

STEM on the GO



Foothills Community School

- NC Model STEM School of Distinction
- Marion, NC
- 210 Students
- 15 Staff Members

What is STEM on the GO?



STEM on the Go is a learning experience designed to bring Science, Technology, Engineering, and Mathematics directly to students, *by students*.

Student mentors facilitate STEM stations, guiding elementary students through interactive activities, helping younger students explore STEM concepts in a fun and meaningful way.

Mentorship

Leadership

Connectivity

STEM on the GO

Empower Students to Connect and Lead with Purpose



Build Mentorship

Empower middle school students as leaders, mentors, and station facilitators.



Connectivity

Improve student-school connections through collaboration and leadership.



Real-World Applications

Help younger learners explore how STEM connects to their everyday lives.

| The Middle School Mentorship Model

Empowering Tomorrow's Leaders

What makes **STEM on the GO** truly special is that middle school students lead the learning.

- Student leaders are selected from peer mentors and targeted, unconnected students.
- Peer mentors model leadership
- Students guide learning through hands-on activities
- Students become station facilitators and mentors
- Students model leadership and communication skills



Mentorship

Leadership

Connectivity

| The Middle School Mentorship Model



Mentorship



Leadership



Connectivity

| The Elementary School Experience



Station Rotation & Collaboration

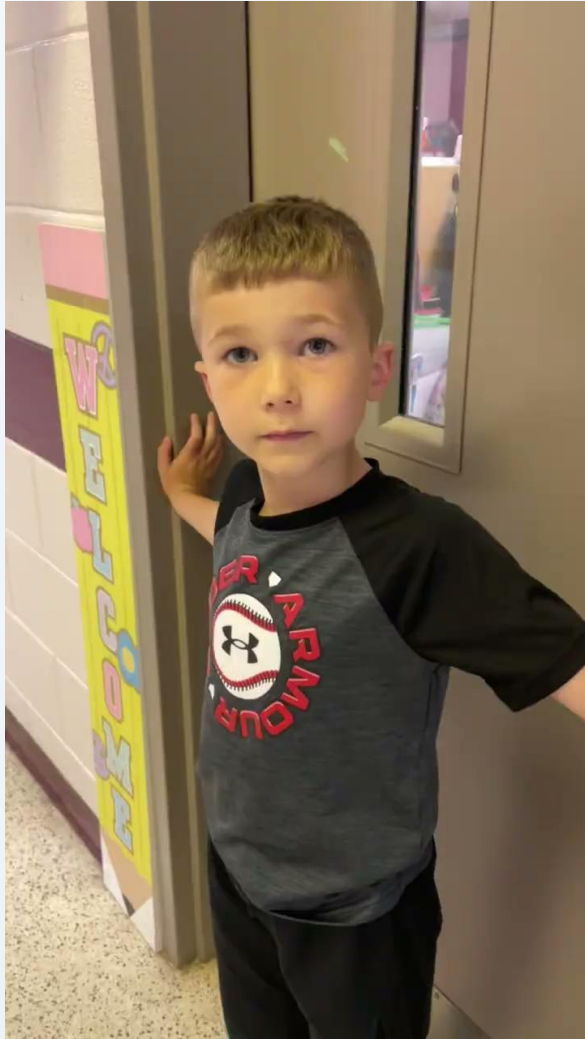
Elementary students rotate through a variety of student-led stations, working collaboratively to design and test solutions. This dynamic format keeps energy high and allows younger learners to explore multiple concepts in one session.

