the solution, but can you explain it? Critical Thinking and Public Speaking are vital for presenting your ideas to a world that needs them.
- » **Arts:** Innovation requires imagination. Drawing classes aren't just for artists—they help engineers visualize complex projects and design the impossible.
- » **Foreign Languages:** In *Project Hail Mary*, communication was the key to survival. Learning a foreign language provides insight into different cultures and new approaches to problem-solving.

Your education is your equipment.

Make sure you are fully geared up.



Checkpoint 3

Mission Intel: Teamwork Matters

Ryland Grace found himself alone at first on the Hail Mary, but you don't have to. In the film, he finds that survival depends on an alliance with an alien engineer named Rocky. Your success depends on your crew, too. Connection is a prerequisite for action, and there is a massive network of allies waiting for you.

Find your cause, find your people. Here is how you connect with the squad that will help you save the future.

For Middle & High School Explorers:

- » School Clubs in Astronomy, Chemistry, Coding, Engineering, Robotics, etc.
- » STEM Clubs can be found at: local museums, zoos, nature centers, aquariums, and universities
- » [Technology Student Association \(TSA\)](#)
- » [High School Student Membership, American Institute of Aeronautics and Astronautics](#)
- » [High School National STEM Honor Society](#)
- » National STEM Society [Ambassadors Club](#)
- » Inspirit AI [Scholars Program](#)

The Proving Grounds (Competitions):

- » [Science Olympiad](#) – [Chemistry Olympiad](#) or [Biolympiad](#)
- » [National Science Bowl](#)
- » [International Science and Engineering Fair](#)
- » [National Ocean Sciences Bowl](#)
- » [Envirothon](#)
- » [Technovation](#)
- » [The Conrad Challenge](#)

Field Training (Camps & Summer Programs)

- » STEM Camps can be found at: local museums, zoos, nature centers, aquariums, and universities
- » [National Audubon Society](#)
- » [Kode With Klossy](#)
- » [iD Tech](#)
- » [Penn Medicine Society Program](#)



Field Training (for all ages):

- » [Girls Who Code](#)
- » [4-H's CLOVER Program](#)
- » [NASA STEM Opportunities and Activities For Students](#)

Join the Ranks (Clubs & Organizations):

- » [4-H](#) offers programs in aerospace, engineering, and robotics
- » [Girl Scouts](#)
- » [Scouting America](#)
- » [Boys & Girls Club](#)
- » [Digital Media Academy](#)
- » [National Inventors Hall of Fame](#)
- » [Engineering for Kids](#)
- » [Snapology](#)
- » [HOSA – Future Health Professionals](#)
- » [Lumiere Research Scholars Program](#)

Student Chapters of Professional Organizations for College Students:

- » [National Society of Black Engineers](#)
- » [Society of Hispanic Professional Engineers](#)
- » [Society of Women Engineers](#)
- » [American Society of Civil Engineers](#)
- » [American Institute of Chemical Engineers](#)
- » [American Nuclear Society](#)

National Honors Societies for College Students:

- » [National STEM Honor Society](#)
- » [Sigma Xi](#)
- » [Tau Beta Pi \(engineering\)](#)
- » [Mu Alpha Theta \(math\)](#)



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Checkpoint 4

It's Important to Find a STEM Mentor

Even the smartest scientist in the galaxy needs a partner. Do not fly solo. Reach out to your favorite STEM teacher or advisor. They have the experience to help guide your ship, and can offer more information about STEM careers, while connecting you with other organizations and activities.

Check out Mentoring Opportunities:

- » [STEM Mentoring](#)
- » [STEMNetX](#)
- » [Boys & Girls Clubs](#) offer mentor opportunities
- » Speak with your local: after-school activity advisor, nonprofits, college or university,

Internships and Summer Programs for College Students:

- » [ORISE](#)
- » [Pathways to Science](#)
- » [Science and Engineering Apprenticeship Program](#)
- » [National Institutes of Health Summer Internship Program](#)
- » [National Institute of Environmental Health Sciences Summer Internship Program](#)

National Organizations for College Students:

- » [American Physical Society](#)
- » [Student Membership – Association for Information Science and Technology, ASIS&T](#)
- » [American Society of Microbiology](#)



