



CAROLINA® +  Smithsonian

SCIENCE
for the classroom

Coaching That Delivers: Fidelity and Results Using Smithsonian Science for the Classroom and STCMS

Featuring New Haven Public Schools Spotlight Educators & Scholars



Holly Baldwin

Syracuse, NY

Instructional Support Specialist

HollyBaldwin85@gmail.com



Heather Toothaker

New Haven, CT

NHPS District Science Coach

HEATHER.TOOTHAKER@new-haven.k12.ct.us

Who Is in the Room?

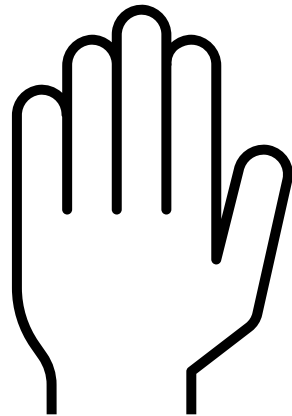
Elementary Teachers (K–5)

Middle School Teachers (6–8)

Instructional Coaches

District Administrators

School Representatives



Aside from time constraints, what challenges do you—or the teachers you work with—face when implementing three-dimensional learning in the classroom?

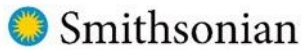
Coaching That Delivers

Experience SSftC (Grade 3)

Structured Coaching Supports

Classroom Evidence

Grade 3 Unit Sample



SCIENCE
for the classroom

HOW CAN WE
USE PATTERNS TO
PREDICT MOTION?



PHYSICAL SCIENCE

TEACHER GUIDE

Phenomena and Problems Storyline

In this module, students investigate the effects of contact and non-contact forces applied to objects and make predictions based on patterns in data and patterns of motion. In **Lessons 1 through 4**, students gather evidence about the effects of balanced and unbalanced pulls to support a prediction of the results of a tug-of-war game. In **Lessons 5 through 7**, students observe patterns of motion and investigate the motion of a model swing to predict the future motion of children on a swing set. In

Lessons 8 through 12, students define the constraints on a solution and criteria for success for a solution to a trash-sorting problem. They investigate magnetic and static electric forces as possible non-contact forces to use in the solution and compare proposed solutions to the problem. In the science challenge, **Lessons 13 through 15**, students investigate the effect magnets have on a steel swing to help evaluate proposed solutions against criteria and constraints of a new swing design.

Phenomenon: Children are pulling on a rope, and it isn't moving in the direction they are pulling it.

Students figure out: Students figure out that objects in contact can exert forces on each other and that force(s) can make a stationary object move. Balanced forces do not change the motion of an object. Unbalanced forces change an object's motion.

How they figure it out:

1

Lesson 1: Students observe a video of children pulling on a rope. They explain what is happening using evidence from prior experiences. Students ask questions about what they observed and use the concept of cause and effect to craft a scientific question.

2

Lesson 2: Students help define a diagram as a model to represent forces acting on objects. Student groups draft scientific questions about a cause-and-effect relationship identified from the rope pull video. They investigate the effect of balanced forces acting on a stationary object using fair tests and multiple trials. They use a force diagram to model the results of the investigation.

3

Lesson 3: Students investigate the effect of unbalanced forces acting on a stationary object. They use a force diagram to model the results of the investigation.

4

Lesson 4: Students analyze data from the investigations in Lessons 2 and 3. They use patterns in the investigation data as evidence to support a prediction of what could happen next in the video.

Phenomenon: Children on swings are moving in different ways, some of which involve repeating back-and-forth motion.

Students predict: Students predict future motion of children swinging on a swing set. They use evidence collected through observations, prior experiences, a reading, and an investigation.

How they figure it out:

5

Lesson 5: Students observe a video of children swinging on a swing set. Students record their observations and predict how each child will be moving after the video ends. They observe examples of repeating patterns of motion in video clips, in their own experiences, and in a reading about playground design.

6

Lesson 6: Students ask questions about the swing motion in the video. They identify variables that may affect the motion of a swing and form scientific questions about swing motion.

7

Lesson 7: Students investigate the motion of a swing model and use the data and other evidence they collected to predict the future motion of one of the children on the swing set.



Grade 3 Unit Sample



SCIENCE
for the classroom

HOW CAN WE
USE PATTERNS TO
PREDICT MOTION?



PHYSICAL SCIENCE

TEACHER GUIDE



8

Problem: Things that can be recycled are mixed in with the classroom trash.

Students define the problem: Students are introduced to a problem: classroom trash needs to be separated into recyclables. Students use a reading to learn more about what materials can be recycled. They investigate magnetic force and static electric force as non-contact forces that may help pick up objects from the trash can. They use information from the reading and investigations as evidence to define the problem, including specifying criteria for a solution and constraints on how engineers can approach a solution design.

How they define the problem:

Lesson 8: Students are introduced to the problem. They observe trash collected in a classroom can and record their initial ideas about goals of and limitations they may need to place on possible solutions to the trash-sorting problem.

9

Lesson 9: Students read about five recyclable materials. They use this information to refine their ideas about goals for a trash-sorting solution. As a possible way to pick up some trash items, they collect evidence about materials that can be picked up as a result of magnetic force.

10

Lesson 10: Students investigate the strength of magnetic forces using several different types of magnets. They investigate magnet-magnet interactions. To help them further define the criteria and constraints of the problem, they ask testable questions about non-contact forces.

11

Lesson 11: Students explore static electric force as another possible way to pick up pieces of trash for sorting. They use patterns in their data as evidence about what types of materials can be picked up by applying a static electric force.

12

Lesson 12: Students summarize their evidence related to non-contact forces and use their ideas to finalize a definition of criteria of success and constraints on solution designs. Students compare two solution proposals, determining if they will meet criteria and constraints.



Science Challenge

Problem: Children are bored with traditional swings.

Students solve the problem: Students define criteria for success and constraints on solving the problem. They use fair tests to investigate the effect of magnet placement on the repeating motion of a swing design. They explain if and how the new swing meets their suggested solution criteria and constraints.

How they solve the problem:

13

Lesson 13: Students review evidence they have that could be applied to understanding the problem and defining the criteria for and constraints on a solution. They record their ideas for criteria and constraints and how contact and magnetic forces could be used to start or stop a swing's motion.