Mentorship

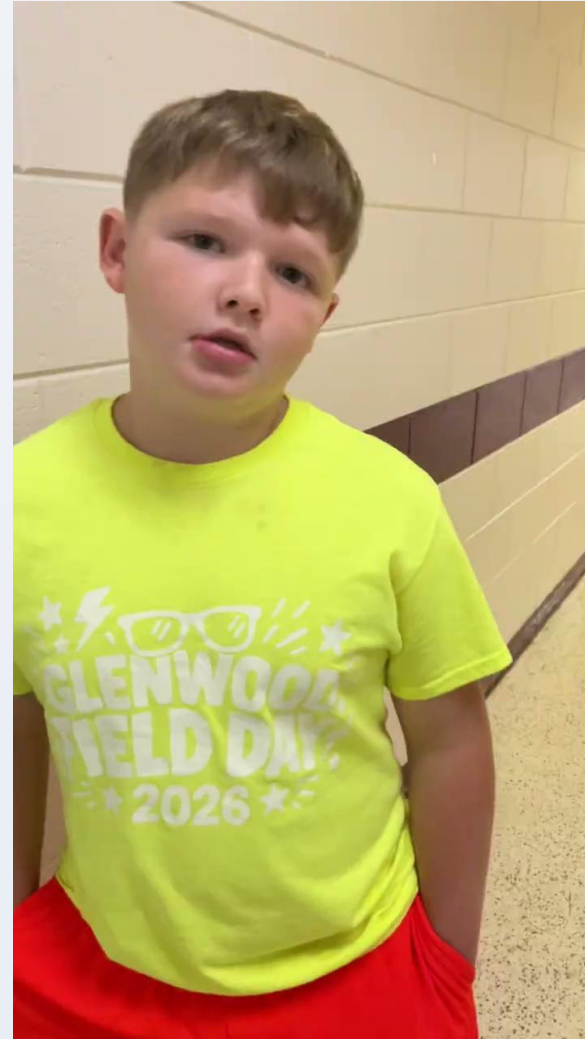
Leadership

Connectivity

| The Elementary School Experience



Mentorship



Leadership

Connectivity

| Collaboration



Elementary School Visits



Mentorship



STEM Nights



Leadership

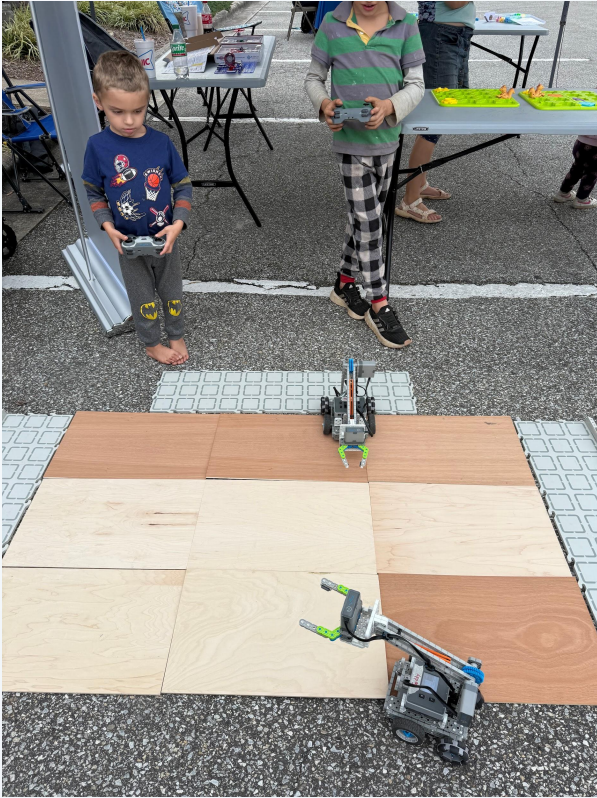


Community Outreach



Connectivity

| Collaboration



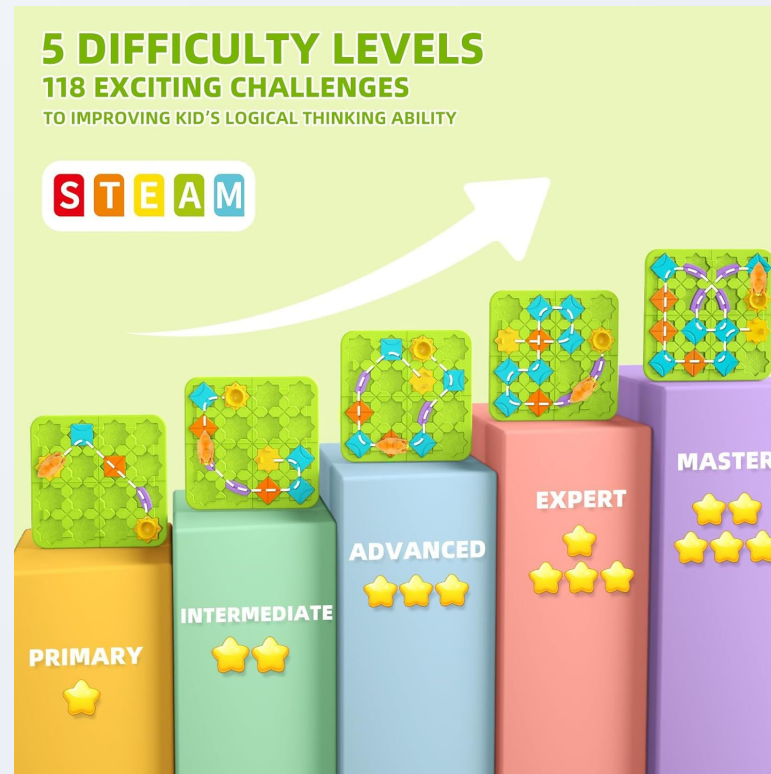
Mentorship

Leadership

Connectivity

Activity Examples – Squirrel Maze

- Activity for younger elementary students to begin learning the process of start, test, redesign, retest.
- Mentors can step in and help if kids get stuck.



SQUIRREL STEM LAB: BUILDING BRAINS!

