Lake Shore Public Schools
28850 Harper
St. Clair Shores, MI 48081

A
PARENT'S GUIDE
TO
MATHEMATICS/ENGLISH LANGUAGE ARTS
GRADE LEVEL CONTENT EXPECTATIONS

WHAT YOUR CHILD NEEDS
TO KNOW BY THE END OF

SECOND GRADE

Welcome to Our School

This school year promises to be an exciting time for your child, filled with learning, discovery, and growth. It is also a time to share a new guide the Michigan Department of Education has developed for you, outlining the types of literacy and mathematics skills students should know and be able to do at the end of each grade.

Please feel free to share this guide with your family and friends. Use it when you talk with your child's teacher. Ask what *you* can do to support learning in the classroom and reinforce learning at home. You can find more ideas and tools to help you stay involved in your child's education at www.michigan.gov/mde.

We value and share your commitment to your child's education. We look forward to working together to help your child achieve and succeed.

Elementary Principals

George Lewis, Masonic Heights Elementary
Martha Kliebert, James Rodgers Elementary
Elizabeth Netschke, Violet Elementary

A Parent Guide to Grade Level Content Expectations

Michigan Sets High Academic Standards –for ALL

This booklet is a part of Michigan's Mathematics and English Language Arts Grade Level Content Expectations (GLCE). It is just one in a series of tools available for schools and families. The Michigan Department of Education (MDE) provides similar booklets for families of children in grades K-5.

Teacher versions of the Grade Level Content Expectations are finished for grades kindergarten through fifth. They state in clear and measurable terms what students in each grade are expected to know and be able to do. They also guide the design of the state's grade level MEAP tests required in the No Child Left Behind Act (NCLB) legislation.

Educators and classroom teachers from Michigan school districts have been involved in the development and/or review of Michigan's GLCE. The expectations were designed to ensure that students receive seamless instruction, from one grade to the next, leaving no gaps in any child's education. More importantly, they set high expectations in literacy and mathematics so we can better prepare all K-12 students for the challenges they will face in a global 21st century.

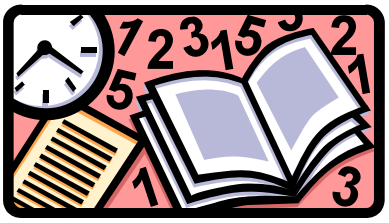
To learn more about the Michigan Curriculum Framework, visit www.michigan.gov/mde and click on **"K-12 Curriculum."**

Second Grade Mathematics is the science of patterns and relationships. It is the language and logic of our technological world. Mathematical power is the ability to explore, to imagine, to reason logically and to use a variety of mathematical methods to solve problems- all important tools for children's futures. A mathematically powerful person should be able to:

- reason mathematically
- communicate mathematically
- solve problems using mathematics
- make connections within mathematics and between mathematics and other fields

Michigan's **Mathematics Grade Level Content Expectations** (GLCE) are organized into five strands:

- Number and Operations
- Algebra
- Geometry
- Measurement
- Data and Probability



In the second grade, children continue with more sophisticated work in **addition** and **subtraction** of whole numbers, and begin to understand multiplication and division when used in story and with concrete objects. Simple ideas about fractions are introduced. In geometry, children continue to learn about shapes and their parts.

Glossary Terms

Words that have asterisks **(*)** are defined in the Glossary located at the end of the math section.

By the end of second grade, your child should know and be able to do the following:

Numbers and Operations

- ❑ Count, write, and order whole numbers
- ❑ Count to 1,000 by 1s, 10s and 100s starting from any number in the sequence.
- ❑ Read and write numbers to 1,000 in numerals and words, and match them to the quantities they stand for.
- ❑ Compare and order numbers to 1,000; use the symbols > and <
- ❑ Count orally by 3s and 4s starting with 0, and by 2s, 5s and 10s starting from any number.

Understand Place Value

- ❑ Write numbers up to 1,000 using place value.
- ❑ Example: 137 is, 1 hundred, 3 tens and 7 ones; use concrete materials such as bundled straws.

Add and Subtract Whole Numbers

- ❑ Break 100 into parts.
  Example: 100 = 99 + 1 100 = 98 + 2
- ❑ Find the distance between numbers on the number line.
  Example: How far is 79 from 26?
- ❑ Find missing values in open sentences.
  Example: 42 + ___ = 57
- ❑ Use relationships between addition and subtraction.
  Example: 6+5=11 and 5+6= 11 11-5=6 11-6=5
- ❑ Add and subtract numbers up to two digits when given a situation that involves numbers. Be able to solve and explain problems using objects, pictures and/or numbers.