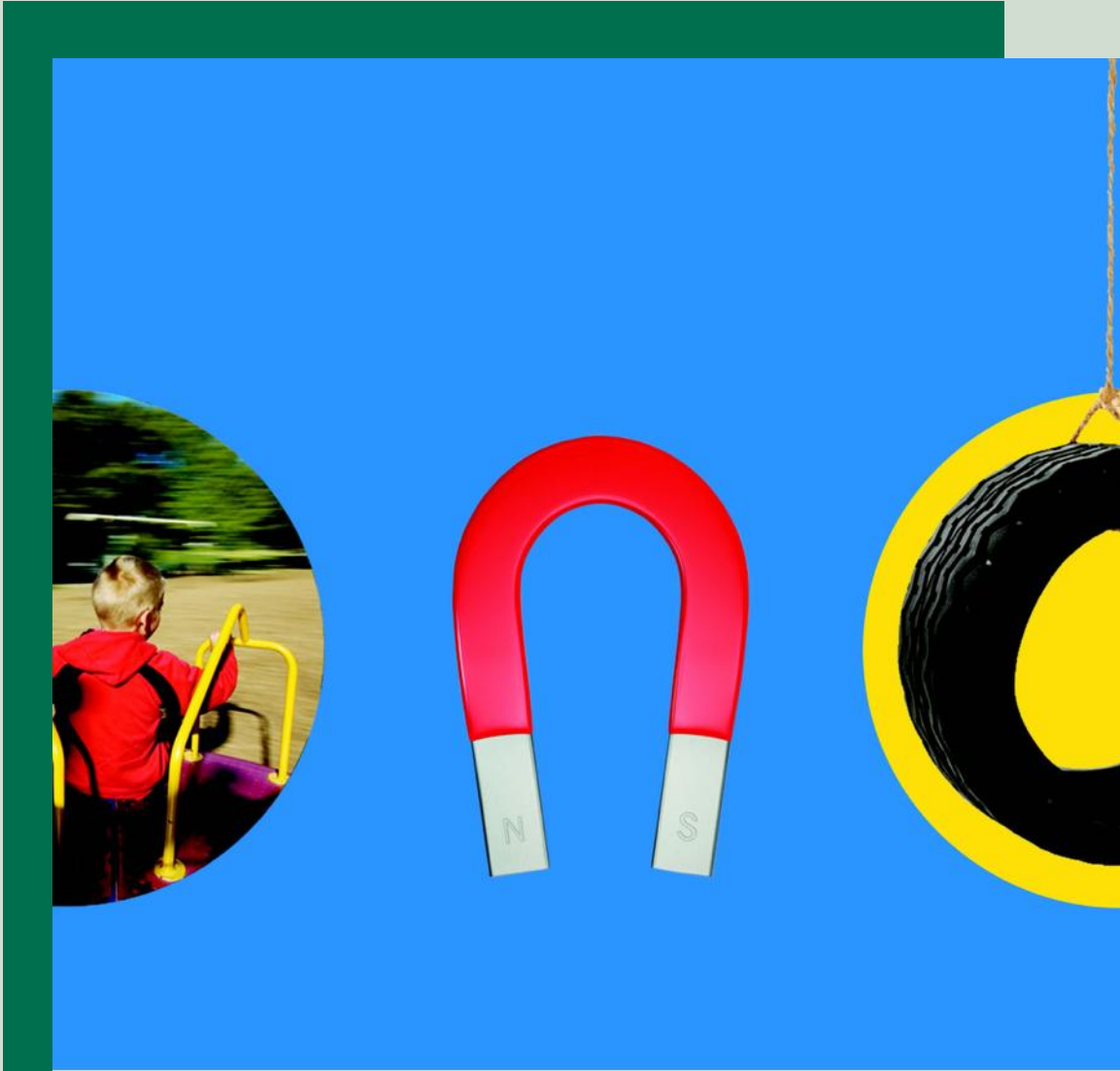
14

Lesson 14: Students ask a testable question that incorporates a predicted outcome of a variable change. They develop an investigation plan for their question.

15

Lesson 15: Students make observations as part of their investigation of how magnets affect the pattern of motion of a steel swing. They evaluate their proposed solution against their criteria and constraints. They predict the future motion of their swing design.

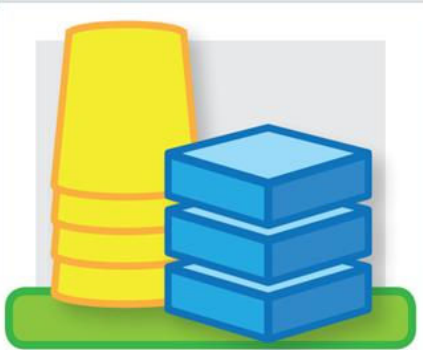




Lesson



Can Magnets Help?



Materials Manager

Collects, cleans up, and puts away materials neatly.



Organizer

Makes sure group members work together and complete work on time.



Questioner

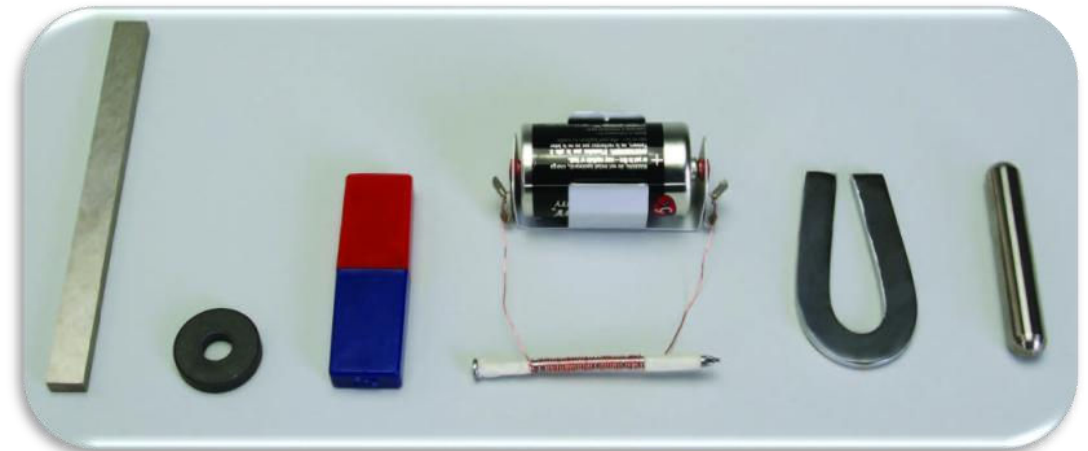
Asks questions of group members to make sure all points of view are considered.



Tester

Takes the lead in carrying out investigations and testing designs.

Groups of 4
Materials Manager
Organizer
Questioner
Tester

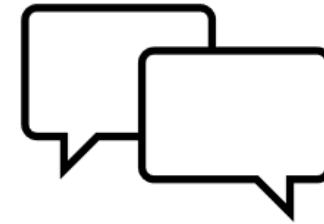


Magnetic Force Strength Test

Touch



Release



What does this test tell you about magnetic force?

How can you tell if the magnetic force is stronger or weaker for different magnets?

Lesson 10: Can Magnets Help?

Materials

For each student

- STEM notebook

For each group of four students

- 1 Lesson 10 Activity Sheet A
- 1 Lesson 10 Activity Sheet B



For the Small Bar Magnet station

- 2 Small bar magnets
- 1 Magnetic force strength tester
- 1 Metric ruler

13



For the Large Bar Magnet station

- 2 Large bar magnets
- 1 Magnetic force strength tester
- 1 Metric ruler

For the Horseshoe Magnet station

- 2 Horseshoe magnets
- 1 Magnetic force strength tester
- Metric ruler

For the Ring Magnet station

- 2 Ring magnets
- 1 Magnetic force strength tester
- 1 Metric ruler

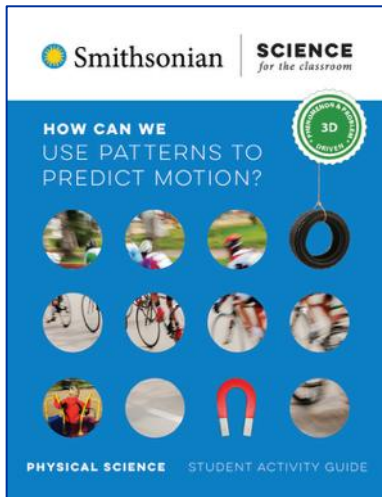
For the Cow Magnet station

- 2 Cow magnets
- 1 Magnetic force strength tester
- 1 Metric ruler

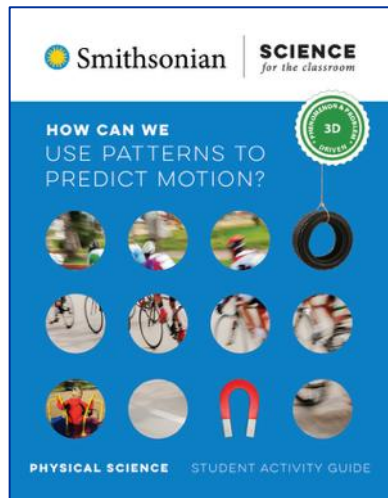
For the Electromagnet station

- 1 Electromagnet
- 1 Magnetic force strength tester
- 1 Metric ruler

14




Student Activity Guide: Complete Steps 1–4



Stay Safe!


