

# The Ohio Academy of Science



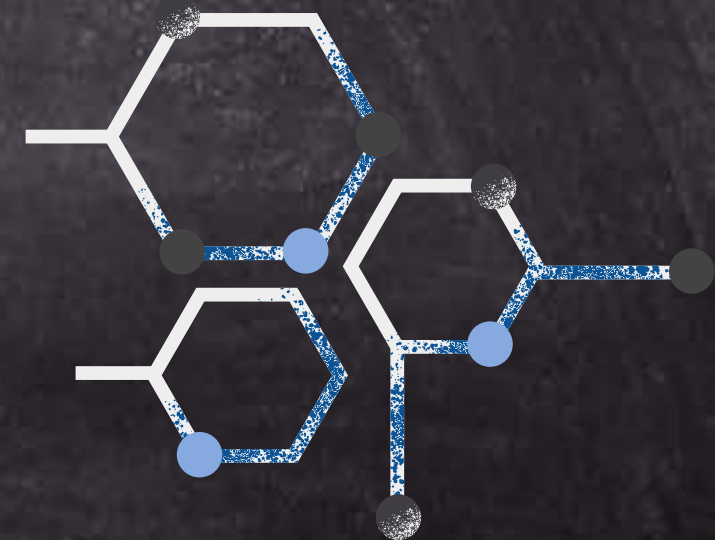
THE FUTURE IS STEM...  
WHERE DO YOU FIT IN?



# Agenda



- Introduction to Science Days and Ohio STEP.
- Where do these programs fit?
- Benefits of participation!
- Competitions!
- Explore ProjectBoard - resources and student makerspace!
- How do teachers get started?



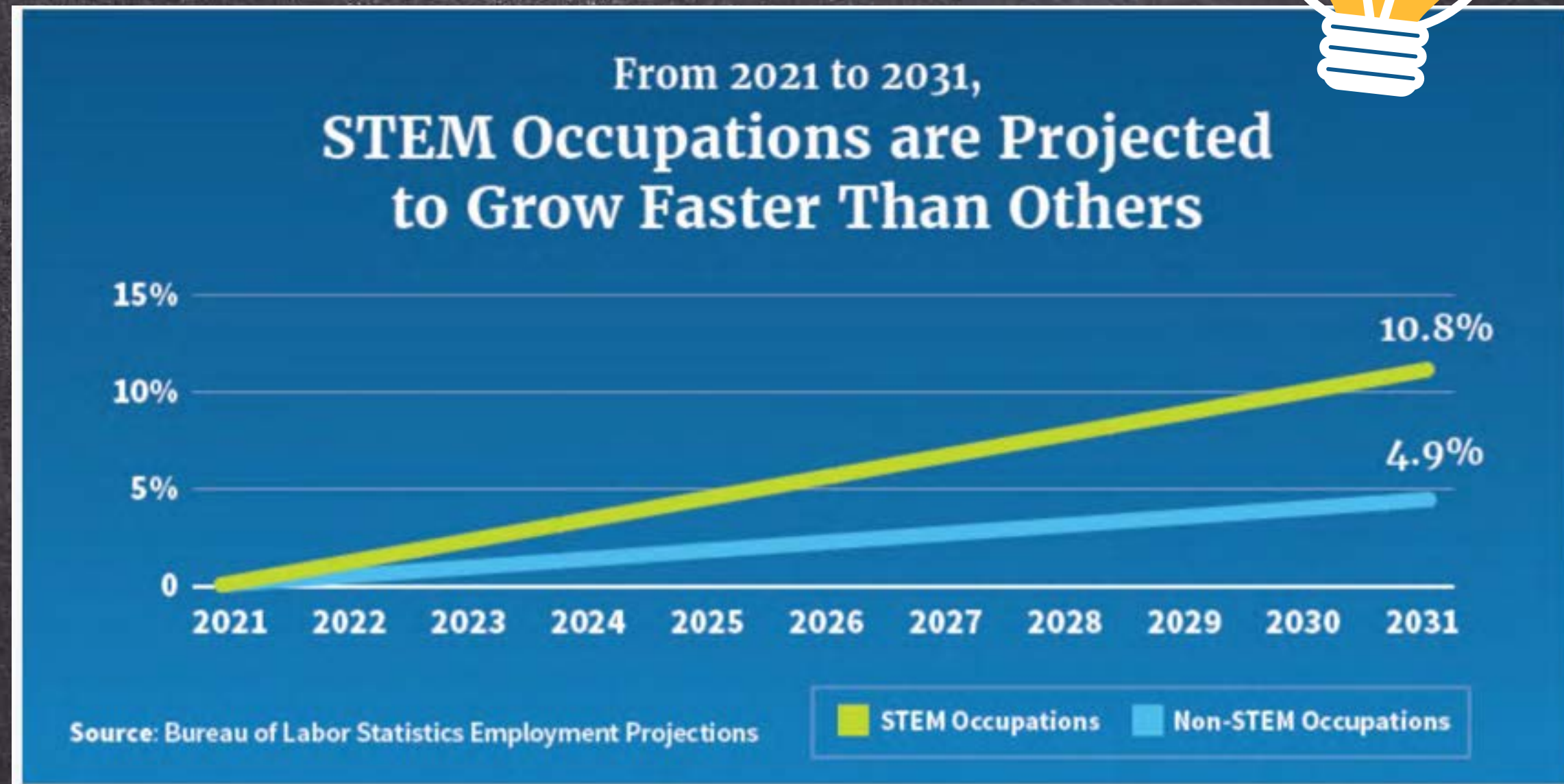


# Did you know???



**According to the U.S. Bureau of Labor Statistics, STEM occupations are projected to grow by 10.8% from 2022-2032 while non-STEM growth is projected at 4.9%**