EXPLORE **STEM** CONCEPTS with the Maze Puzzle!

SCIENCE (S)
SCIENTIFIC REASONING

OBSERVE:
See the starting and ending points.

HYPOTHEZIZE:
Plan a path in your mind.

TEST:
Try placing a piece!

TECHNOLOGY (T)
STRUCTURAL DESIGN

CREATE STABLE PATHS:
Use the right shapes.

PROBLEM-SOLVE:
Fix broken tracks.

BUILD & ITERATE:
Try new piece orders.

ENGINEERING (E)
"SPATIAL REASONING"

ROTATE PIECES:
Find the correct angle.

UNDERSTAND 3D SPACE:
Connect levels and turns.

MATHEMATICS (M)
"LOGIC & SEQUENCING"

SEQUENTIAL LOGIC:
This, then that...

PATTERN RECOGNITION:
Follow the path flow.

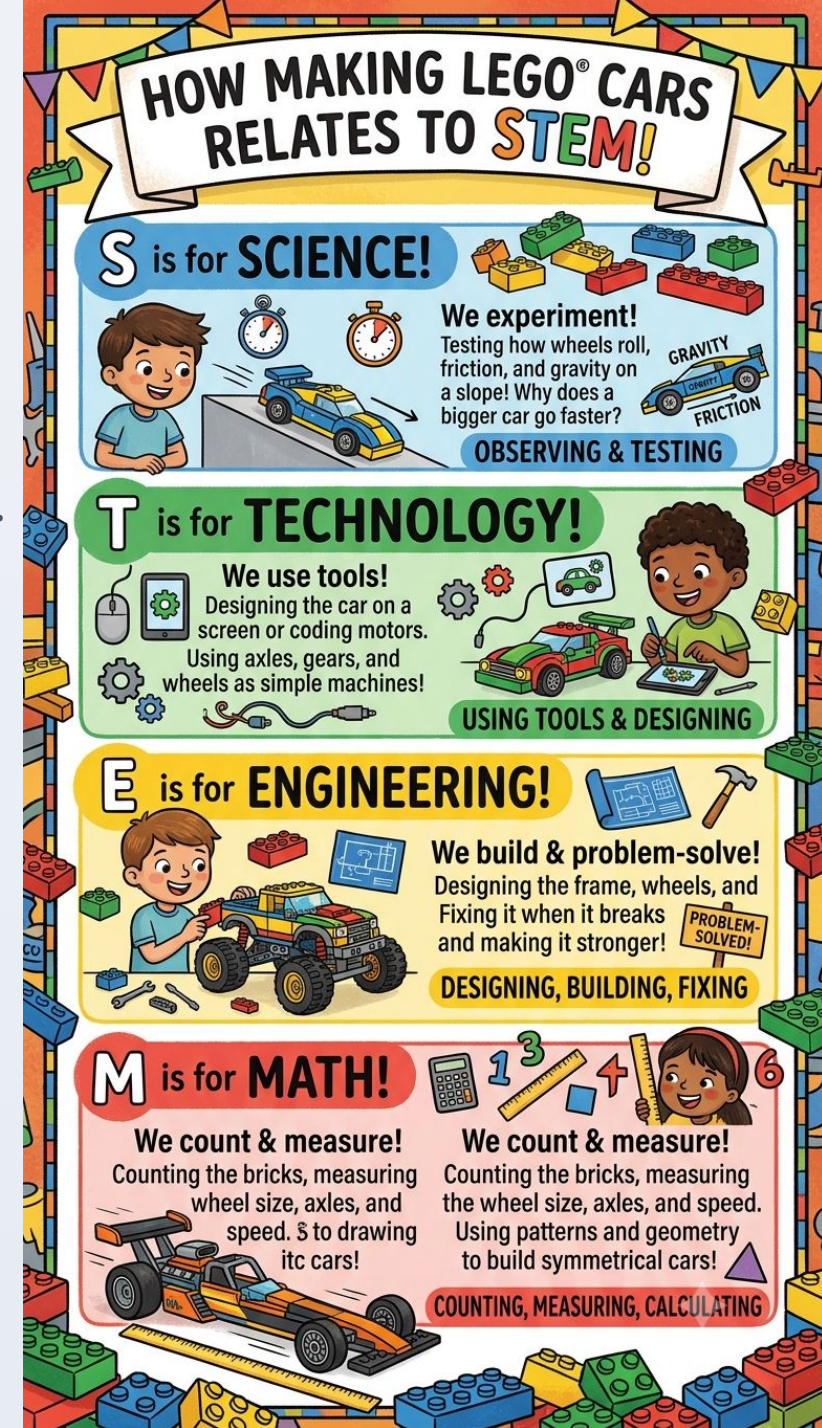
OPTIMIZATION:
Find the shortest path.

