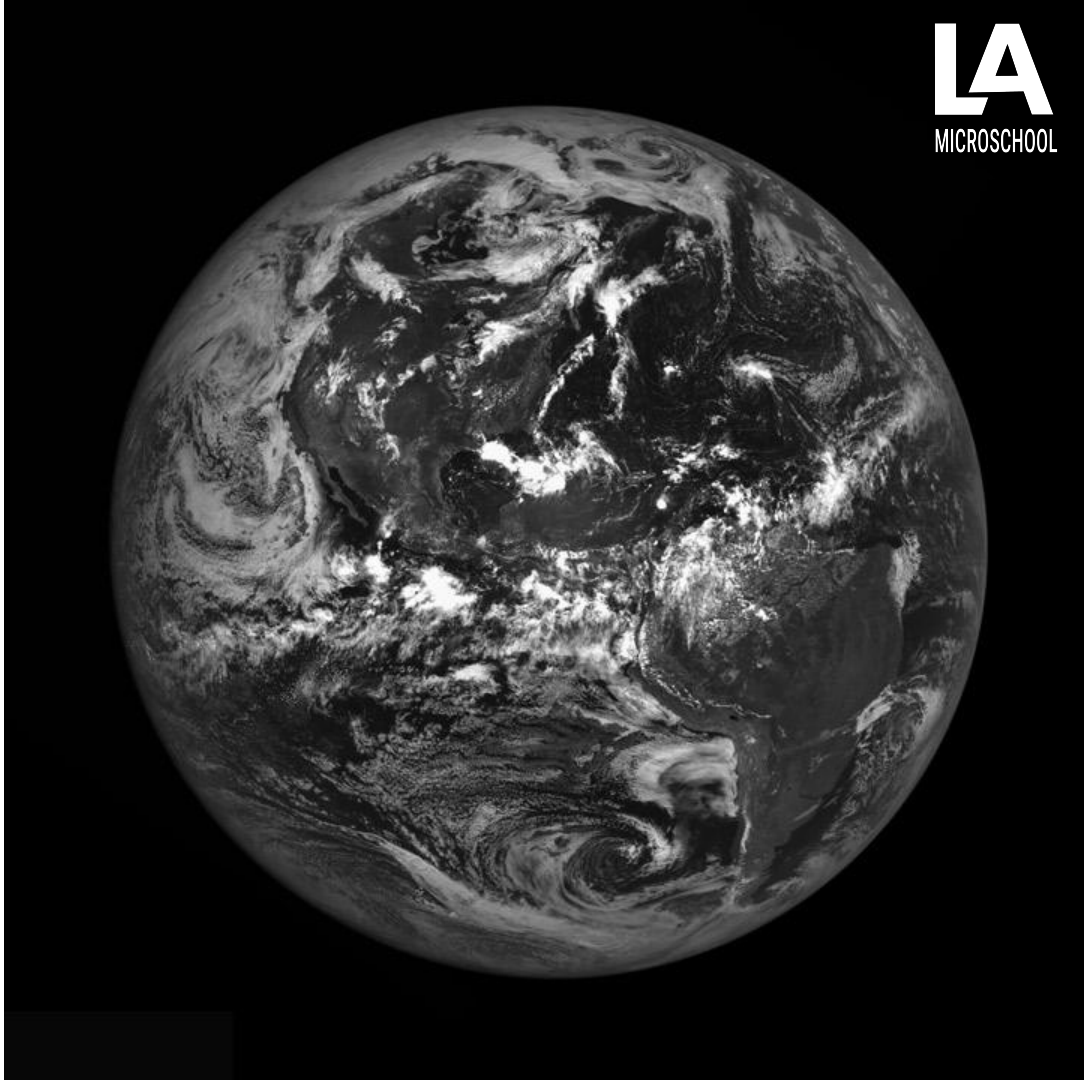
OUR DYNAMIC EARTH

Grade 7, Unit 1: 9.1.25 - 10.3.25

This unit LAM takes a holistic and hands on approach to Earth science studying the physics of weather as well as diving into the delicate relationship it has with humankind.