The electromagnet nail and wire may get hot. Disconnect the wire from the battery when you are not testing this magnet.

Procedure

-  1. Is the paper clip attracted by a magnetic force? Record your results on Activity Sheet A.


Group Work

Everyone should try a different test at a new station.

-  2. Do the TOUCH part of the magnetic force strength test. Record your results on your activity sheet.

- Touch one magnet to the free end of the paper clip.
- Lift the magnet until the string is stretched up.
- Hold a ruler behind the string with the 0 cm end on the desk.
- How far is the magnet from the desk?



-  3. Do the RELEASE part of the magnetic force strength test. Record your results in the notebook table.

- Slowly pull the magnet higher.

15




- How far away from the desk is the magnet when the paper clip is no longer attracted to the magnet?

Group Work

You may need to test the magnet height a few times to get a good measurement.



Stay Safe!

Magnets can snap together quickly and pinch you. Keep your fingers away from magnet edges.

-  4. Move to a new station when your teacher tells you to. Leave the Student Activity Guide for the next group.

Stop & Think

Does each part of the magnet have the same magnetic force?

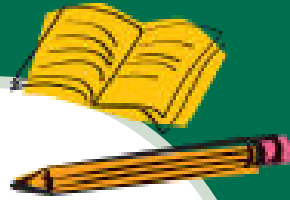
-  5. Compare the magnets you tested. Answer Question 1 on Activity Sheet B.
-  6. Test how two magnets act near each other.


- Place one magnet on the desk.
- Slide a second magnet along the desk, bringing it closer to the one at rest.
- What happens to the magnet at rest?
- Can you change what you do with the second magnet to make the magnet at rest act differently?
- Discuss what happens.
- Answer Question 2 on Activity Sheet B.

16



Student Activity Guide: Complete Steps 5–7




 7. Discuss magnetic force.


- What evidence do you have that the force of a magnet can act without touching an object?
- How could you learn more about magnetic force?
- Answer Question 3 on Activity Sheet B.



Smithsonian **SCIENCE**
for the classroom

HOW CAN WE
USE PATTERNS TO
PREDICT MOTION?





PHYSICAL SCIENCE STUDENT ACTIVITY GUIDE

Lesson 10 Activity Sheet A

Magnets at a Distance

Type of Magnet	Does it attract a paper clip?	Magnetic Force Strength Test (cm)	
		Touch _____	Release _____
Cow magnet	Y N	Touch _____	Release _____
Electromagnet	Y N	Touch _____	Release _____
Horseshoe magnet	Y N	Touch _____	Release _____
Large bar magnet	Y N	Touch _____	Release _____
Ring magnet	Y N	Touch _____	Release _____
Small bar magnet	Y N	Touch _____	Release _____

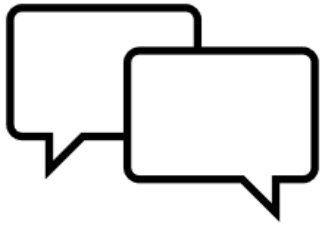
286 How Can We Use Patterns to Predict Motion? © Smithsonian Institution

Lesson 10 Activity Sheet B

Magnets at a Distance

- How are the magnets you tested alike? How are they different?
Alike _____ Different _____
- You moved a magnet close to a stationary magnet. What happened? Include force diagrams in your answer.
- You need to define solution goals for the trash problem. Investigating forces might help. Ask a testable question about an effect of a force that acts on a piece of trash without touching the trash.

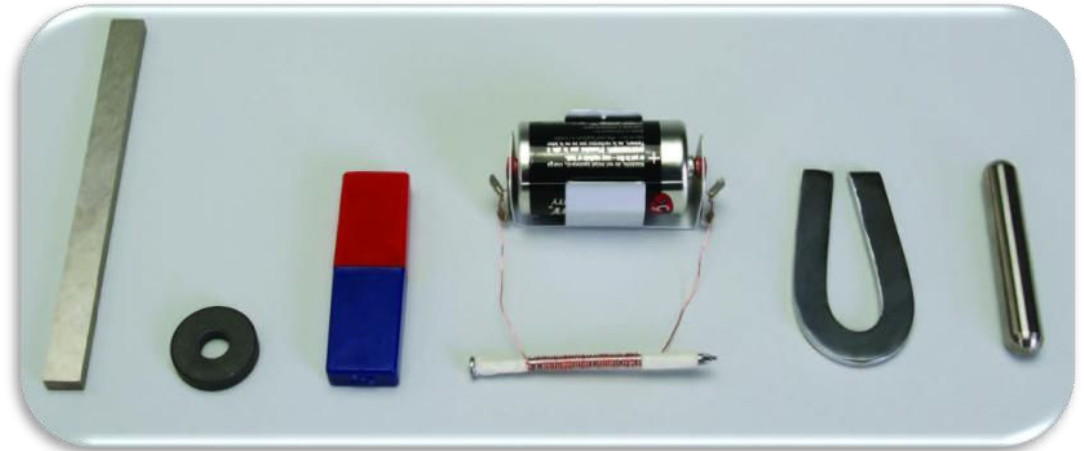
© Smithsonian Institution Blackline Masters 287



Do two magnets always act the same way when they are close to each other?

How does the electromagnet compare to the other magnets?

What do you mean by “turn it on and off”?



Most of the magnets you have been studying, such as bar magnets, horseshoe magnets, and ring magnets, are called **permanent magnets**.

They always have magnetic properties.

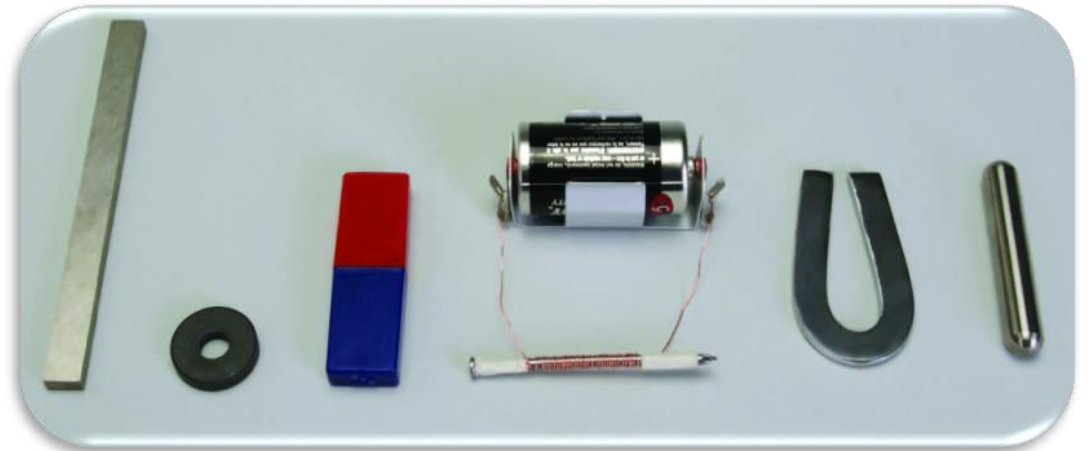
Engineers Explain: Magnetic Force

The **magnetic force** is strongest at parts of a magnet called **magnetic poles**.

Magnets have two poles, often called a north pole and a south pole.

Sometimes these are labeled N and S, or marked by different colors, usually red for north and blue for south.