Activity Examples - Squirrel Maze



Activity Examples – Lego Cars

- Students can use Legos to customize a race car then race them against each other!
- Mentors are there to offer support and provide guidance.

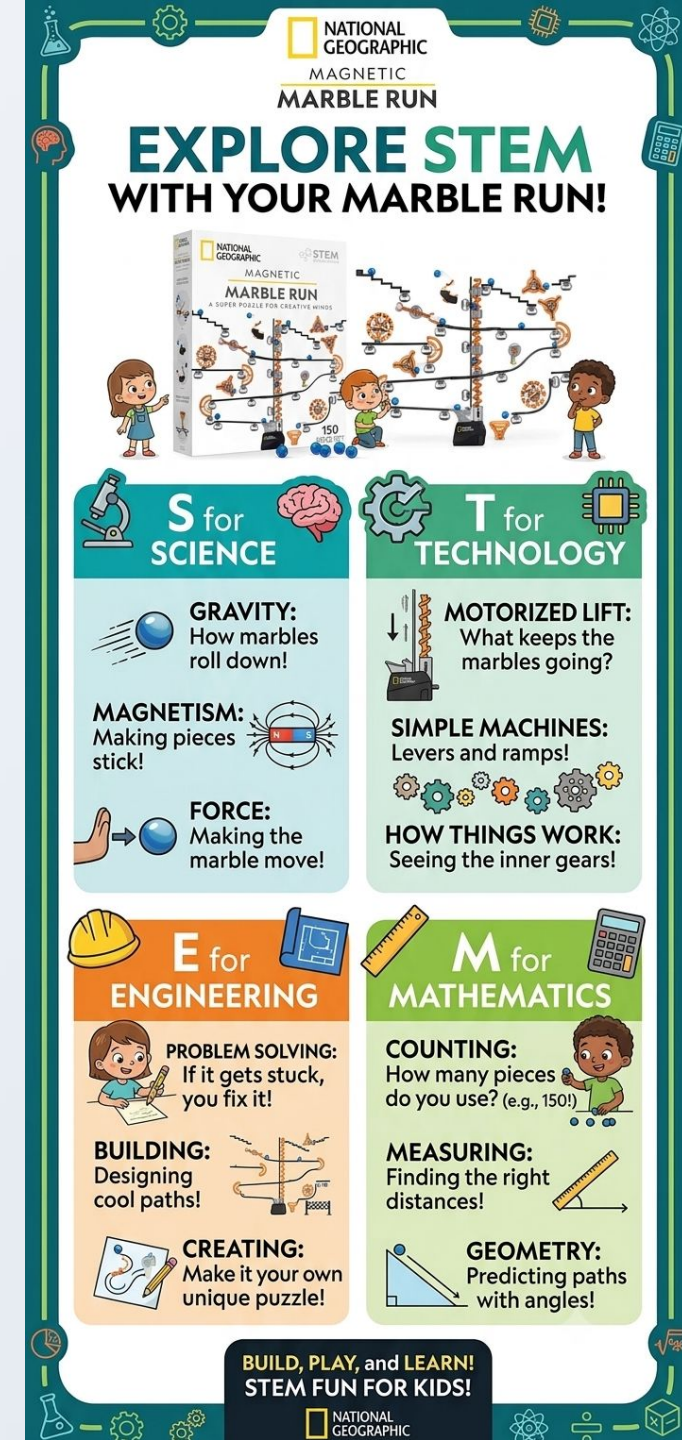
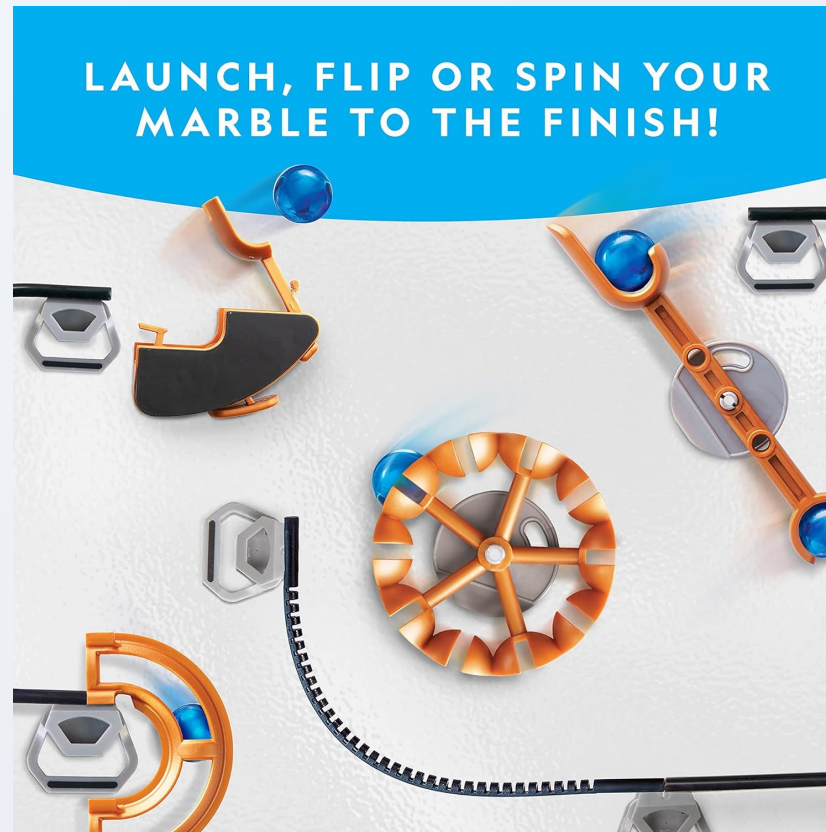
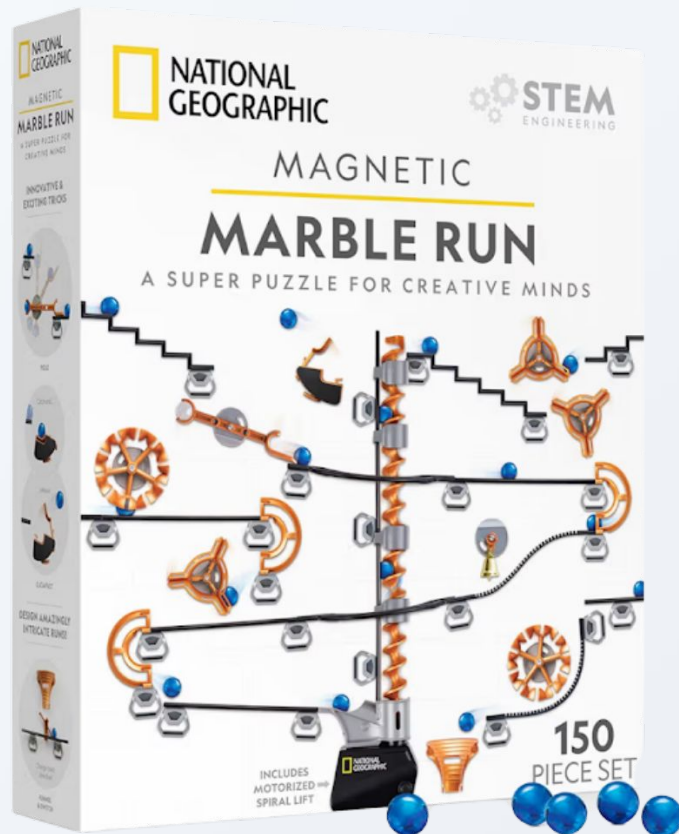


