Michigan Alternative Content Standards - Mathematics

Grade 4

Students demonstrate increasingly complex understanding of number sense.

Operations and Algebraic Thinking

4 Show one way to arrive at a product. EE.4.OA.4

Number and Operations in Base 10

2 Compare whole numbers to 10 using symbols (<, >, =). EE.4.NBT.2

- H The student can compare whole numbers to 10 using symbols (<, >, =). EE.4.NBT.H.2
- M The student can compare whole numbers to 10 using “more than,” “less than”, and “equal to.” EE.4.NBT.M.2
- L The student can compare 2 sets of objects with extreme differences to determine which has more. EE.4.NBT.L.2

3 Round any whole number 0-30 to the nearest ten. EE.4.NBT.3

- H The student can round whole numbers 0-30 to the nearest 10 using a number line. EE.4.NBT.H.3
- M The student can round whole numbers 0-20 to the nearest 10 using a number line. EE.4.NBT.M.3
- L The student can identify which number comes next on a number line using numbers to 5. EE.4.NBT.L.3

4 Add and subtract two-digit whole numbers. EE.4.NBT.4

- H The student can add and subtract numbers within 100 where both numbers are multiples of 10 and no regrouping is required. EE.4.NBT.H.4
- M The student can add and subtract whole numbers within 20 using a number line and/or objects. EE.4.NBT.M.4
- L The student can add 1 or subtract 1 from a number or quantity, using a number line and/or quantities of objects 1-5. EE.4.NBT.L.4

Number and Operations - Fractions

1-2 Identify models of one-half (1/2) and one-fourth (1/4). EE.4.NF.1-2

- H The student can recognize that two halves and four fourths equal one whole using a model. EE.4.NF.H.1-2
- M The student can recognize that two halves equal one whole using a model. EE.4.NF.M.1-2
- L The student can identify one-half of a real-world object. EE.4.NF.L.1-2

3 Differentiate between whole and half. EE.4.NF.3

- H The student can differentiate between one-half and one-fourth as related to one whole. EE.4.NF.H.3
- M The student can differentiate between one half and one whole using a model/ representation of an object. EE.4.NF.M.3
- L The student can differentiate between a whole object and a half of an object. EE.4.NF.L.3

Students demonstrate increasingly complex spatial reasoning and understanding of geometric principles.

Geometry

1 Recognize parallel lines and intersecting lines. EE.4.G.1

- H The student can differentiate between parallel and intersecting lines/line segments. EE.4.G.H.1
- M The student can recognize intersecting lines/line segments. EE.4.G.M.1
- L The student can identify a straight line. EE.4.G.L.1

2 Describe the defining attributes of two-dimensional shapes. EE.4.G.2

3 Recognize that lines of symmetry partition shapes into equal areas. EE.4.G.3

Measurement and Data

3 Determine the area of a square or rectangle by counting units of measure (unit squares). EE.4.MD.3

- H The student can calculate the area of a rectangle by counting unit squares. EE.4.MD.H.3
- M The student can differentiate between area and perimeter. EE.4.MD.M.3
- L The student can match the perimeter (outline) of a shape. EE.4.MD.L.3

5 Recognize angles in geometric shapes. EE.4.MD.5

6 Identify angles as larger and smaller. EE.4.MD.6

- H The student can compare angles in geometric shapes and describe them as larger or smaller. EE.4.MD.H.6
- M The student can match shapes with a common attribute (e.g., angles of the same size, same number of angles, same number of sides). EE.4.MD.M.6
- L The student can identify which shape is the same when presented with a common two-dimensional shape. EE.4.MD.L.6

Students demonstrate increasingly complex understanding of measurement, data and analytic procedures.

Using Measurement and Data

1 Identify the smaller measurement unit that comprises a larger unit within a measurement system (inches/foot, centimeter/meter, minutes/ hour). EE.4.MD.1

- H The student can identify the smaller unit of measure (limited to minutes/hour, inches/ foot), when presented with a real-world context. EE.4.MD.H.1
- M The student can recognize minutes/hour as a measure of time and/or inches/foot as a measure of length. EE.4.MD.M.1
- L The student can identify tools to measure time and length. EE.4.MD.L.1

2.a Tell time using a digital clock. Tell time to the nearest hour using an analog clock. EE.4.MD.2.A

- H The student can tell time to the nearest hour using an analog clock and the nearest half hour using a digital clock. EE.4.MD.H.2.A
- M The student can tell time to the hour using a digital clock. EE.4.MD.M.2.A
- L The student can relate activities with approximate time of the day. EE.4.MD.L.2.A

2.b Measure mass or volume using standard tools. EE.4.MD.2.B

- H The student can identify and use appropriate tools to measure mass (ruler, scale, measuring tape) and volume (measuring cups, beaker, etc.). EE.4.MD.H.2.B
- M The student can measure mass and volume using non-standard units. EE.4.MD.M.2.B
- L The student can compare 2 masses or 2 volumes as more or less when presented with amounts that are extremely different. EE.4.MD.L.2.B

2.c Use standard measurement to compare lengths of objects. EE.4.MD.2.C

- H The student can use standard units of measure (inches/feet) to compare the lengths of 2 objects. EE.4.MD.H.2.C
- M The student can compare lengths of different objects and describe them as longer, longest, shorter, or shortest. EE.4.MD.M.2.C
- L The student can identify an object as being long or short when given two objects of vastly different lengths. EE.4.MD.L.2.C

2.d Identify coins (penny, nickel, dime, quarter) and their values. EE.4.MD.2.D

- H The student can identify coins and their values (penny, nickel, dime, quarter). EE.4.MD.H.2.D
- M The student can name coins (penny, nickel, dime, quarter). EE.4.MD.M.2.D
- L The student can recognize money when compared with other common objects. EE.4.MD.L.2.D

4.a Represent data on a picture or bar graph given a model and a graph to complete. EE.4.MD.4.A

4.b Interpret data from a picture or bar graph. EE.4.MD.4.B

H The student can use a pictograph or bar graph (with a scale of 1) to read data. EE.4.MD.H.4.B

M The student can recognize quantity of data as most or least in a bar graph or picture graph. EE.4.MD.M.4.B

L The student can recognize symbols as representing data on a simple graph (limited to 2 data points). EE.4.MD.L.4.B

Students solve increasingly complex mathematical problems, making productive use of algebra and functions.

Problem Solving

1-2 Demonstrate the connection between repeated addition and multiplication. EE.4.OA.1-2

H The student can use models of repeated addition to solve a multiplication problem. EE.4.OA.H.1-2

M The student can identify models that represent the sum of two sets of objects of the same quantity with sets of no more than 5. EE.4.OA.M.1-2

L The student can identify a group of objects or pictures with the same quantity as another group of objects or pictures. EE.4.OA.L.1-2

3 The student can solve one-step real-world problems using addition or subtraction within 100. EE.4.OA.3

H The student can solve one-step problems using addition or subtraction within 100 without regrouping. EE.4.OA.H.3

M The student can solve addition and subtraction problems within 20 without regrouping with or without the use of manipulatives, and/or a calculator. EE.4.OA.M.3

L The student can solve real-world addition and subtraction problems within 5 without regrouping with or without the use of manipulatives or a calculator. EE.4.OA.L.3

5 Use repeating patterns to make predictions. EE.4.OA.5

H The student can create, describe, and extend simple number patterns. EE.4.OA.H.5

M The student can create, describe, and/or extend simple number patterns or patterns involving counting objects or symbols. EE.4.OA.M.5

L The student can extend patterns involving objects or symbols. EE.4.OA.L.5