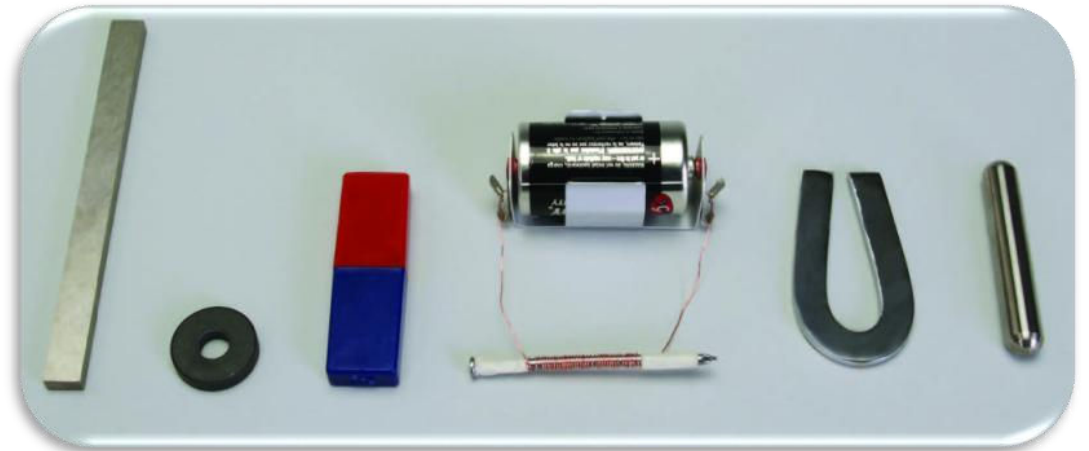
When different, or opposite, poles point toward each other, they pull or attract. When like poles point toward each other, they push or repel.

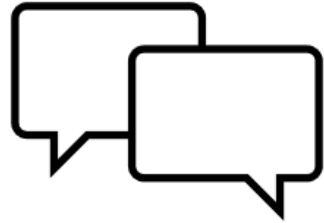
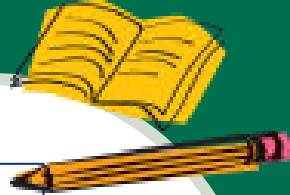


Electromagnets are made from materials that do not have magnetic properties.

The parts can be put together, like the wire wrapped around the nail. When the wire is attached to the battery, it magnetizes the nail.

Sometimes, when the connection to the battery is broken, the nail remains magnetized for a short period of time.





Did anyone write a testable question about electromagnets?

Did anyone ask a testable question about a force that can act at a distance that isn't a magnetic force?

Lesson 10 Activity Sheet B

Magnets at a Distance

1. How are the magnets you tested alike? How are they different?

Alike _____ Different _____

2. You moved a magnet close to a stationary magnet. What happened? Include force diagrams in your answer.

3. You need to define solution goals for the trash problem. Investigating forces might help. Ask a testable question about an effect of a force that acts on a piece of trash without touching the trash.

© Smithsonian Institution Blackline Masters 287

Experiencing Three-Dimensional Learning

- What Science and Engineering Practices were you using during this task?
- What kinds of student thinking would this activity reveal in a classroom?
- How does the structure of this lesson support three-dimensional learning?



ELIZABETH MCCANN

Benjamin Jepsen Magnet School
New Haven Public Schools
Grades 3/4



CLASSROOM DEMOGRAPHICS

55 min. daily instruction

Class size: 19 per section

IEP: 16%

504: 0%

MLL: 34%



SPOTLIGHT GOAL

Improve the facilitation of independent and small group work.

STUDENT GROWTH

Students have grown in their notebooking skills, collaborative discourse, and understanding their roles while conducting investigations.

SPOTLIGHT STRENGTHS

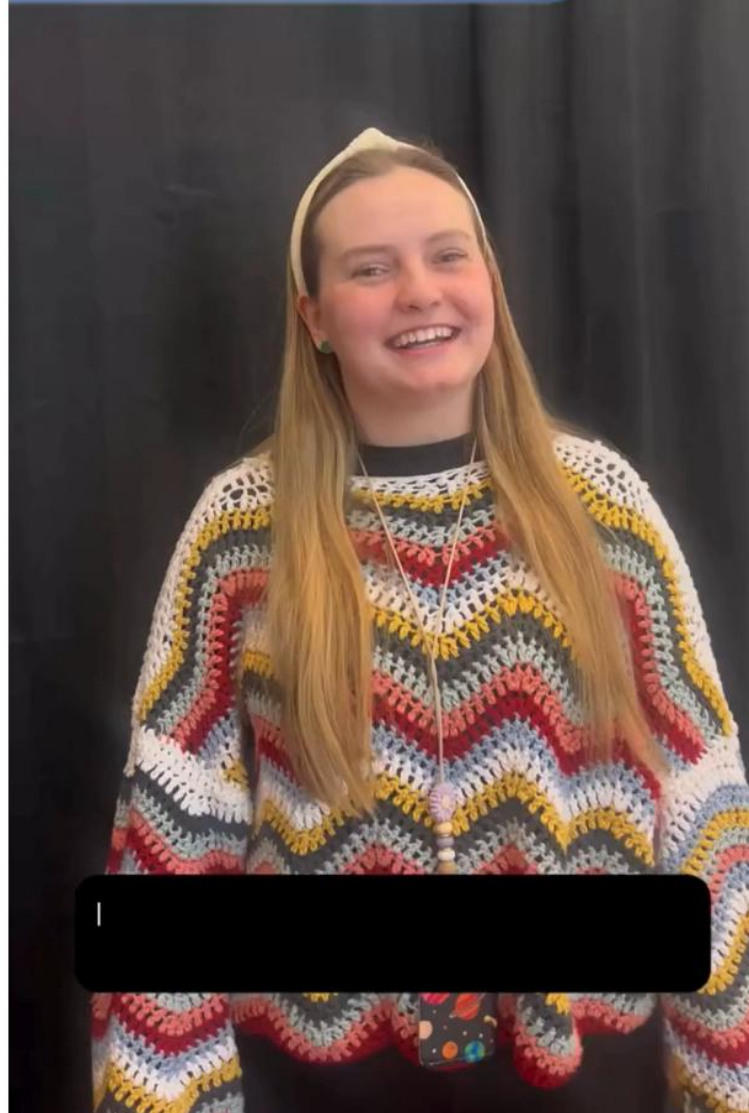
- Implementing with fidelity
- Community connections
- Extending learning across all subject areas



"The **Smithsonian Science for the Classroom** curriculum has taught my students collaboration, organization, and how to learn through their own observations."



Teacher Support
Elizabeth McCann, Grades 3/4



Group Roles: Planning and Carrying Out Investigations



Scientists and Engineers in Our Classroom: Group Roles



Builder

Takes the lead in putting together materials.



Gardener/Zookeeper

Makes sure live organisms are cared for and treated with respect.



Artist

Draws any sketches, diagrams, or graphs.



Materials Manager

Collects, cleans up, and puts away materials neatly.



Messenger

Asks questions of the teacher for the group.



Organizer

Makes sure group members work together and complete work on time.



Recorder

Writes down data, observations, and explanations.



Speaker

Shares the group's final work or ideas with the whole class.



