

# STEM

Nurturing Faith, Ignite Learning and Shaping Future Leaders

# What is STEM?

According to the University of Notre Dame's STEM Initiative, a lesson needs to have at least 2 or more subjects integrated within the lesson..

## Key Aspects of a STEM Lesson

- **Integration:** STEM lessons are not about teaching the four subjects in isolation. Instead, they focus on integrating them to reflect real-world scenarios.
- **Applied Approach:** The emphasis is on applying knowledge from these fields in a practical way.
- **Interdisciplinary Learning:** Students learn how these subjects are interconnected and how they can work together to solve problems.
- **Inquiry-Based and Project-Based:** STEM lessons often use project-based and inquiry-based learning to encourage students to ask questions, identify problems, and design solutions.
- **Skills Development:** The ultimate goal is to develop crucial 21st-century skills like critical thinking, problem-solving, collaboration and innovation.





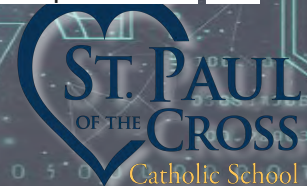
Mrs. Monica  
Ciaparro

# K-3 STEM

K-3rd STEM is held on Tuesdays and Thursdays. In kindergarten, STEM/STEAM is more learning to work as a team and exploring. Students are presented with a story or problem and are then asked how they would solve it independently or as a group. Some challenges have been based on their weekly theme. This allows students to connect what they have discussed/learned and apply it to their build.

First and second grade have had team challenges and a few independent. They are observing, creating, and testing. I have connected past lessons to their science curriculum. So far we have discussed buoyancy, floating gardens, preserving the rivers, then created a floating garden model. (1st). We discussed motion and force, now creating foosball tables from cereal boxes and straws. (2nd)

Third graders have been working on team building skills and following the design process. Their most recent project was connecting AI to a dreamcatcher. Students were introduced to AI through [code.org](https://code.org). We compared this to a story from the Wonders reading series "Dreamcatchers". They then compared and contrasted the two. They have now completed their own dreamcatcher.



# STEM in Science

Mrs. Kenzal  
Mr. Galuska



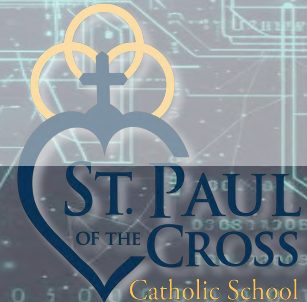




# 4th-5th Grade

## Exploravision - 8 Honorable Mentions Last Year (2-4th, 6-5th)

- Take a technology that is available today and envision what it will look like 20 years in the future.
- Build a Prototype and test it
- Create a website to explain how it works.
- Write a 11 page paper to describe how it works and the impact it will have on society.
- Work on Individualized Learning in Science using Legends of Learning
- Basics of Programming using Robots
- Typing Improvement
- Makerspace and STEM challenges





# 6th Grade



## Nasa Tech Rise Challenge

- Designing an experiment to fly on a NASA sponsored Rocket Engine. (UpAerospace) SPC on [NASA Website](#) [2x](#) [3x](#)

- Won 3 years and featured on [WGN](#) [2x](#), [Fox News](#), [CBS Morning News](#), [WGN Radio](#), [Chicago Tribune](#) & [Sun Times](#) & Scholastic [Science Magazine](#), [Archdiocese Chicago](#)



- Create a 3D printed Pin for Veterans Day Competition
- Coding with Apple Swift
- Learning Basics of wiring, soldering and coding
- Arduinos
- NASA RPS Proposal



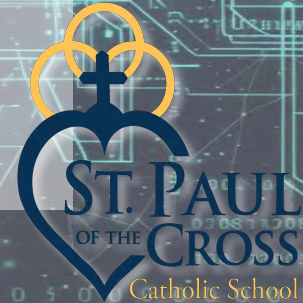


# 7th Grade

e-Cybermission STEM Competition sponsored by the US Army and NSTA.



- Find a problem in the community and engineer a solution to solve it. State winners get \$1000 for 1st place or \$500 for 2nd place.
- Won
  - 2022 8th Grade 1st, 2nd 3rd in State, 7th Grade 2nd in State
  - 2023 8th Grade 2nd in State, 8th Grade 2nd in State
  - 2024 8th Grade National Finalist, 7th Grade 2nd in State
  - 2025 8th Grade Regional Finalist, 8th Grade 2nd in State 7th grade-2nd and 3rd in State.
  - Total winnings \$33,000 for our students

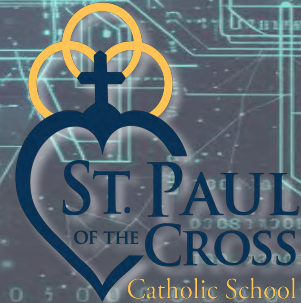




# Notre Dame STEM Fellowship



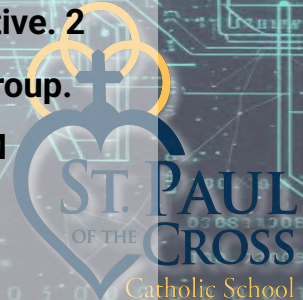
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# Notre Dame STEM Fellowship Program

- **1st Year:** Teachers spend 2 weeks at ND with Professors and Coaches, learning about Best Teaching Practices in Science, Technology Engineering and Math. Each month, teachers film themselves teaching implementing what they learned. Reflect and write about how they implemented their goals in class and meet with a mentor Teacher Coach and 3 other Fellow teachers from around the country. Meet in Dallas in January and continue with Zoom meetings and Coaching group.
- **2nd Year:** How to Assess STEM in the Classroom Formative and Summative. 2 weeks at ND in Classes, Rise Summit in AZ, year Zoom with Coaching Group.
- **3rd Year:** 1 week at ND with Professors. Work on Blueprint to have STEM implemented fully at your school. Learn how to Write Grants
- **Become a Senior STEM Fellow** perpetually, working with past Fellows.





# SPC Garden

