

Colerain STEM Club

2023 & 2024



Colerain All Girls STEM Club 2023-2024



Colerain Boys STEM Club - 2024



Who are our Sponsors/Donors?

- Greater Cincinnati STEM Collaborative
- University of Cincinnati
- Charles Dater Foundation
- Children's Hospital
- Duke Energy
- P&G



2023 STEM Club

2024 STEM Clubs

What do the sponsors provide?

- PD Training to Club Leaders
- Curriculum
- 3D Printer
- Materials
- Snacks
- Bussing for Field Trip to UC
- Lunch at UC
- Teacher Stipend



Learning Objectives

As an inventor/engineer, students will use the engineering design process to design a cleverly contrived contraption (C3 machine, or chain reaction machine). Then, they will have a chance to display their work at the 3D Showcase. They will have the opportunity to:

- **Learn about Rube Goldberg and his contributions to the world of engineering design;**
- **Learn about the engineering design process;**
- **Develop a growth mindset as they tackle a challenging task that involves using courage;**
- **Explore simple machines and how they can work together to make more complex machines;**
- **Use creative thinking skills to design a contraption that accomplishes a simple task;**
- **Design and produce parts for their contraption using the 3D printer & Polar Cloud;**
- **Create a display and presentation (including a hawkers pitch) for the 3D Showcase, where they will get to share their cleverly contrived contraption to others at the University of Cincinnati!**

Why is it Important?

SCIENTISTS - INVESTIGATE OUR NATURAL WORLD

TECHNOLOGISTS - APPLY MATH & SCIENCE TO DESIGNS

ENGINEERS - CREATE & DESIGN OUR WORLD

MATHEMATICIANS - USE NUMBERS & SYMBOLS TO
SOLVE PROBLEMS

Improve



Ask



Research



Imagine



Plan



Create



Test

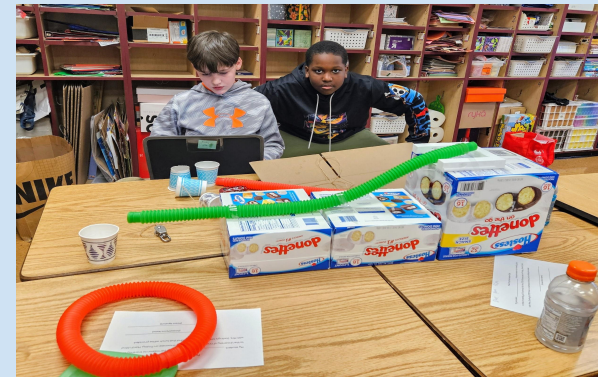
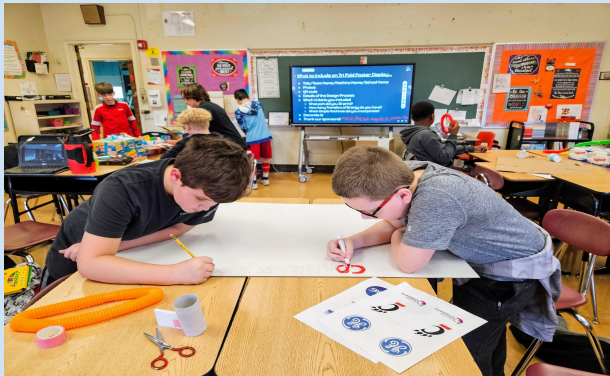
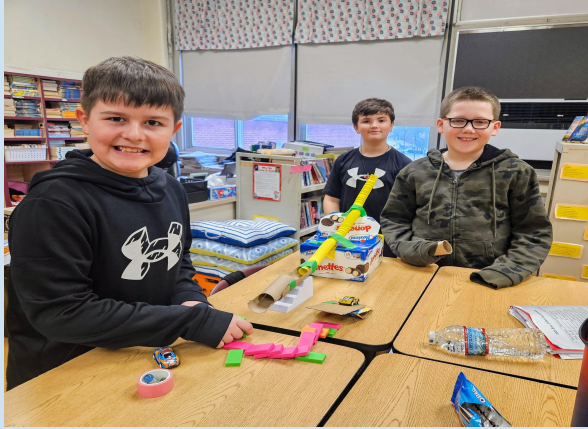


ENGINEERING DESIGN PROCESS

What does this look like in action?



What does this look like in action?



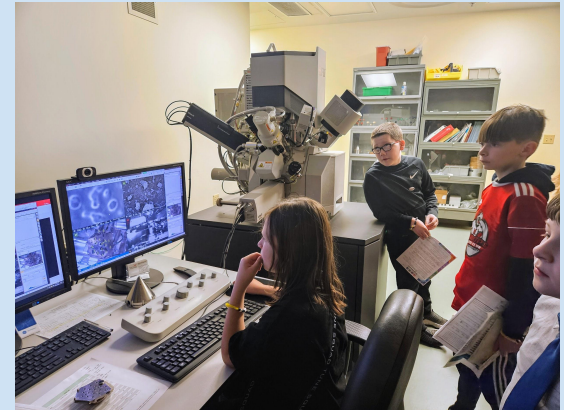
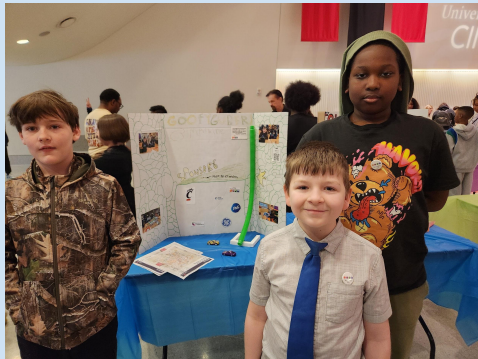


3d printers club

Schedule of the Day

	Struble Elementary and Colerain Elementary
9:00 am - 9:30 am	Great Hall Lobby (Purple Circle) Club arrival and check-in, set-up of student displays
9:30 am - 11:30 am	TUC Great Hall Student display exhibition Visiting of exhibitor booths
11:35 am - 11:55 pm	Cinema (TUC 3 rd Floor)
12:00 pm - 12:25 pm	Lunch in 400ABC (Green circle)
12:25 pm - 12:50 pm	Great Hall activity time (2D to 3D String Shapes, LEGO challenge)
12:50 pm - 1:00 pm	Clean up in Great Hall and dismissal to bus

What does this look like in action?



What does this look like in action?



What does this look like in action?