(<https://www.bls.gov/emp/tables/stem-employment.htm>)



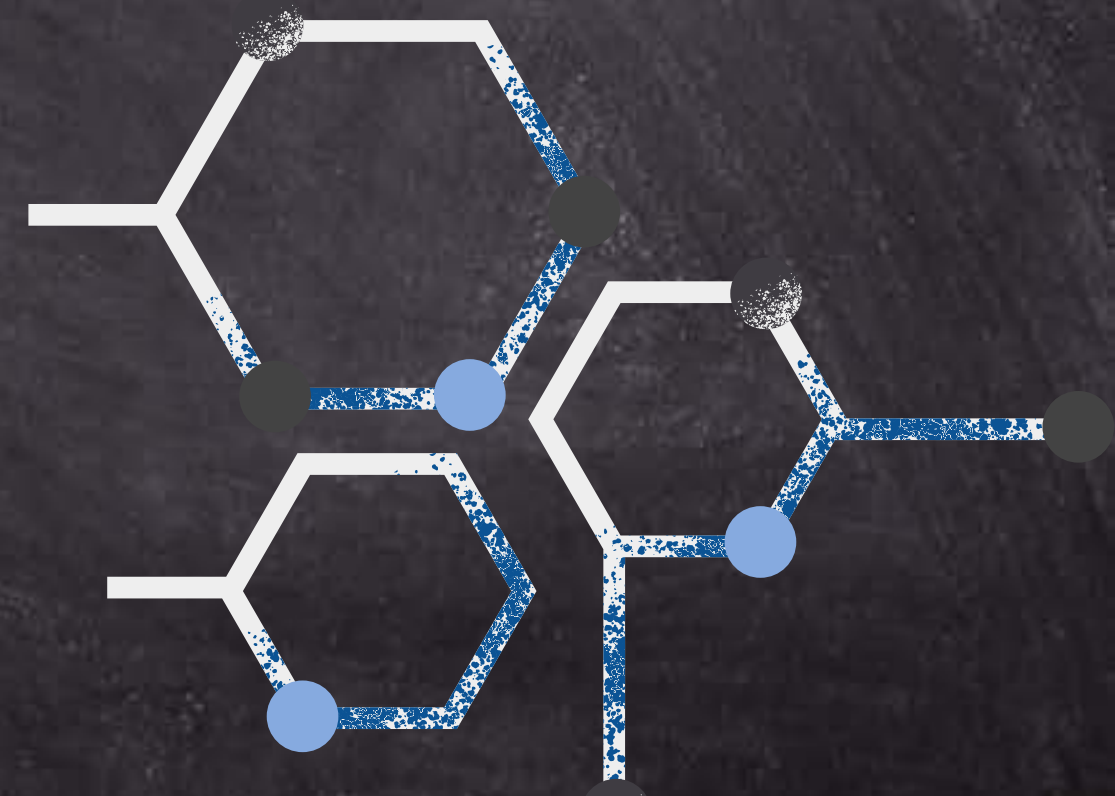
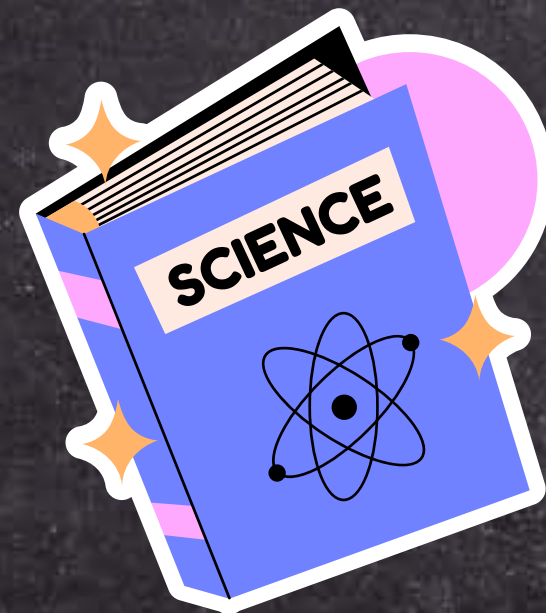
- This reveals a prime opportunity to engage students in STEM and STEM-related skills!
- Let's provide students many opportunities to develop skills in research, critical thinking, problem-solving, and innovation!



