
Changes in Curriculum Will Impact the Instructional Program

The changes that have taken place in math curriculum through the National Council of the Teachers of Math and now, *the shifts* to the Common Core Learning Standards, have fostered new life in classroom instruction .

Children work in pairs and small groups in the analysis and trial and error of solving problems.

Recording the ways the groups have tried to solve problems, and the answers they came up with and their reasoning about every step of the process is discussed and supported or disputed through the child's point of view.

The change is that there is more discussing, "thinking" and providing support for this thinking. This emphasis has been added to math instruction. Language arts and literacy are now an integral part of math.



What parents can do to help their children become better readers

Children need practice in reading and comprehension in order to understand math problems. Reading at home extends itself into help with math.

Other ways to help your child(ren) include:

- ◇ Counting by 1s, 2s, 5s, and 10s to start and then, by 3s, 4s, 6s, and 9s (addition and multiplication)
- ◇ Start by allowing children to count real objects (paper clips, coins, buttons, cheerios, etc).
- ◇ Encourage children to share their thinking when solving problems.
- ◇ Check homework and work through mistakes together, as appropriate.
- ◇ Allow time for guessing (how many cookies are in the sleeve before counting or how tall the child is before measuring).
- ◇ Engage children in working out real life math tasks around the home: measuring for recipes, making change, looking at program schedules, reading the calendar, filling out applications, etc.

Keep your time with your child positive.

Be patient. Skills improve over time.

You don't have to be a mathematician to help your child with math. Keep your child informed about the choices you make regarding math applications in daily life. Awareness and practice will produce positive results, with math.



Math is More than Computation

21st Century Skills and Career Readiness

Curriculum Focal Points: Number and Operations

Algebra

Geometry

Measurement

Data Analysis

and

Probability

*Dr. Susan Sciascia,
Assistant Superintendent for
Curriculum, Instruction
and Personnel*

Greenburgh CSD #7
475 W. Hartsdale Ave.
Hartsdale, New York 10530

21st Century Skills and Career Readiness

Today there is opportunity for technical jobs in the global economy. These opportunities are depended upon STEM (science, technology, engineering and math) skills.

The approach being used in math instruction is to introduce many strands of math early on. This allows children to grow in their understanding of concepts beyond computation. It extends geometry, algebra, probability and statistics over the child's educational career.

The goal is for students to develop and grow in their understanding and use of math. The aim is to engage the child's thinking to enable going beyond technical competence to appreciation of how STEM is used in the real world.

Instruction is to be a balanced combination of procedure and understanding. Mathematical content and practice have become partners. This partnership is *new* in the educational arena. The textbook is paired with real life, hands-on, activities.

Curriculum Focal Points :

Understanding math begins with exploring number size, shapes, figures and relationships.

Mastery in math depends upon an understanding of the language being used, memory and persistence. In today's classrooms math goes beyond computation into problem solving. This involves comprehension, analysis, trial and error and thinking skills.

Number Sense

Number sense develops gradually through:

exploring numbers and place value, and through number representation (counting, one-to-one correspondence, and how place value alters the value of a numeral).

Algebra

Algebra requires students to understand what is being asked before they can respond.

Example: $2 + 2 = \square$

$$3 + \square = 8$$

Geometry

Geometry integrates shapes and lines into the K-8 program.

Curriculum Focal Points : (cont.)

Measurement

Measurement permits children to go beyond memorizing that *12 inches equal a foot* to guesstimating areas of their classroom in shoe lengths.

Once children investigate reasonable ways to attend to measurement, they are taught standard ways to measure accurately using rulers and yardsticks in linear measurement and appropriate tools in liquid measurement.

Data Analysis

Data Analysis is based upon surveys and inventories taken in class. Data is displayed in graphs and charts.

Probability

Probability is application of "thinking" through situations that are relevant to the children.

