

Mathematics (K-5)

The West Allegheny School District Elementary Mathematics Curriculum reflects the philosophy advocated by the National Council of Teachers of Mathematics (NCTM). Mathematical literacy is crucial for every child's future and a solid mathematics education is essential for an informed public. Improving mathematics education requires a commitment from a variety of stakeholders, including students, teachers, administrators, and families. The curriculum is aligned to the [PA Core Mathematics Standards](#) and the eight Standards for Mathematical Practice, which include:

1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

The primary resource for elementary mathematics instruction is the Pearson Investigations Mathematics Program. The Investigations curriculum represents the culmination of over 20 years of research and development aimed at improving the teaching and learning of elementary mathematics. Through Investigations lessons, students develop mathematical proficiency through a balance and connection between conceptual understanding and procedural and computational proficiency.

Based on extensive classroom testing, Investigations takes seriously the time students need to develop a strong conceptual foundation and skills based on that foundation. Therefore, each curriculum unit focuses on an area of content, in depth, providing 2 to 5 ½ weeks for students to develop and practice ideas across a variety of activities and contexts that build on each other.

Six major goals guide the development of Investigations as the curriculum is designed to:

1. Support students to make sense of mathematics and learn that they can be mathematical thinkers.
2. Focus on computational fluency with whole numbers as a major goal of the elementary grades.
3. Provide substantive work in important areas of mathematics and connections among them.
4. Emphasize reasoning about mathematical ideas.
5. Communicate mathematics content and pedagogy to teachers.
6. Engage the range of learners in understanding mathematics.

Underlying these goals are three guiding principles that are the touchstones for instruction:

1. Students have mathematical ideas. The curriculum must support all students in developing and expanding those ideas as they are actively engaged in the learning process.

2. Teachers are engaged in ongoing learning about mathematics content and about how students learn mathematics. The curriculum must support teachers in this learning.
3. Teachers collaborate with the students and curriculum materials to create the curriculum as enacted in the classroom. The curriculum must support teachers in implementing the curriculum in a way that accommodates the needs of their particular students.

Each curriculum unit is divided into Investigations. Investigations are divided into one-hour sessions or lessons. All sessions include Mathematical Focus Points, which highlight the goals and mathematical content of each session and the day’s classroom routine or ten-minute math. The Mathematical Focus Points of Discussion include activities, whole-class discussions during which students compare methods and results and share conclusions, a math workshop, which is a structure in which students work on a set of related activities, and assessments during which students are assessed through either written activities or observations. Lessons are supplemented and differentiated to meet the unique needs of each learner.

The vision and implementation of the K-5 Math Curriculum empower and prepare the West Allegheny students to become mathematically literate and proficient in their everyday lives. The planned experiences promote the recognition of mathematics’ role in a contemporary society.

Grade Levels	Instructional Programs
Kindergarten	Investigations V.3, ST Math, (enVisions to be added in 2024-25)
First Grade	Investigations V.3, ST Math, (enVisions to be added in 2024-25)
Second Grade	Investigations V.3, Study Island, ST Math, (enVisions to be added in 2024-25)
Third Grade	Investigations V.3, Study Island, ST Math, (enVisions to be added in 2024-25)
Fourth Grade	Investigations V.3, Study Island, ST Math, (enVisions to be added in 2024-25)
Fifth Grade	Investigations V.3, Study Island, ST Math, (enVisions to be added in 2024-25)

[Investigations](#)

[ST Math](#)

[Study Island](#)

[enVisions](#) – This instructional program is currently being written into district curriculum for implementation in the 2024-2025 school year.