# About The Ohio Academy of Science!



**The Ohio Academy of Science, founded in 1891, is a non-profit organization dedicated to fostering curiosity, discovery, innovation, and problem-solving skills by providing free STEM experiential learning programs for students across Ohio!**





# The Ohio Academy of Science PROGRAMS



Science Days--  
District and State  
Science Day



Buckeye Science  
and Engineering  
Fair (BSEF)--ISEF  
Qualifying  
competition



Ohio STEP--STEM  
Innovation and  
Entrepreneurship



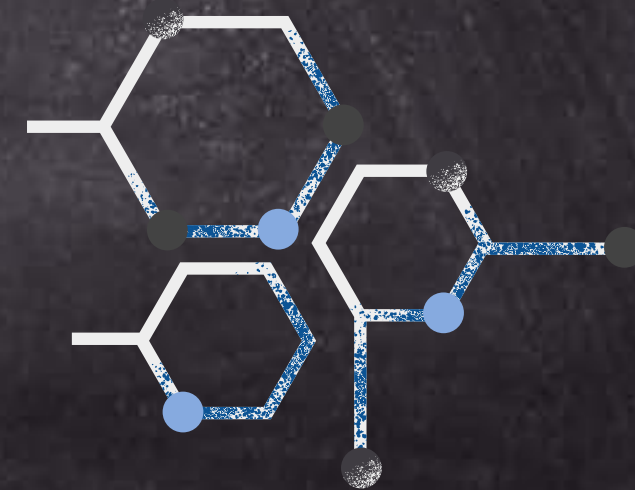
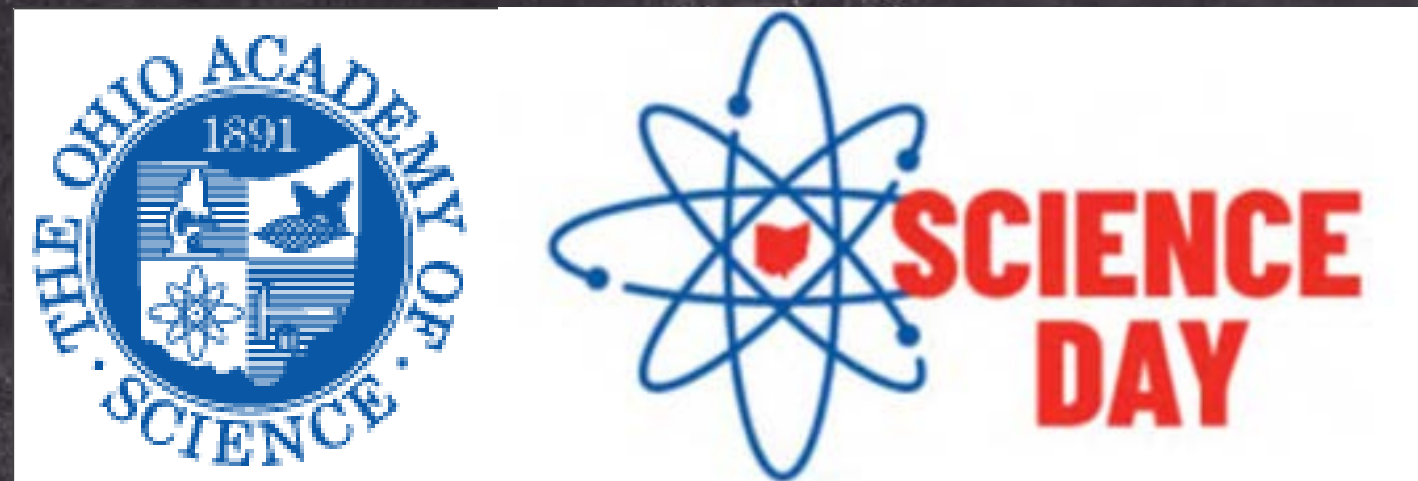
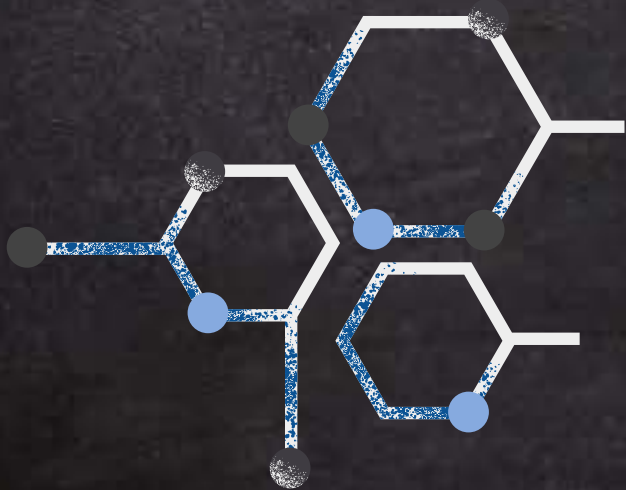


# Science Days About the Program!

GRADES

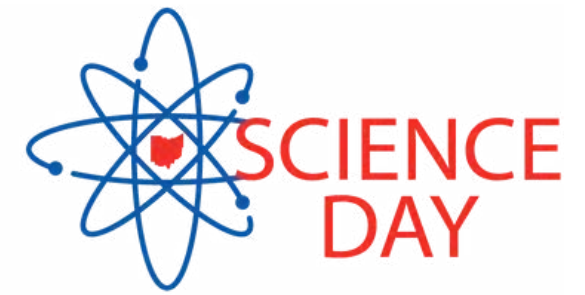
5 - 12

Science Day is an interactive and personalized science fair program that engages students through scientific inquiry and problem-solving. By applying the scientific method, meta-analysis, or engineering design process, students explore intriguing questions and provide evidence-based solutions.