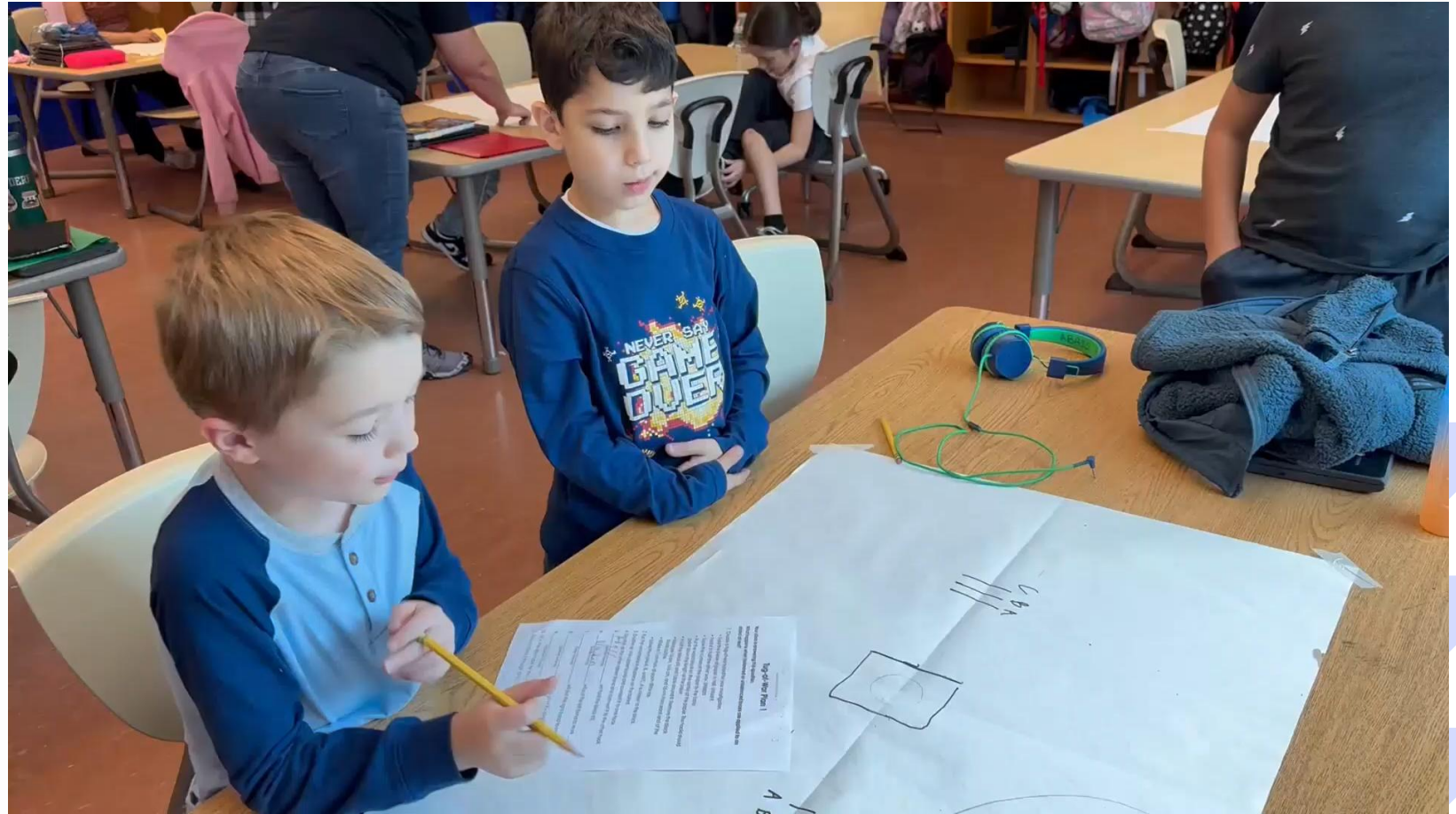
Tester

Takes the lead in carrying out investigations and testing designs.



Questioner

Asks questions of group members to make sure all points of view are considered.



Coaching That Delivers

Experience SSftC (Grade 3)

Structured Coaching Supports

Classroom Evidence

Professional Learning Programs

Professional Learning Program: Empowering Educators, Elevating Science

Carolina® Science



CAROLINA
UNLEASH LEARNING™

Carolina is a registered trademark.

Carolina® Science

Our hands-on, personalized approach empowers teachers with the confidence and tools to implement science education frameworks, ensuring improved student engagement and outcomes.

Why Partner with Us for Professional Learning?

When schools invest in our Professional Learning (PL) program, they gain more than just training sessions, they unlock a pathway to excellence in science education. Here's what we bring to the table:

- **Expert Strategies for Success**—Our sessions are built on research-backed strategies that empower teachers to confidently implement new science pedagogy and enhance classroom learning.
- **Best Practices for Professional Learning**—From interactive hands-on experiences to reflective planning, we deliver training that sticks, ensuring long-term teacher growth and student achievement.
- **Proven Implementation Support**—From getting started to mid-implementation troubleshooting and end-of-unit reflection, we guide teachers through every step of the journey to ensure a smooth, successful curriculum adoption.
- **Highly Qualified Coaches**—Our team of expert facilitators are former classroom teachers with extensive experience in science education. They bring firsthand knowledge, practical solutions, and a deep understanding of the unique challenges educators face.
- **Tailored, Flexible Solutions**—Whether in person or virtual, single-day workshops or year-long coaching, our offerings are designed to meet the unique needs of your district, school, and teachers.
- **Sustainable Growth**—We provide the tools and support needed to build internal capacity and foster ongoing professional development.

When you choose our program, you're not just investing in training, you're investing in a partnership that delivers results. You can empower your teachers, elevate your science curriculum, and watch your students thrive.



Professional Learning Programs

Curriculum Coaching Package

Comprehensive Implementation Support: The Premier Standard for Teacher Excellence

This implementation support is provided in 3 phases to offer ongoing guidance and assistance as teachers deploy new science pedagogy.

- 1. Getting Started**—Hands-on foundational training to kickstart new curriculum practices. Options include training for one day, 2 consecutive days, or 3 consecutive days.
- 2. Mid-Implementation Support**—Troubleshoot challenges and celebrate early successes to refine strategies at 3 to 4 weeks into the school year.
- 3. Reflection and Planning for Continuous Improvement**—Guide teachers in reflecting on successes and challenges at the end of the first unit, focusing on implementation strategies for the next unit.

Bonus!

Schools purchasing this package receive 1 hour of **complimentary virtual curriculum support** after each professional learning event, to ensure ongoing success.

A La Carte Options

Professional Learning Portfolio—All sessions are available in-person or live-virtual.

- **Launch Institutes**
 - ▶ **1-Day Intensive**—Establish essential, hands-on practices for inquiry-based curricula and ensure immediate classroom readiness. Participants leave with a clear launch plan and vetted instructional routines.
 - ▶ **2-Day Implementation Institute**—Extend core strategies into day-to-day practice and troubleshoot early obstacles. Educators refine facilitation moves, calibrate assessments, and draft a 30-day action plan.
 - ▶ **3-Day Transformational Institute**—Embed reflective cycles, elevate rigor, and chart sustainable growth. Teams synthesize evidence of student learning, iterate on pedagogy, and map next-stage milestones.

Implementation Support

- **Classroom Observations & Debriefs**—Targeted, on-site or virtual walk-throughs followed by data-rich coaching conversations that fine-tune instruction and resolve real-time challenges.

Continued on the next page.



Curriculum Coaching Package (continued)

Ongoing Enrichment

- **Unit Deep Dives**—Just-in-time guidance for each unit, aligning phenomena, practices, and assessments to maximize coherence.
- **Critical Strategies Workshops**—Modular, high-impact sessions that sharpen the instructional moves that matter most:
 - ▶ **Evidence-Centered Assessment Design**—Develop formative and summative tasks that clearly and precisely surface the 3 dimensions of science learning.
 - ▶ **High-Leverage Academic Discourse**—Facilitate rich argumentation and sense-making conversations that elevate every student's voice.
 - ▶ **Student Notebooking for Sense-Making**—Transform notebooks into living science journals that capture reasoning, data, and reflection.
 - ▶ **Universal Design for Learning (UDL): Supporting Students with Disabilities**—Practical routines to remove barriers, diversify access points, and foster full participation in inquiry science.
 - ▶ **Equitable Science Instruction for Multilingual Learners (MLLs)**—NGSS-aligned strategies for language development—scaffolding, multimodal communication, and culturally responsive practices.