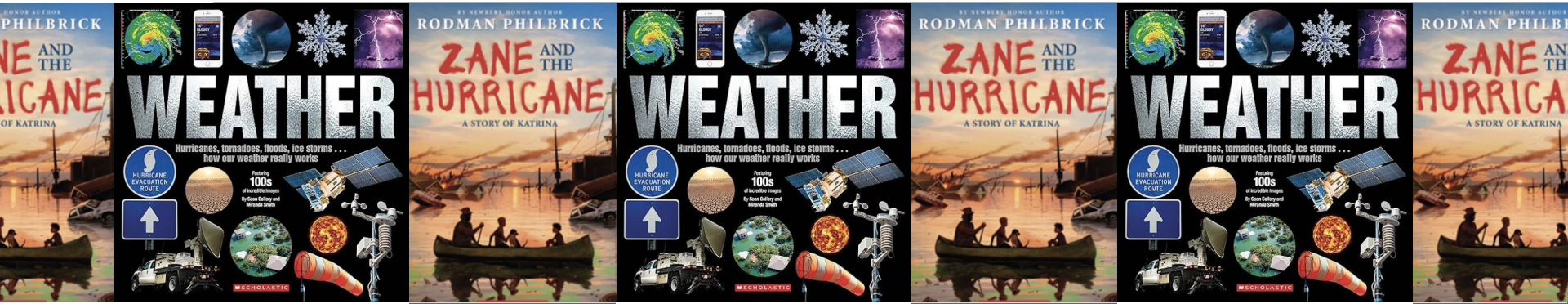


BOOK CLUB

Students read independently and complete written book club prompts designed to reinforce key skills such as using text evidence, explaining reasoning, and writing clearly and cohesively. Students then engage in guided discussions where they share ideas, reference specific details and quotes from the text, and respond thoughtfully to their peers. These conversations encourage students to think critically and make meaningful connections between texts, real-world issues, and their own experiences.

Zane and the Hurricane: This historical fiction novel made the hurricane real in a way that a simple history book can't. It adds layers to the experience, making it personal and palpable.

Weather: A visually engaging, fact-filled book that explores the science behind weather patterns, storms, and climate around the world. Through clear explanations, photos, and diagrams, it helps students understand how the atmosphere works and how weather affects our daily lives and planet.