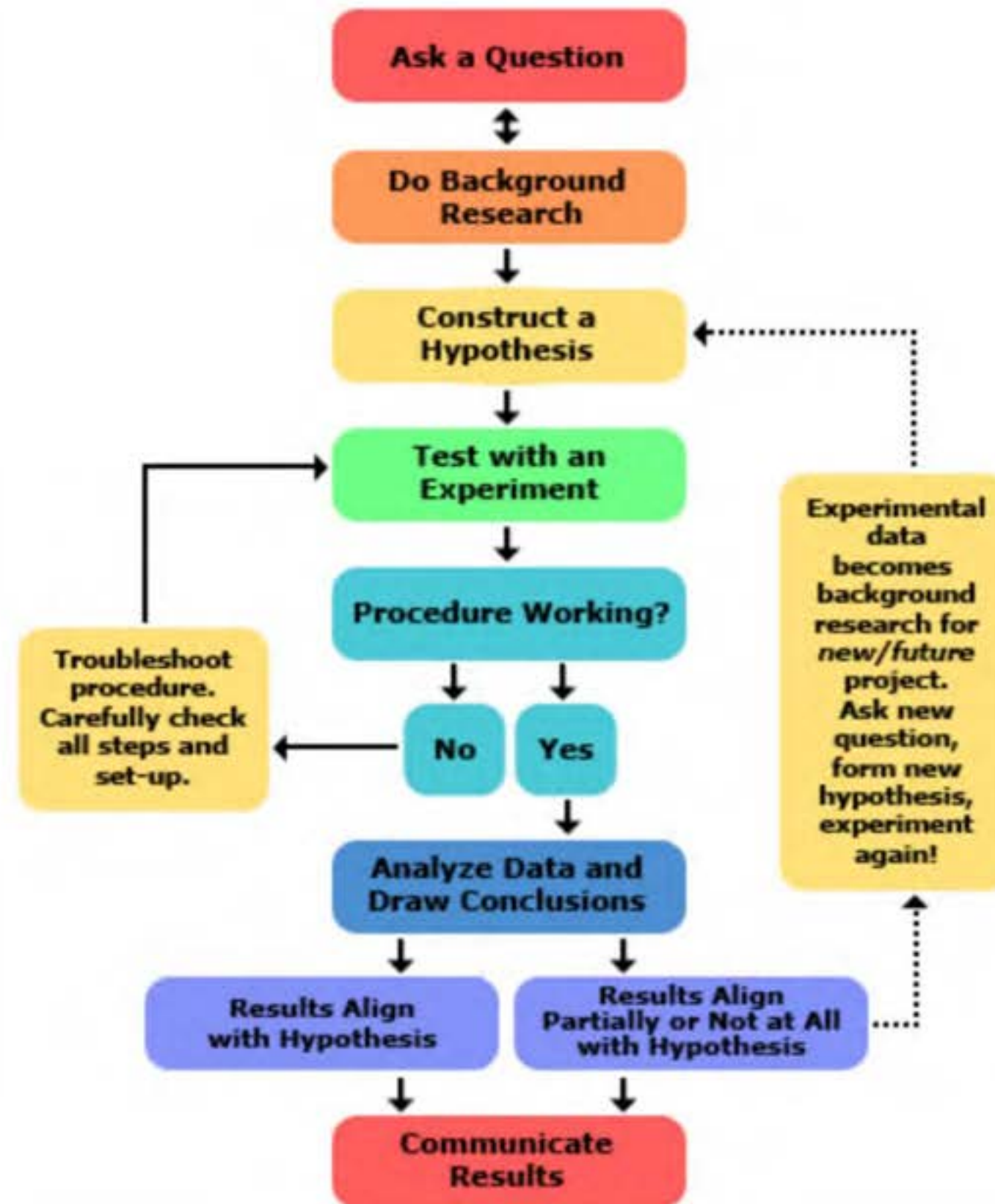




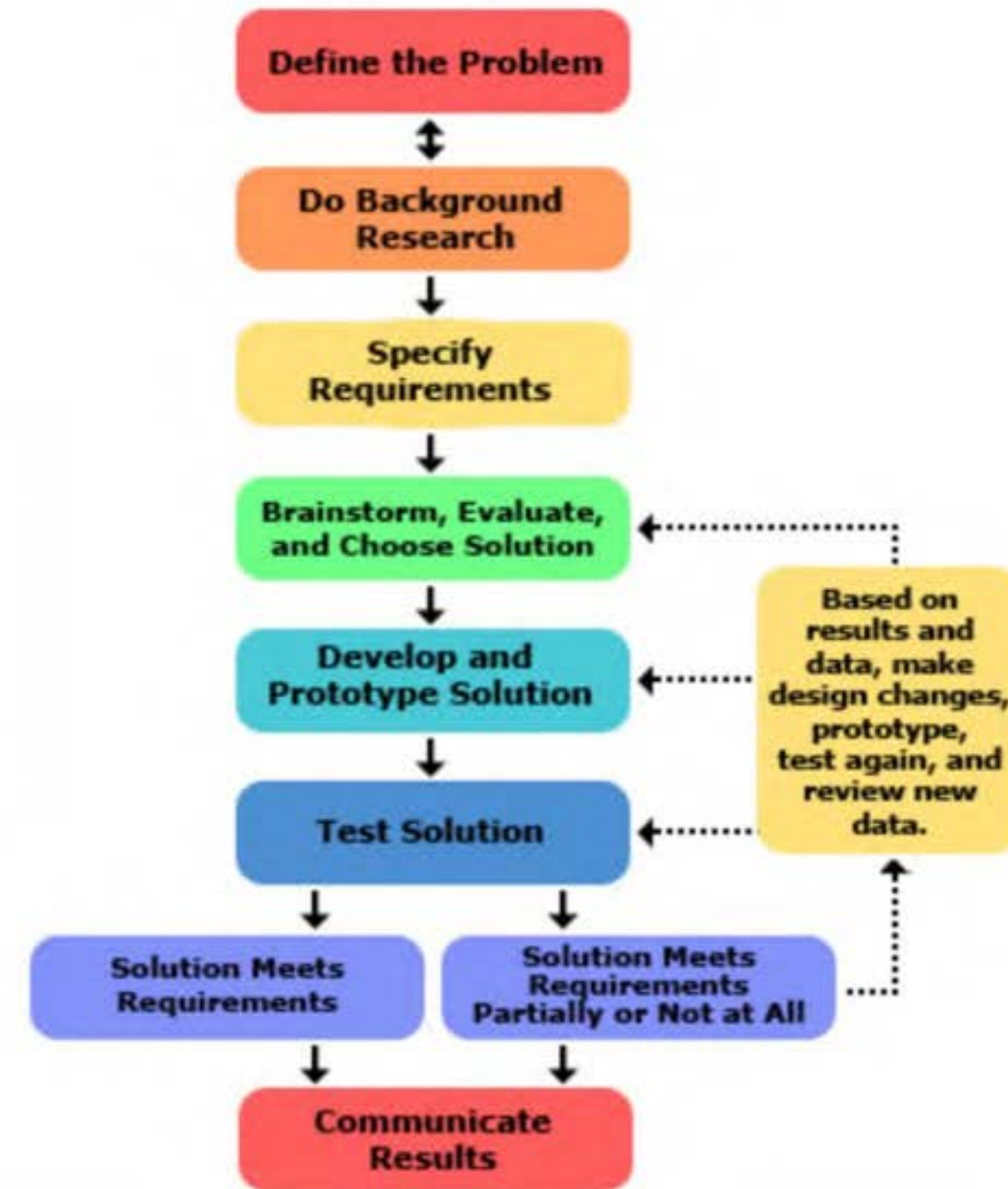
# Scientific Method vs. Engineering Method



## Scientific Method



## Engineering Method







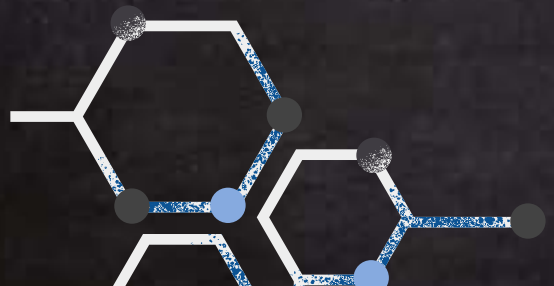
# Ohio STEP About the Program!

GRADES  
5 - 12

## **A Science, Technology, and Entrepreneurship Program!**

This program incorporates scientific inquiry, authentic research, innovative technological/engineering design, and market studies through a project-based curriculum.

Students will identify a problem, develop an innovative solution, and research STEM topics to support their solution. Students will also conduct market studies and develop a financial plan to prove the feasibility of their entrepreneurial venture!