Mix and match these workshops, or work with us to design your own, to create a professional learning pathway tailored to your team's greatest needs.



Reflect & Advance

- **Strategic Reflection Sessions**—Analyze early wins, distill best practices, and engineer forward-looking plans that amplify impact across subsequent units.

Sustained Virtual Support

- **Weekly Virtual Office Hours, Option A**—Direct access to science experts for tailored, curriculum-specific and grade-level support.
- **Weekly Virtual Office Hours, Option B**—Three hours of weekly support dedicated **exclusively** to your school's teachers, helping address specific classroom needs.
- **One-on-One Coaching**—Tailored coaching sessions for teachers needing individual support and guidance.



Next Steps

For more information, use the QR code to contact your Sales Manager and Curriculum Support Representative.

CAROLINA
UNLEASH LEARNING™

2700 York Road, Burlington, NC 27215
800.334.5551 | carolina.com

Carolina is a registered trademark. CB790562507

Professional Learning in New Haven



Year 1

District Coherence
& Equity



Year 2

Vertical Alignment
Strategies



Year 3

Peer & Community
Engagement



Year 4

Spotlight Educators



Year 1 District Coherence & Equity

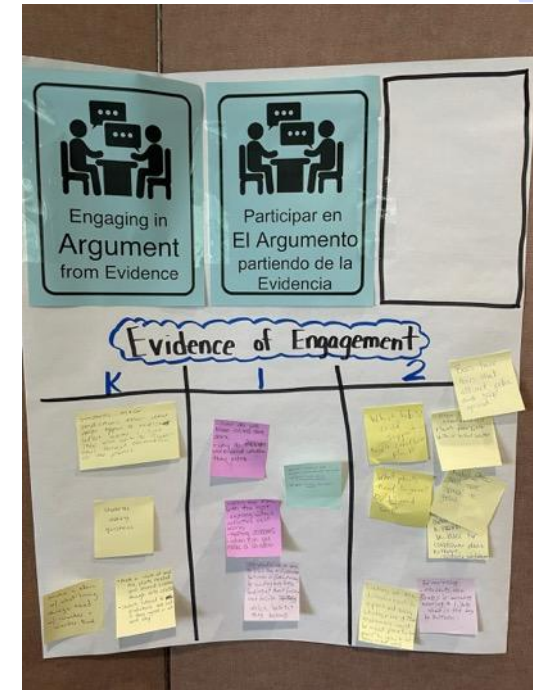
- Grade Level Professional Learning
- Instructional Coaching and Modeling
- Classroom Walk Throughs with Admin
- Strategy Spotlights



Professional Learning



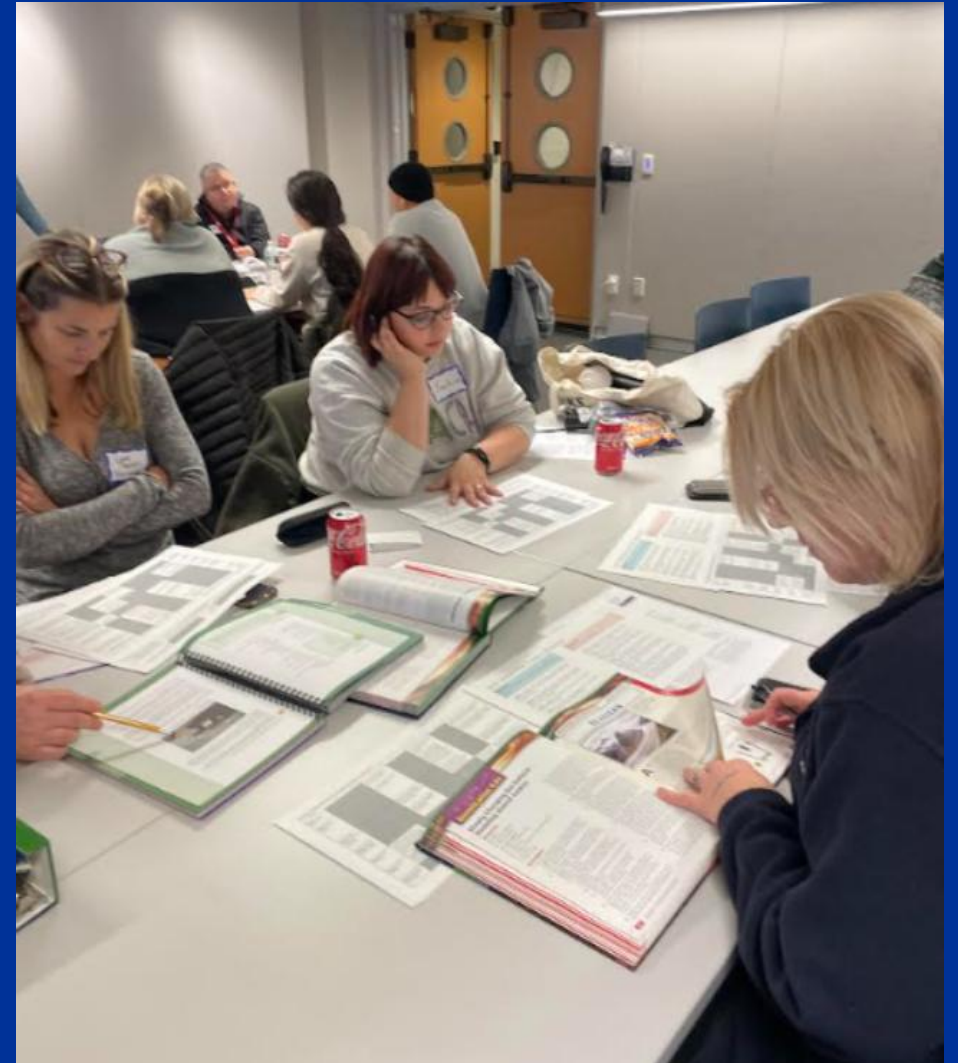
- **Grade levels met individually before implementing to learn their new curriculum units.**
- **Paid afterschool learning opportunities were offered in addition to school-wide professional learning days.**



Year 2 Vertical Alignment Strategies

K–8 teachers are working together to:

- Understanding Grade Level Expectations
- Understanding Grade Level Experiences
- Scaffolding to Meet Students' Needs



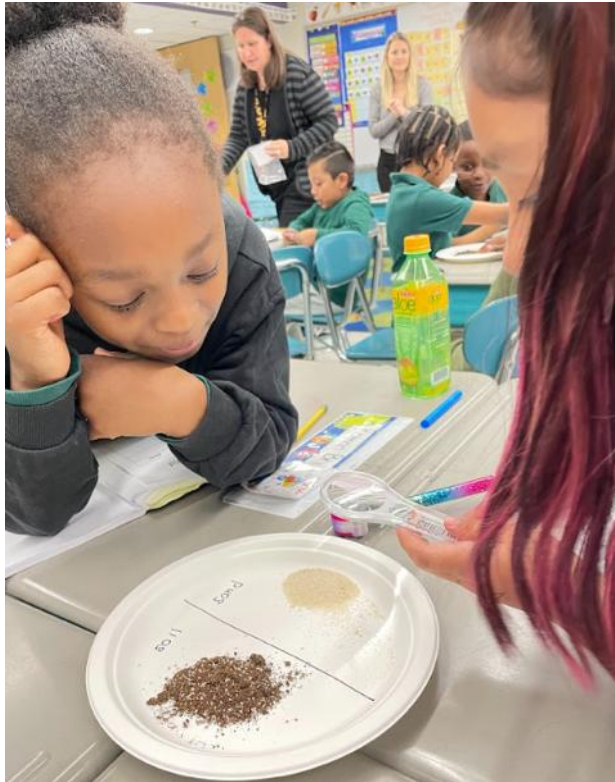
Understanding Grade Level Expectations

5-TC-MS Weather and Climate Systems

Learning Progressions for the concepts covered in this module:

Core Idea	K	1	2	3	4	5	6-8
ESS2.C The roles of water in Earth's surface processes			Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form.			Nearly all of Earth's available water is in the ocean. Most freshwater is in glaciers or underground; only a tiny fraction is in streams, lakes, wetlands, and the atmosphere.	Water continually cycles among land, ocean, and atmosphere via transpiration, evaporation, condensation and crystallization, and precipitation, as well as downhill flows on land. Global movements of water and its changes in form are propelled by sunlight and gravity. The complex patterns of the changes and the movement of water in the atmosphere, determined by winds, landforms, and ocean temperatures and currents, are major determinants of local weather patterns.
ESS2.D Weather and climate	Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time.			Climate describes patterns of typical weather conditions over different scales and variations. Historical weather patterns can be analyzed.			Weather and climate are influenced by interactions involving sunlight, the ocean, the atmosphere, ice, landforms, and living things. These interactions vary with latitude, altitude, and local and regional geography, all of which can affect oceanic and atmospheric flow patterns. The ocean exerts a major influence on weather and climate by absorbing energy from the sun, releasing it over time, and globally redistributing it through ocean currents.
ESS3.B Natural hazards	Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events.			A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts.	A variety of hazards result from natural processes (e.g., earthquakes, tsunamis, volcanic eruptions). Humans cannot eliminate the hazards but can take steps to reduce their impacts.		Mapping the history of natural hazards in a region, combined with an understanding of related geologic forces can help forecast the locations and likelihoods of future events.
ESS3.C Human impacts on Earth systems	Things people do can affect the environment, but they can make choices to reduce their impacts.					Societal activities have had major effects on the land, ocean, atmosphere, and even outer space. Societal activities can also help protect Earth's resources and environments.	Human activities have altered the biosphere, sometimes damaging it, although changes to environments can have different impacts for different living things. Activities and technologies can be engineered to reduce people's impacts on Earth.

Understanding Grade Level Experiences



2nd Grade

How can we stop land from washing away?

4th Grade

How can we use evidence to tell the story of a changing Earth?



8th Grade

What are some structures damaged when the Earth shakes?

Year 3

Peer & Community Engagement

- **Peer Collaboration: Grade Level Buddies**
- **A Night at the Museum: Curriculum Connections at the Yale Peabody Museum**



Peer Collaboration

“Ms. Korwek’s 4th grade science students just completed their unit, ‘What is Our Evidence That We Live on Changing Earth?’ As an extension activity to their unit, they worked with my 8th grade students to investigate what factors affect ash fall dispersal during an eruption.”

Fair Haven School

Kelly Baker - 8th Grade

Paige Korwek - 4th Grade



Making Connections: Smithsonian & Peabody



Impact on Students

“They attended a workshop in November at the Peabody where they learned about the parts of museum exhibits and how to make one.

When the class transitioned to critiquing their peers’ museum exhibit projects, Tolkin reminded students that the goal was to identify if they provided evidence showing how Earth has changed—a concept they’ve been studying through their course’s Smithsonian science curriculum.

Each student was required to define what evidence is and create an interactive activity to help museum visitors better understand the evidence presented in their exhibit.”



SCHOOLS 4th Graders Become Geologists, Curators On Peabody Field Trip

BY MAYA MCFADDEN
February 3, 2026 4:17 pm



Edgewood fourth graders check out ancient mammals at the Peabody.

Edgewood School fourth graders turned into geologists and museum curators for the day during a field trip to the Peabody, as they examined skeletons and critiqued exhibits they themselves had created to show how the planet has changed over time.

That was the scene last Wednesday as Edgewood science teacher Jaclyn Tolkin’s fourth grade class visited Yale’s Peabody Museum on Whitney Avenue. The trip provided not just a hands-on lesson in centuries of natural history, but also a gallery walk of the students’ own exhibits that they made in class to tell the stories of the Earth’s changes.

Tolkin arranged last week’s trip to the Peabody for a second time this year as her students have been learning about what goes into making a museum exhibit. The class of 37 fourth graders worked off of what they previously learned about museum curation to see their own projects on display and learn from their classmates’ work. Several parent chaperones also attended the trip.

Year 4 Spotlight Educators



Spotlight Outcomes

- **Goal-Focused Implementation:** Teachers worked toward their professional implementation goals while responding to the needs of their students.
- **Teacher Leadership:** Educators shared their instructional practices and experiences with colleagues across the district.
- **Classroom Artifacts:** Student work and classroom evidence were collected to highlight three-dimensional learning in action.
- **Collaborative Learning:** Teachers engaged in shared reflection and discussion to strengthen instructional practice.
- **Increased District Support:** Spotlight classrooms helped expand district capacity for high-quality NGSS instruction.

Coaching That Delivers

Experience SSftC (Grade 3)

Structured Coaching Supports

Classroom Evidence

MELANIE SEEGER

Worthington Hooker School
New Haven Public Schools
Grades 5/6



CLASSROOM DEMOGRAPHICS

50 min. daily instruction

Class size: 22 per section

IEP: 20%

504: 5%

MLL: 9%



SPOTLIGHT GOAL

The students will have a deeper understanding of the science when doing investigations, specifically understanding analogous relationships, how tools in the investigation are mimicking a real-world phenomenon.

STUDENT GROWTH

Students have grown in their confidence and willingness to take risks and share their thinking.