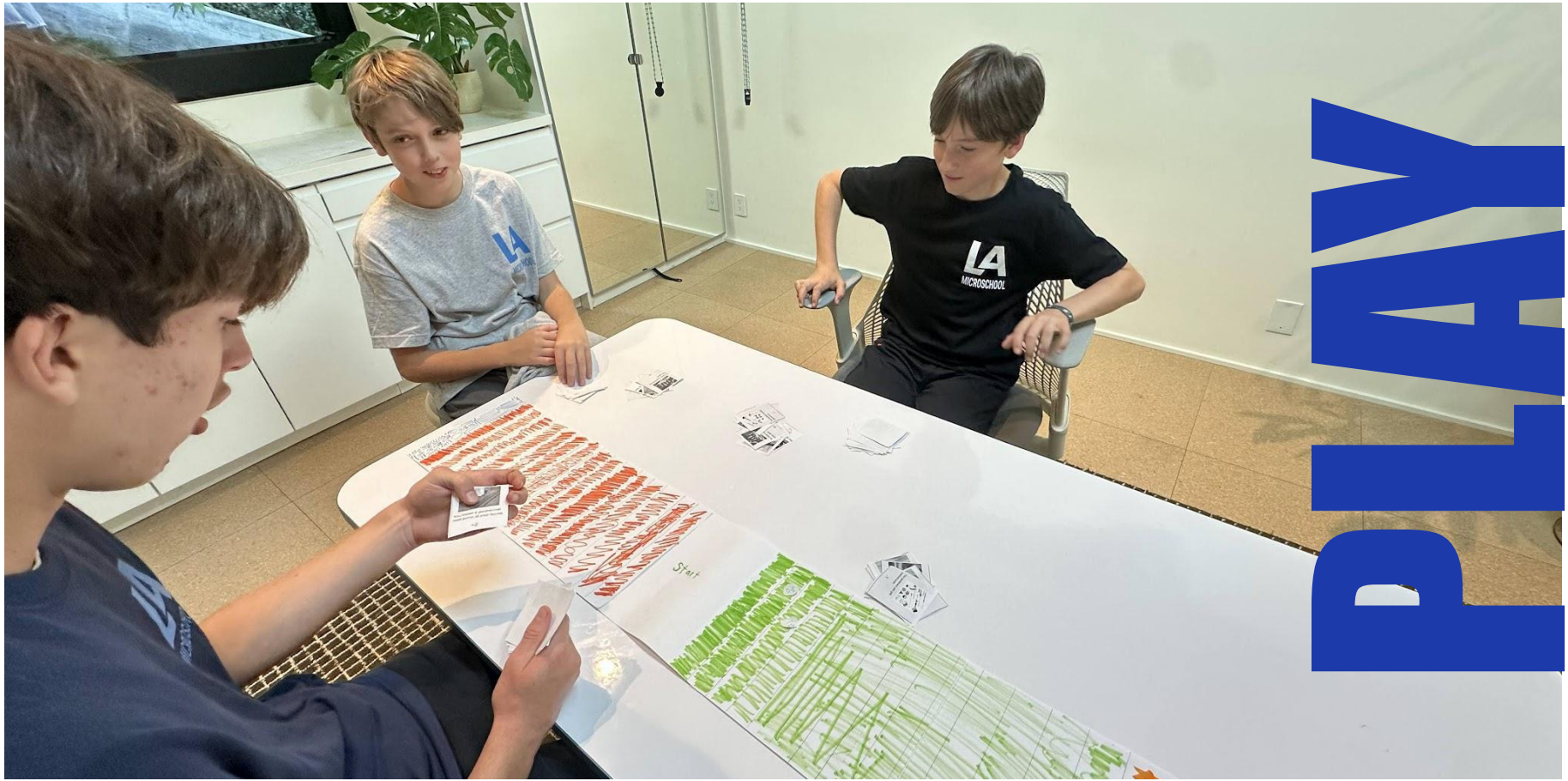


STUDY

The Greenhouse Effect - Students conducted research, experiments, and used simulations to explore the effect of greenhouse gasses on the climate.

There are six main greenhouse gases. They are Water Vapor, Carbon Dioxide, Methane, Ozone, Nitrous Oxide, and Chlorofluorocarbons.

- Water Vapor is water in gas form. It eventually falls back to earth as rain.
- Carbon dioxide is the biggest contributor for global warming. It comes from decaying and living organisms along with fossil fuels like coal and oil.
- Methane comes from wetlands, cattle, using natural gases, and mining coal.
- Ozone up in our atmosphere is really good. It blocks out a lot of the sun's heat. However, when ozone is closer to the ground, it is considered a greenhouse gas because it can come from cars and factories.
- Nitrous Oxide damages the ozone layer and is also a very powerful greenhouse gas. It comes from the ocean and soil, but also factories, power plants, and fertilizer.
- Chlorofluorocarbons were created by humans for various products. They are a very powerful greenhouse gas.



Renewable Energy for the Win - After learning about renewable and non-renewable energy sources, students created a game to teach others how renewable energy sources are a win for people and the planet.

UNDERSTAND

Density Stack Jar Lab - Students conducted a lab to understand how density causes Earth's materials to separate into layers

BUILD

Sustainable Design Challenge

- Learn what makes a home climate ready
- Test materials for insulation and heat reflection
- Use recyclables to build a model home that includes at least three sustainable design features and one tested material from earlier activity
- Label and prepare to explain the climate reasoning for each feature

CHALLENGE

Shake Table Engineering Challenge (when learning about plate tectonics and earthquakes)

Build a **2+ story structure** that can stand upright for 10 seconds on the shake table.