# Ohio STEP<sup>TM</sup>: Pathways to Innovation Canvas



STEP 1:  
DEFINE,  
IDEATE, AND  
RESEARCH

Problem

Target  
Customers

Solution

STEM  
Research

**ASSESS  
and  
ITERATE**

STEP 2:  
DEVELOP AND  
REFINE

Competitors

Value  
Proposition

Expected  
Revenues

Costs

STEP 3:  
EXTENSIONS

STEM Commercialization  
Proof of Concept

STEM Business  
Proof of Concept

STEP 4:  
COMPETITION  
OPTIONS

Summary  
and  
Pitch Video

Full Plan  
and  
Extended Pitch Video



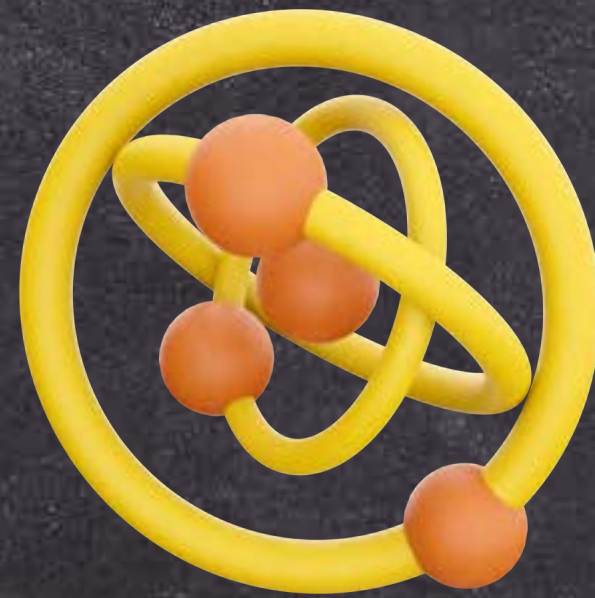
# Where do these programs fit?



