Dear PS 39 Families,

My name is Zach Vine and I'm the K-5 science teacher at PS 39. I'm looking forward to a year full of exciting experiments, intriguing investigations, and hands-on learning. I teach students once a week or twice a week, depending on their class program.

If you ever have any questions or concerns, or would like to speak to me for any reason, please email zvine@ps39.org, or try calling me at the school. If you'd like to discuss your student's science learning at any point throughout the year, I'm available to conference with you on Tuesday afternoons from 2:40 to 3:55 pm in person or by phone. . So that you know when your child has science instruction during the week, my complete schedule is as follows:

Period	Monday	Tuesday	Wednesday	Thursday	Friday
1	3-304	2-208	2-206	K-104	2-208
2	PREP	K-102	3-203	1-202	PREP
3	2-206	1-204	3-201	PREP	K-104
4	LUNCH	5-307	PREP	3-203	LUNCH
5	4-301	PREP	TECH	5-306	4-301
6	1-108	LUNCH	LUNCH	LUNCH	2-207
7	K-106	3-201	4-305	4-305	3-304

I look forward to bringing out the great scientist that exists inside of your child. Please let me know if your child has any allergies or special needs, and if there's anything you'd like me to know about your kid, I can't wait to hear what it is. I look forward to meeting you on curriculum night.

Sincerely,

Zach Vine

PS: On the next page of this letter you'll find an overview of what your student will be learning during our first unit of study, which runs from September through December.

Kindergarten: Trees and Weather

In this unit students develop an understanding of what plants (and animals) need to survive and the relationship between their needs and where they live. By monitoring local weather, students experience the patterns and variations in weather and come to understand the importance of weather forecasts to prepare for severe weather. Systematic investigation of trees over the seasons will bring students to a better understanding of the place of trees at school and in the community. Students will observe day-to-day changes in weather over the year, as well as the impact weather has on living things. *After December the trees and weather study will be revisited occasionally throughout the remainder of the school year.

First Grade: Sound and Light

In this unit students observe and explore sound and light using simple tools and musical instruments. Students learn that sound comes from vibrating objects. They explore how to change sound volume and pitch, and develop simple models for how sound travels from a source to a receiver. With light, students discover what happens when materials with different properties are placed in a beam of light, and explore how to create and change shadows and reflections. Students explore how to use sound and light devices to communicate information and compare the ways that animals use their ears and eyes to gather information about their environment.

Second Grade: Motion and Matter

In this unit magnetism and gravity are the forces students explore as they look for patterns of motion to predict future motion. Students work with magnets and paper clips, wheel-and-axle systems, paper air twirlers, and more. Students use their knowledge of science to enter the engineering design process. Students use metric tools to refine observations by measuring length, mass and volume. They make mixtures and solutions to develop a foundational understanding of conservation of mass, and they observe a simple chemical reaction to extend their understanding of conservation.

Third Grade: Creative Computing

In this unit kids engage with technology as designers and creators rather than consumers. Creative computing emphasizes the knowledge, practices, and fundamental literacies that young people need to create the types of dynamic and interactive computational media that they enjoy . Creative computing supports the development of personal connections to computing, by drawing upon creativity, imagination, and interests. Creating computational artifacts prepares young people for careers as computer scientists or programmers and supports their development as computational thinkers – individuals who can draw on computational concepts, practices, and perspectives in all aspects of their lives, across disciplines and contexts.

Fourth Grade: Energy

Students investigate electricity and magnetism as related effects and engage in engineering design while learning useful applications of electromagnetism in everyday life. They explore energy transfer through waves, repeating patterns of motion, that result in sound and motion. The five investigations focus on the concepts that energy is present whenever there is motion, electric current, sound, light, or heat, and that energy can transfer from one place to other. Students conduct controlled experiments by incrementally changing variables to determine how to make an electromagnet stronger and how the amount of energy transfer changes when balls of different masses hit a stationary object. Students interpret data from graphs to build explanations from evidence and make predictions of future events. They develop models to represent how energy moves from place to place in electric circuits and in waves.

FIfth Grade: Earth and Sun

The constant renewal of water on Earth’s land surfaces by the activities in the atmosphere is one of the defining characteristics of Earth, the water planet. This unit provides students with experiences to explore the properties of the atmosphere, energy transfer from the Sun to Earth, and the dynamics of weather and water cycling in Earth’s atmosphere. Other experiences help students to develop and use models to understand Earth’s place in the solar system, and the interactions of Earth, the Sun, and the Moon to reveal predictable patterns—daily length and direction of shadows, day and night, and the seasonal appearance of stars in the night sky.