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Checkpoint 5

Portfolio: Meet the STEM Luminaries

In **Project Hail Mary**, saving the world requires looking at problems differently. History is full of people who did exactly that. **STEM is everywhere**. Do you use social media to keep in touch with friends, read the news, or share funny reels? You are using code built by STEM pioneers like **Mark Zuckerberg**. But the real heroes often work behind the scenes. Have you seen *Hidden Figures*? It tells the true story of **Katherine Johnson**, **Mary Jackson**, and **Dorothy Vaughan**—three Black women who didn't just do math; they were pivotal to the United States' successful venture into space. They proved that **you don't need a spacesuit to change the trajectory of humanity.**

Our world is full of people who built a career by following their curiosity. Here is some intel and insight from the legends who paved the way:

“The good thing about science is that it’s true whether or not you believe in it.”

— **Neil deGrasse Tyson**, astrophysicist, author, and 2018 Grammy Award Winner for Best Spoken Word Album.

“All sorts of things can happen when you’re open to new ideas and playing around with things.”

— **Stephanie Kwolek**, a chemist who invented Kevlar and winner of the Lavoisier Medal for technical achievements

“I didn’t want just to know the names of things. I remember really wanting to know how it all worked.”

— **Elizabeth Blackburn**, winner of the 2009 Nobel Prize for Physiology or Medicine

“However difficult life may seem, there is always something you can do and succeed at.”

— **Stephen Hawking**, theoretical physicist, cosmologist, author, and recipient of the Presidential Medal of Freedom

“Nothing in life is to be feared, it is to be understood.”

— **Marie Curie**, physicist, chemist, and winner of the Nobel Prizes for discovering radioactivity, radium, and polonium.

“We have the opportunity to create the future and decide what that’s like.”

— **Mae Jemison**, former NASA astronaut, engineer, physician, and the first Black woman to travel into space.

Those before you paved the way. Now the future is in your hands.

3M

**DO
SOMETHING**

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Checkpoint 6

Your Task Ahead: Be a STEM Hero

In *Project Hail Mary*, the fate of humanity rests in the hands of Ryland Grace. But before he was an astronaut saving the solar system, do you know what he was? **A Middle School Science Teacher.**

Teachers are the ones who hand us the tools to build the future. They challenge us to look up, dig deeper, and solve the unsolvable. But they could also use your help in spreading the word about STEM.

Like Rocky, you can also lend a helping hand in guiding the next generation of STEM changemakers. (P.S. ***Rocks for hands are not necessary**).

Here's how:

1. Reflect on Your STEM Adventure

Rediscover what sparked – or continues to spark – your curiosity about STEM, how it can make an impact for good, and all the goals you're aiming for on your STEM journey.

- » Why does STEM matter to you?
- » What pulled you in? What keeps you curious?
- » Why should it matter to younger students?
- » How can STEM help people, communities, or the future?
- » Your STEM goals: What are you hoping to do with STEM—or what are you already working on?

Additionally: Think back to a moment when one of your STEM educators changed your trajectory. Did they help you crack a problem that felt impossible, or suggest you try a project you never thought of taking on before?

2. Transmit an Impactful Message

Share why STEM matters to you in your own relatable way, to inspire the next generation of changemakers to explore STEM education, training, and career options early.

Record a :60 video message for middle school or younger students about what excites you/inspires you/or what you're passionate most about STEM and why it matters to you.



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Then share your video with younger students at a local school to promote the study of STEM and STEM careers. You can also share your video with a younger student on your socials, or tag your former middle school. You never know who you'll inspire. #projectstemheroes #projecthailmary #dosomething

Show some love to an educator

You can also shout out a teacher, mentor, or adult who helped spark your STEM journey.

3. Broadcast Your Signal (Post)

Be sure to submit the video message you shared about what excites you most about STEM here: [Project STEM Heroes](#)

Post it on socials #DoSomething.

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Power-Up Activated!

Thank you for being a STEM Hero for the next generation of STEM students.

Now that you have recorded, shared, and submitted your inspiring video, you are eligible to earn one of the \$1,500 scholarships.

Additional Bonus Unlocked: Two scholarship recipients will also be invited—along with their teachers—to join the New York City premiere of ***Project Hail Mary***, starring Ryan Gosling. How sweet is that!?