## Classes

STEM  
Business  
Science  
Technology  
Engineering  
VoAg  
Technical Writing

Grades 5 - 12



## After School Clubs

STEM  
Science  
Entrepreneur  
DECA  
FFA/FHA  
Engineering  
Technology  
4-H



# TEACHERS!



**Advocate** support



Supports **OTES 2.0**



**Teaching Curriculum!!**

EDITABLE lessons,  
graphic organizers,  
templates, and  
videos!

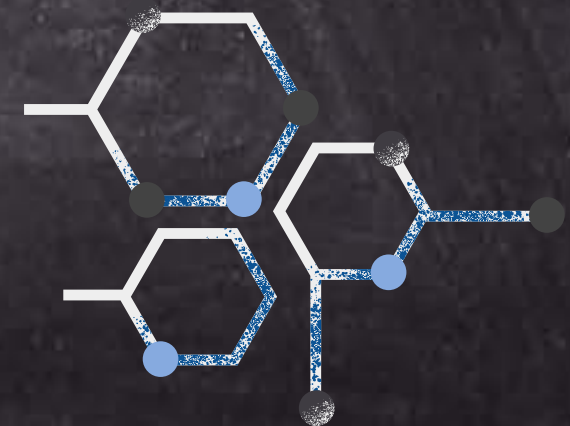
**Aligned** to Ohio  
Standards in Science,  
Technical Writing,  
Technology and Ohio CTE  
Business Standards.  
(Ohio STEP only)

**PROJECTBOARD**  
Online student project  
platform

Eligible for OAS **Governor's  
STEM Excellence** and **Shaw  
Awards** ( Science Fair only)



Use toward school  
**STEM Designation**  
(Ohio STEP only)





# STUDENTS!



**Personalized!**

**Project-based learning!**

**GOALS!**

**Authentic RESEARCH!**

**Collaboration**

**Higher order thinking skills!**

**Mentors**

**Fulfill WEP requirements**

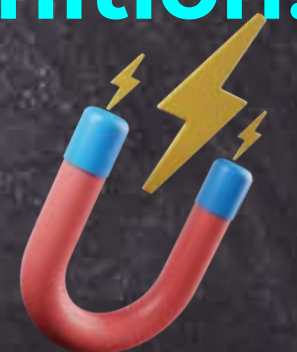
**STEM career exploration!**



**Academic Recognition!**

**Presentation**

**Compete for awards & scholarships!**



**Meet a requirement for the STEM Honors Diploma or as Capstone project for a locally defined seal (Ohio STEP only)**



# Competitions!

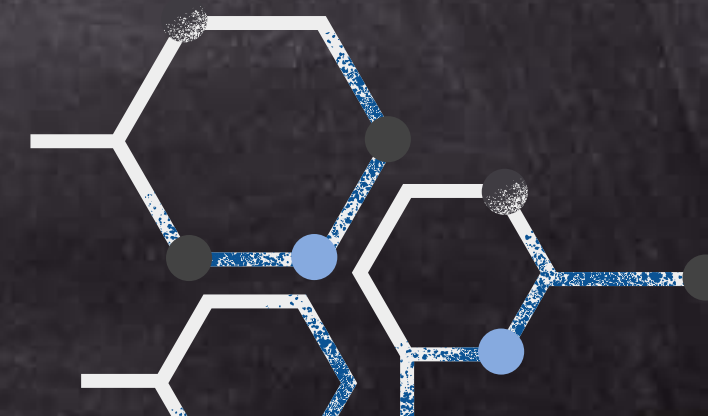


## Science Days:

- District and State level competitions.
- Students can receive sponsored awards/scholarships!

## Ohio STEP:

- State level competition.
- Students can receive sponsored awards/scholarships!







# ProjectBoard

Online social learning  
platform for student projects!