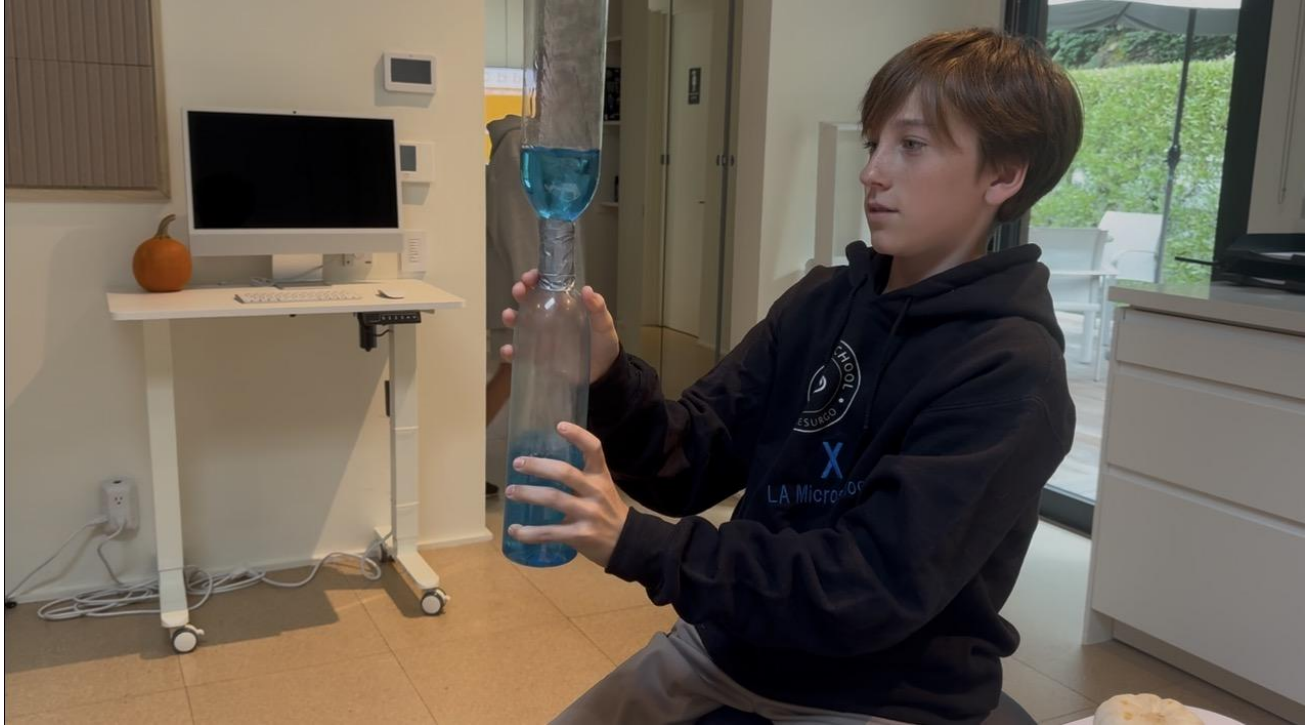
Constraints:

- Must have at least 2 levels.
- Can only use the materials provided.
- Must be free-standing (not taped to the base).

HANDS ON

A Storm is Brewing - Students learned about temperature, air pressure, weather fronts, and how clouds form. Then, they created a barometer and used it to explain how air pressure indicates a storm might be brewing.

Why does a vortex form?



INVESTIGATE

CREATE

A Real Disaster - Students learned about Hurricane Katrina through a variety of mediums. Then, they created a timeline of the events and reflected on how this hurricane was a "man-made" disaster.

Tropical storm forms in Bahamas
Winds at 39 MPH
Gets a name, Katrina

August 24

Goes through Florida as a category one hurricane
Gets to Gulf of Mexico, and becomes a category three hurricane
Louisiana urges New Orleans residents to evacuate

August 25-27

Katrina continues to grow to a category five hurricane, with winds up to one-hundred-seventy-five MPH
New Orleans sets up shelters

August 28

Katrina hits land as a category four hurricane
Multiple levees break, leaving most of the city underwater
Katrina becomes a tropical storm and moves north
Hundreds dead, no resources, and many towns are destroyed
Lots of looting and violence
Evac busses don't come, leaving fifty-thousand people in unsafe shelters

August 29 - September 1

Aftermath:

The National Guard arrives, which restores order, resources start to come in, mass evacuations start, levees get fixed, and the city uses pumps to get rid of the water. Some residents begin to come back, and realize that their lives are changed forever.