SPOTLIGHT STRENGTHS

- Notebooking
- Building routines
- 3 Dimensional teaching

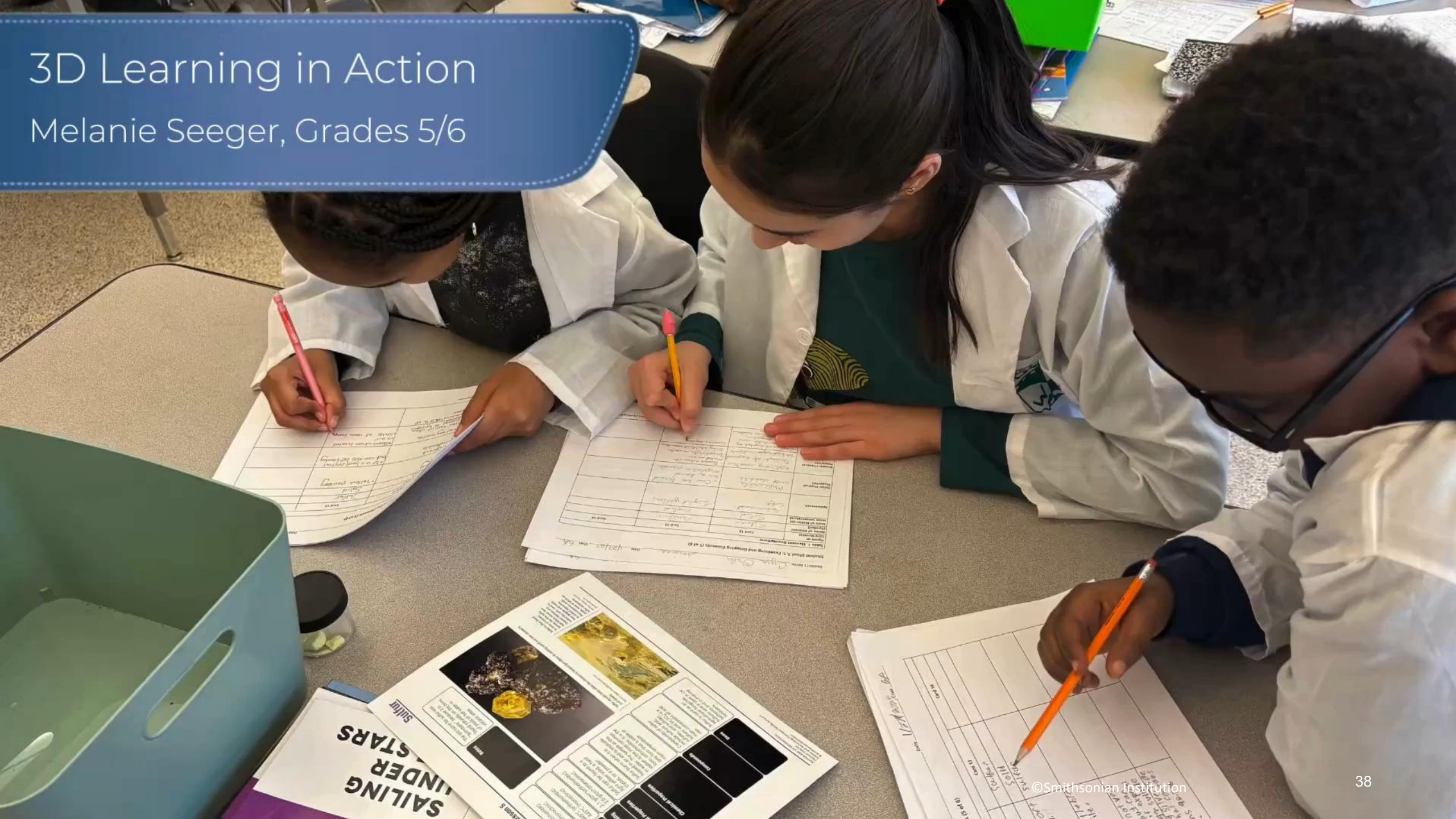


“Using the **Smithsonian K-8** curriculum over the past several years has strengthened my teaching and helped my students grow as confident thinkers, collaborators, and problem solvers.”



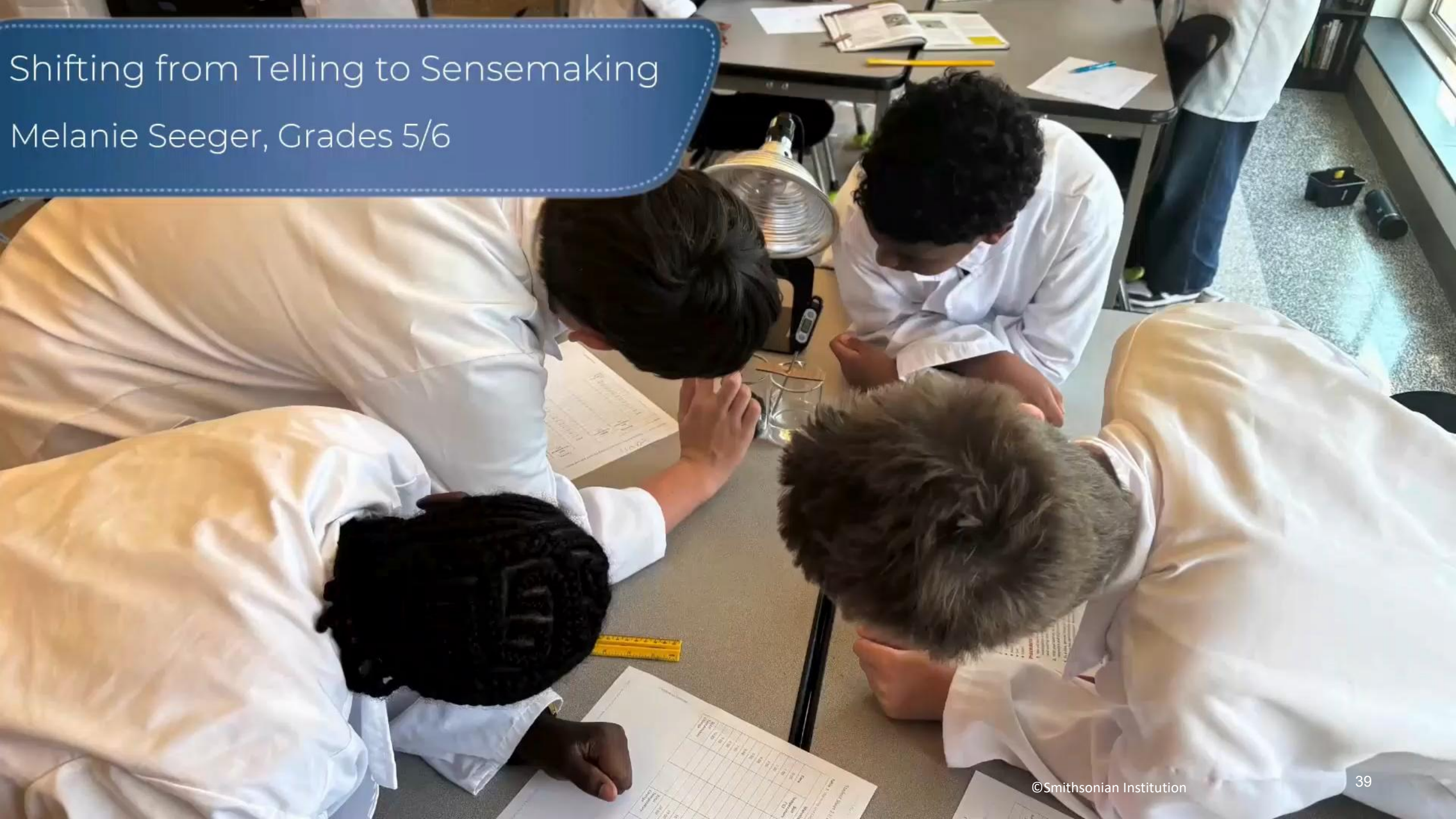
3D Learning in Action

Melanie Seeger, Grades 5/6



Shifting from Telling to Sensemaking

Melanie Seeger, Grades 5/6



STEPHANIE PERSIANI

Clinton Avenue School
New Haven Public Schools
Grades 7/8



CLASSROOM DEMOGRAPHICS

55 min. daily instruction

Class size: 26 per section

IEP: % 29.4%

504: 5.8%

MLL: 31.4%



SPOTLIGHT GOAL

Strengthen my implementation of the STCMS curriculum by adapting lessons to meet diverse student needs while preserving the integrity of the inquiry-based instructional design.

STUDENT GROWTH

I have seen significant growth in students' tenacity, their ability to advocate for themselves, and their confidence in using their own ideas and reasoning in science class rather than trying to determine the single "right" answer.

SPOTLIGHT STRENGTHS

- Classroom management
- Notebooking
- Scaffolding & modifications



"The **Smithsonian STCMS** curriculum hands-on components has been transformative for my students - it has been so amazing to have a curriculum that engages every student in scientific understanding through inquiry based learning."



How STCMS and Coaching Impacts Instruction

Stephanie Persiani, Grade 7/8



High Quality Instructional Materials Paired with Professional Learning

- ✓ Phenomenon and problem-based three-dimensional learning
- ✓ Engages students through hands-on, real-world learning
- ✓ Supports diverse learners in every classroom
- ✓ Provides meaningful assessment of understanding
- ✓ Includes training and ongoing support for teachers
- ✓ Is designed for sustainable, districtwide implementation



Holly Baldwin

Syracuse, NY

Instructional Support Specialist

HollyBaldwin85@gmail.com



Heather Toothaker

New Haven, CT

NHPS District Science Coach

HEATHER.TOOTHAKER@new-haven.k12.ct.us

Join us on social media to stay up-to-date with new kits and free lessons!

 **YouTube** @CarolinaScience

 @CarolinaScience

LinkedIn  Carolina[®] Science

 @carolinascience