*Makerspace*

Resources—student and  
teacher

Project sharing

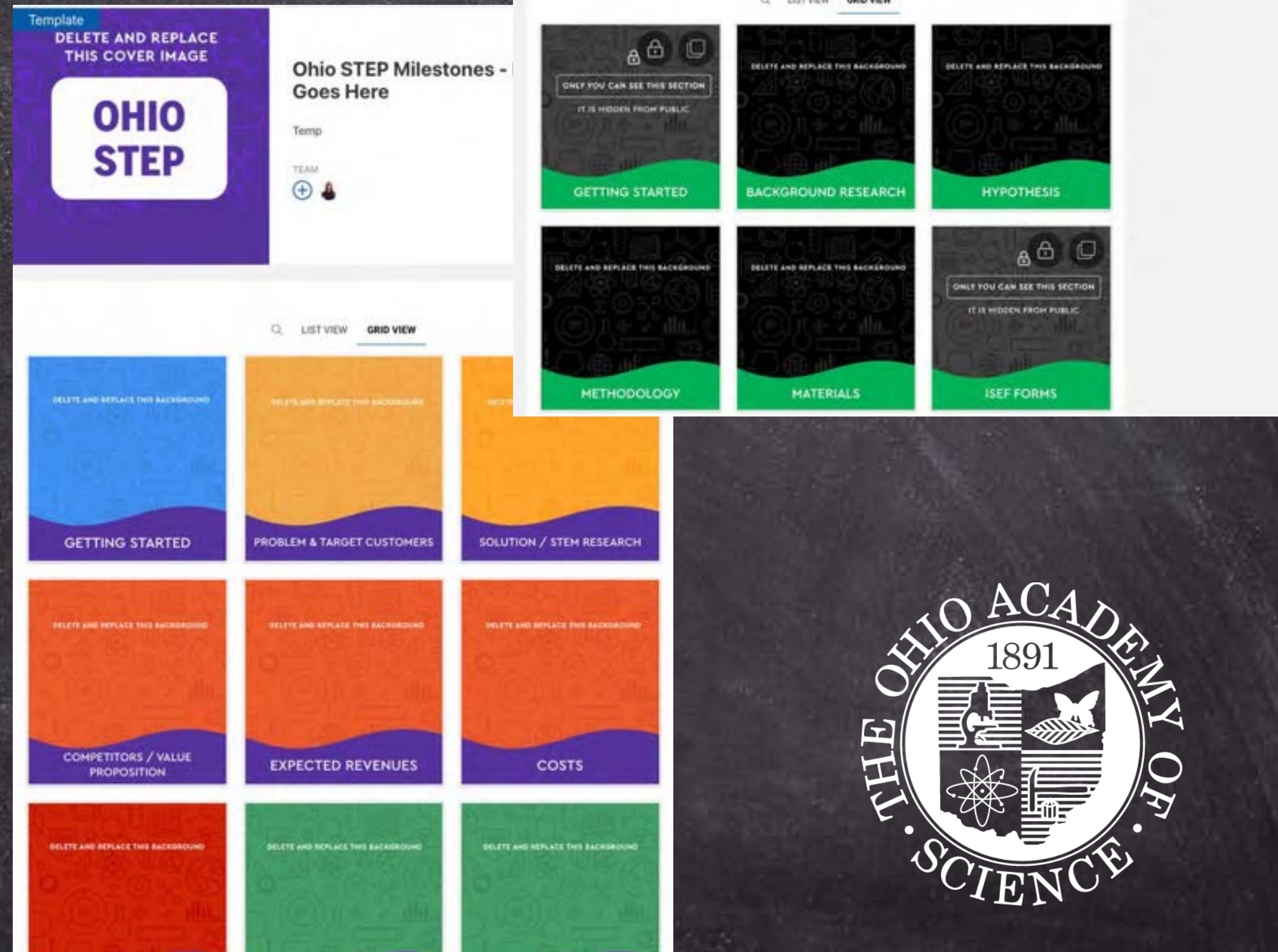
Mentors

Feedback

Showcase

Virtual Judging

<https://projectboard.world/oas/>





# Why?!



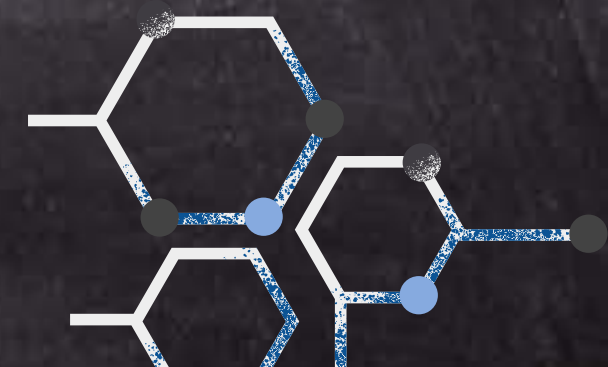


# ProjectBoard--How to Start?



## To get started with Science Days or Ohio STEP:

- Facilitator creates an account to register in ProjectBoard at <https://projectboard.world/oas>.
- Facilitator creates a class and invites students.
- Students create accounts to register in ProjectBoard by **December 15th 2023**.
- Submission Portal through ProjectBoard will open on December 16th, 2023 for competitions!





# Ohio Academy of Science Timeline



## SEPTEMBER: 2023



- **5TH:** New ProjectBoard account creation and existing account re-activation **begins**.
- This account will be needed for: Science Day, BSEF and Ohio STEP

## OCTOBER/NOVEMBER: 2023



- **OCTOBER 16TH:** ProjectBoard account creation for the 2024 Annual Meeting begins
- Students should continue to work on projects created in ProjectBoard
- Judge registration begins
- Mentor registration begins

## DECEMBER: 2023



- **15TH:** New ProjectBoard account creation and existing account re-activation **ends**.
- If participating in Science Day, BSEF, Ohio STEP or Annual Meeting, one **MUST** have an active ProjectBoard account prior to December 15, 2023.