| Activity Examples - Lego Cars



Activity Examples – Marble Maze

- Students create pathways that use gravity and simple machines (levers, gears, etc) to move a marble from one point to another



Activity Examples - Marble Maze



Activity Examples – VEX Robots

- Mentors pre-build and program robots to move and complete tasks.
- Mentors guide others in giving robot challenges a try!



LET'S BUILD & CODE WITH VEX ROBOTS!

WHAT ARE VEX ROBOTS?
Small, colorful robots you can build!
Fun for kids to design and move!

Maya

Wheels → Motors
Wheels → Parts

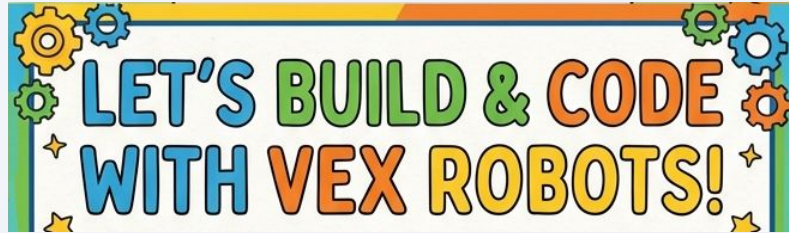
1. BUILD!
Assemble your robot using snaps, pins, gears, and (No soldering needed!)
Create anything you imagine!

2. CODE!
Give your robot instructions using easy coding blocks! (VexCode GO/IQ)
Tell it to go forward, turn, lift things, and more!

Ben

3. PLAY & LEARN!
Complete challenges!
Test your programs!
Learn math, engineering, teamwork, and problem-solving!
HAVE FUN!

| Activity Examples - VEX Robots



Activity Examples - Drones

- Students learn and practice flying the drones
- Mentors then guide others to give flying a try!



| Activity Examples - Drones



Let's Experience STEM on the GO!



| Implementation

Grant Funding

- Community Grants
- Industry Sponsorships
- School Partnerships

Student Access

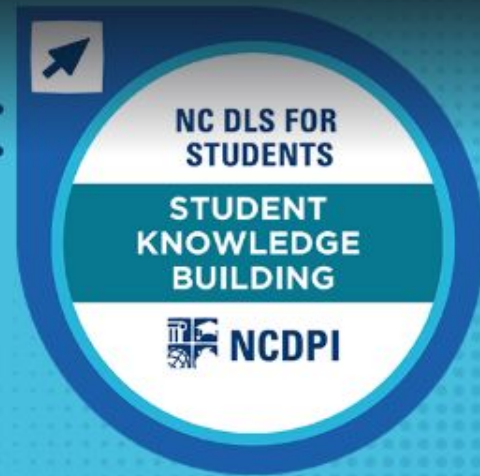
- School clubs
- Elective classes

Partnerships and Outreach

- Elementary Schools
- Community Support Groups



Digital Learning Standards for Students: Student Knowledge Building *Pathway*



Integrating Real-World Issues into Content

Earning this micro-credential demonstrates that the educator can design and facilitate a lesson where students investigate a real-world issue, connect it to core content, and create a product that proposes ideas or solutions.



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