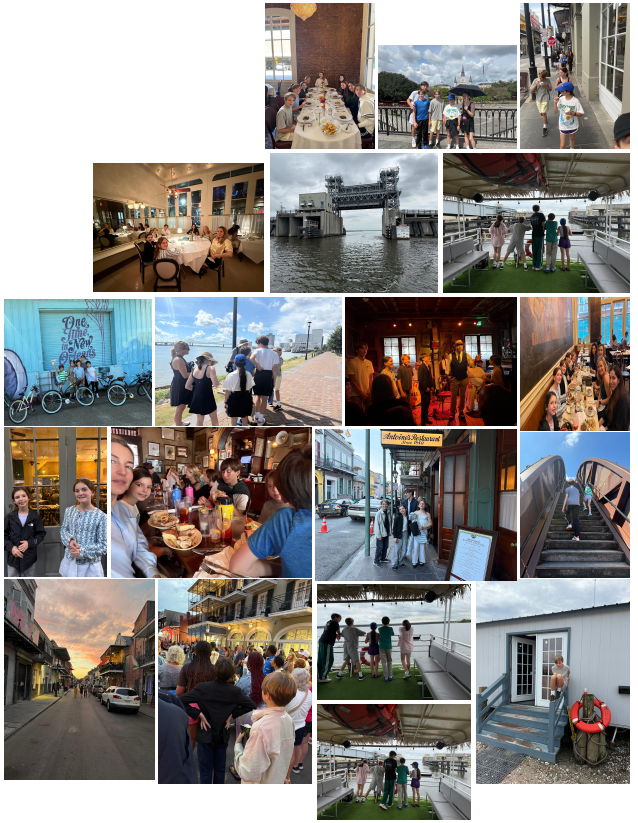
MAKE

7th grade got hands on with one of nature's most beloved building materials.. wood. They are beginning their four month long woodworking curriculum by practicing following directions independently, using power tools and glue, and workshop safety.

New Orleans Post Hurricane Visit

Natural disasters are not just pressure systems and electromagnetic fields… their results impact people and cultures for generations to come. $150B in damage, 350k lost homes, and over 1 million people and a very unique culture was out in the balance. 20 years post hurricane New Orleans is about 70% rebuilt with about $20B in safety infrastructure investments and the unique Creole culture is buzzing again. We met people who lost their homes, took a literal front row seat to Preservation Hall jazz, tasted many versions of creole specialties, and leaned the city's rich history of European colonization.

EXPLORE



Oxnard Weather Center

VISIT

Physics you can…

FEEL

It's hard to appreciate the power of a force you've never felt. iFLY wind tunnel gave the students a chance to take flight. The experience rounded out with a STEM program that drove home the relationship of wind to volume and weight with a learning class and hands on experiment.

SHARE

Our culinary program focused on foundational cooking skills like; plating, knife skills, and roux making with a spotlight on New Orleans. The students tasted how the cultural impact of colonization manifests itself even today in the NOLA cuisine. This unit manifested in a NOLA inspired meal inspired by the the Holy Trinity and Creole flavors!

- How is Earth structured and why does it matter?
- How do weather systems work together?
- How can we predict the weather?
- What causes climate change?
- Explain why sustainability is or is not the solution.
- What is humanity's responsibility to Earth?
- Will we always solve our problems?
- What is humanity's responsibility to Earth?
- Were these disasters man made?
- If safety systems cost billions, how should we decide what is worth paying for?
- Should we rebuild in the same place if the area is still risky? Why or why not?
- Should public money be used to protect homes built in risky areas?
- How is science and technology minimizing future threats?

LA MICROSCHOOL

DEEPER THINKING

Ultimately education is about helping students learn to ask good questions and how to approach building solutions. Some questions have a clear answer while others are a bridge between morals, emotions and science as these children have experienced firsthand in Palisades and secondarily in their visit to New Orleans

NEXT

Homosapiens: Brain, Body & Health

Students explore human biology to build a toolkit for understanding their bodies and optimizing long-term health. We'll dive into the evolving fields of kinesiology, neuroscience, and nutrition, blending science with hands-on practice.

- Read *The Lives of a Cell* to spark curiosity about the interconnected systems of the human body.
- Meet with a nutritionist to learn how different nutrients fuel health and performance, then apply that knowledge in cooking classes by designing and preparing balanced meals.
- Meet with a neuroscientist to understand how the brain functions and how it relates to injury, learning, and longevity.
- Study the body with a biologist and kinesiologist, then visualize anatomy through figure drawing to connect art and science.
- Train with a movement specialist to learn posture, biomechanics, and safe, effective training techniques.

The unit concludes with longevity testing and guided discussion, helping students integrate what they've learned into a clear, personal approach to lifelong health.