## JANUARY: 2024



- **31ST:** BUCKEYE SCIENCE AND ENGINEERING FAIR (BSEF) PROJECT SUBMISSION FOR COMPETITION **CLOSES**

## FEBRUARY: 2024



- **26TH:** District Science Day and Ohio STEP project submission for competition **closes**
- Project submission for the 2024 Annual Meeting closes

## MARCH: 2024



- **2ND, 9TH, 16TH, 23RD:** DISTRICT SCIENCE DAYS THROUGHOUT THE STATE (IN-PERSON); DISTRICT 18-- VIRTUAL
- **2ND:** BSEF COMPETITION (IN-PERSON)
- **5TH:** STATE SCIENCE DAY PROJECT SUBMISSION FOR COMPETITION **OPENS** (VIRTUAL)
- **28TH:** STATE SCIENCE DAY SUBMISSION FOR COMPETITION **CLOSES** (VIRTUAL)

## APRIL: 2024

- **6TH:** ANNUAL MEETING AT KENT STATE UNIVERSITY
- **19TH:** STATE SCIENCE DAY RESULTS ANNOUNCED
- **24TH:** STATE SCIENCE DAY CELEBRATION RSVP DUE
- **27TH:** Ohio STEP PITCH COMPETITION AND AWARDS AT KENT STATE UNIVERSITY

## MAY: 2024

- **2ND:** ANNUAL MEETING ABSTRACTS DUE IN FINAL FORM FOR PUBLICATION
- **11TH:** STATE SCIENCE DAY: CELEBRATION OF SCIENCE at OSU
- **11TH-17TH:** ISEF IN LOS ANGELES, CA



# Comparison Guide for OAS and OSLN Projects

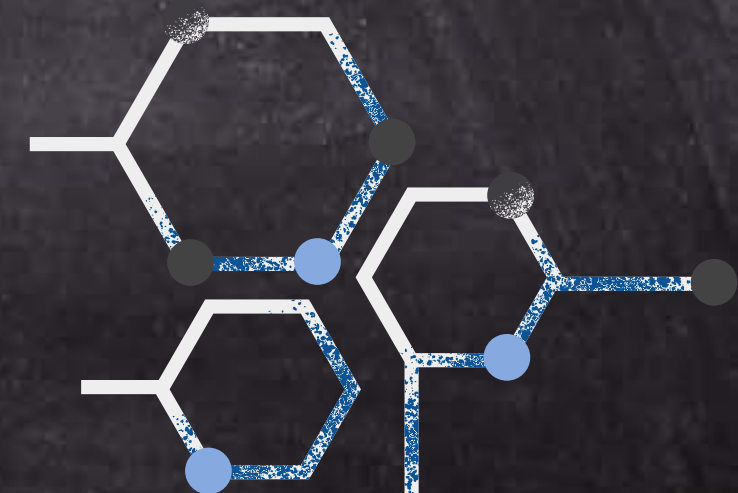
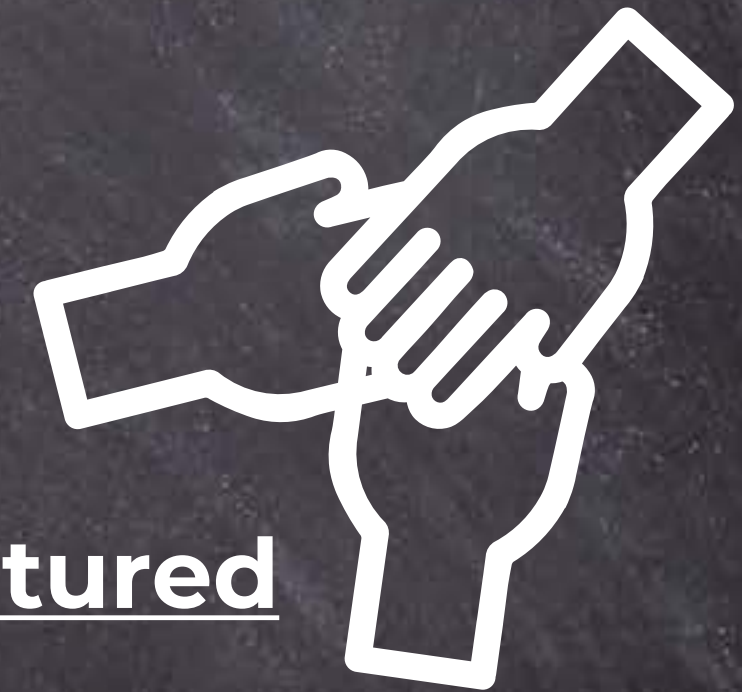
OSLN Design Challenge	Aligns to <i>OAS Science Day</i> section:	Aligns to <i>OAS Ohio STEP</i> section:
Step 1	Hypothesis/Engineering Design Statement	Identify Problem and Target Customers
Step 2	Background Research	Solution and STEM Background Research
Step 3	Methods, Materials, Experimentation/Design Plan and Initial Prototype	STEM Background Research (Prototype)
Step 4	Methods, Materials, Experimentation/Design Plan and Initial Prototype	Assess and Iterate
Step 5	Presentation of Data/Conclusion	Written Plan and Pitch
*Please note that the Design Challenge components will help to complete requirements for sections of the OAS programs. The OAS programs are separate from the OSLN Design Challenge. Carefully read all the necessary OAS requirements as they require additional steps for project completion.*		



# OAS How to Connect



- **STEM Advocate email:** [stem@ohiosci.org](mailto:stem@ohiosci.org)
- **ProjectBoard:** <https://projectboard.world/oas>
- **OAS YouTube Channel:**  
<https://www.youtube.com/@OhioAcademyofScience/featured>
- **Zoom Office hours:** Mondays starting 9/25 from 3-4 pm
- **The Ohio Academy of Science Website:** [www.ohiosci.org](http://www.ohiosci.org)
- **Social Media:** Facebook, LinkedIn, Instagram





# Time for Questions!!



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