



MICHAEL P. FLANAGAN, PH.D.
SUPERINTENDENT
OF PUBLIC INSTRUCTION

Grade 3-8 MEAP Mathematics Parent Report Performance Level Descriptors (PLDs)

There are four Performance Levels in mathematics:

- (1) Exceeded Michigan Standards
- (2) Met Michigan Standards
- (3) Basic
- (4) Apprentice

The Parent Report PLDs define briefly what students at each grade and performance level should know and be able to do in relation to the Michigan mathematics Grade Level Content Expectations (GLCEs).

In September 2005, groups of Michigan educators were brought together to develop more detailed PLDs based on the PLDs presented in this document. The more detailed PLDs were used for standard setting that took place in January 2006, and are available as “Standard Setting PLDs” in the same location as this document.

The Mathematics MEAP given in the Fall in grades 3-8 measures the mathematics knowledge and skills expected at the end of grades 2-7.

A STUDENT WHO EXCEEDED STANDARDS:

Performed mathematical skills, understood concepts, and solved complex, non-routine problems consistent with the Grade X Expectations.

A STUDENT WHO MET STANDARDS:

Performed mathematical skills, understood concepts, and solved problems consistent with the Grade X Expectations.

A STUDENT WHO PERFORMED AT THE BASIC LEVEL:

Demonstrated only partial understanding of mathematical skills and concepts to solve problems consistent with the Grade X Expectations.

A STUDENT WHO PERFORMED AT THE APPRENTICE LEVEL:

Did not demonstrate mathematical skills and concepts consistent with Grade X Expectations.

Third Grade

At the beginning of third grade, students are expected to count, read, write, and compare whole numbers up to 1,000. They should be able to add and subtract two-digit whole numbers, estimate the sums of three-digit numbers, show the meaning of the operations with objects, and apply their knowledge of addition and subtraction in real world settings. They have been introduced to multiplication and division by working with models. Students begin to understand the relationship among addition, subtraction, multiplication, and division. Ideas about fractions as parts of the whole are introduced. Students will measure, compare, and add and subtract lengths. They are expected to find perimeters, read thermometers, tell time, read and write amounts of money, and recognize and compare geometric shapes.

Fourth Grade

At the beginning of fourth grade, students are expected to count, read, write, and compare whole numbers up to 10,000 and know the value of individual digits in large numbers. They should be able to add and subtract two-digit numbers fluently and estimate the sums and differences of three-digit numbers. They are expected to know their multiplication facts and the related division facts and solve problems involving all four operations. Students have developed their understanding of fractions as parts of the whole and are beginning to develop understanding of decimals. Students will be expected to measure with common units (length, weight, and time) and recognize benchmark temperatures (freezing and boiling). Students can measure area and perimeter and classify and compare shapes and solids. They are expected to read, interpret, and solve problems using bar graphs.

Fifth Grade

At the beginning of fifth grade, students are expected to count, read, write, and compare whole numbers up to 1,000,000. They can fluently add and subtract multi-digit numbers, multiply two-digit by three-digit numbers, divide by numbers 10 or less, and use these computations to solve applied problems. The students have developed their understanding of factors and multiples, can estimate sums, differences, and products, and can find the value of the unknown in simple equations. The students have a good understanding of fractional quantities, including decimal

fractions, as both part of a whole and part of a set, can compare and order them, locate them on the number line, and find equivalent forms. The students are able to use common measurement tools with precision, can convert quantities within a measurement system (e.g., 2 ft. = 24 in.), and can find perimeters and areas of rectangles. The students understand and use basic properties of 2-D and 3-D shapes to solve problems, can solve problems comparing data presented in bar graphs and tables, and find medians.

Sixth Grade

At the beginning of sixth grade, students are expected to add and subtract fractions, be fluent in multiplication and division of whole numbers, and have an understanding of decimals and percentages. They should be able to factor numbers and understand the meaning of simple exponents. Students should know how to measure angles and solve problems using angle measures. Problem solving also includes finding areas of polygons and volumes of cubes. Students should be able to find the mean and mode of a data set as well as represent that data with line graphs.

Seventh Grade

At the beginning of seventh grade, students will continue their study of whole numbers, fractions, decimals, and percents, including adding, subtracting, multiplying, and dividing these numbers to solve applied problems. Students are introduced to algebraic concepts and procedures, including writing simple expressions, representing linear relationships with tables, equations, and graphs, and solving simple linear equations. Geometry topics include understanding congruence, reflection, rotation, and translation of geometric shapes. Students compute probabilities of simple events.

Eighth Grade

At the beginning of eighth grade, students will understand and solve problems involving rates, ratios, and proportions. They can compute with rational numbers and recognize square and cube roots. Students can solve problems using graphs and equations. They understand the concept of similar polygons and solve related problems. Students represent data with a variety of graphs, and understand relative and cumulative frequencies, median, and quartiles.