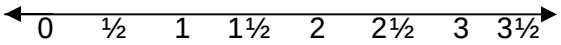
- ❑ Add fluently **(*)** two numbers with up to two digits each; subtract fluently two numbers with up to two digits each.
- ❑ Estimate and calculate the sum of two numbers with three-digits that do not require regrouping (carrying)
  Example: 123 + 234 =
- ❑ Add and subtract "in his/her head" (mental math).
  Examples:
    - o three-digit numbers and ones; (123 +3 =)
    - o three-digit numbers and tens, (563 +20 =)
    - o three-digit numbers and hundreds (123 +700 =)

Understand the Meaning of Multiplication and Division

- ❑ Understand that multiplication is like counting objects in sets of equal groups.
  Example: 3 x 5 = 15 means adding 3 sets with 5 objects in each set or 5 +5 + 5 = 15
- ❑ Represent multiplication using area and array models.
  Example: X X X stands for 2 x 3 = 6
  X X X
- ❑ Understand the relationship between multiplication and division. Example: 2 x 3 = 6 can be rewritten as 6 ÷ 2 = 3.
- ❑ Solve and explain multiplication and division problems using objects, pictures and/or numbers.
- ❑ Know the "times table" up to 5 x 5.

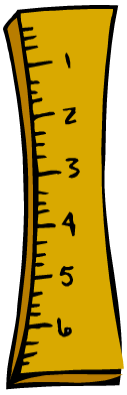
Work with Fractions

- ❑ Recognize, name and show commonly used fractions through 1/12.
- ❑ Show 1/2, 1/3 and 1/4 by folding paper.
- ❑ Place 0 and halves on the number line.
  Example:



- ❑ Compare fractions from 1/12 to 1/2
- ❑ Recognize that fractions such as 2/2, 3/3, 4/4 are equal to one whole.

Measurement



- ❑ Measure lengths in meters, centimeters, inches, feet and yards using abbreviations: cm, m, in, ft, yd. Compare lengths; add and subtract lengths.
- ❑ Draw rectangles and triangles and add the length of all the sides of the shape to get the perimeter **(*).**
- ❑ Know what perimeter means.

Understand the Concept of Area (*)

- ❑ Measure area using non-standard units to the nearest whole unit.
  Example: How many blocks will it take to cover the bottom of a shoebox?

Tell Time and Solve Time Problems

- ❑ Using both a.m. and p.m., tell and write time from the clock face in five-minute intervals and from digital clocks to the minute.
- ❑ Read time such as 9:15, as nine-fifteen and 9:50, as nine-fifty
- ❑ Read time both as minutes after the hour and minutes before the next hour (five minutes after nine, five minutes to nine).
- ❑ Show times by drawing hands on a clock face.
- ❑ Use the concept of time duration.
  Example: Figure out what time will it be half an hour from 1:15.

Example: $1.15

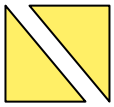
- ❑ Add and subtract money in mixed units.
  Example: $2.50 + .30 = $2.80

Read thermometers

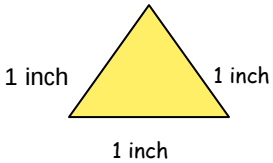
Read temperature in degrees Fahrenheit (F).

Geometry (*)

- ❑ Name, describe, and compare two-dimensional shapes such as triangles, rectangles, squares, and circles
- ❑ Name, describe and compare three-dimensional shapes such as cones, cubes, cylinders, and rectangles
- ❑ Predict the results of putting together and taking apart two-dimensional and three-dimensional shapes.
  Example: What shape would you have if you put together these two triangles?



- ❑ Draw rectangles and triangles, and add the lengths of each side of a shape together to get the perimeter.
  Example:

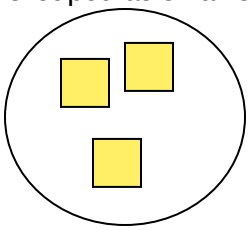


1 + 1+ 1 = 3 inches

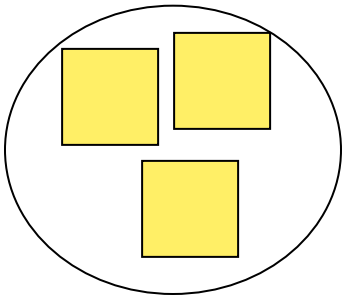
- ❑ Tell the difference between curves and straight lines and between curved surfaces and flat surfaces

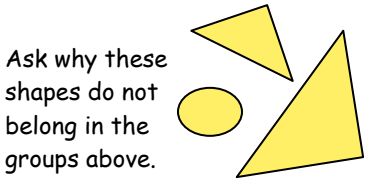
- ❑ Classify flat and solid objects.
  Example: using any of the following shapes, square, rectangle, rhombus, cube, pyramid, prism, cone, cylinder, and sphere; group by common traits such as shape size, color, roundness, and be able to tell which trait had been used to group (classify) the objects.

Grouped as small squares

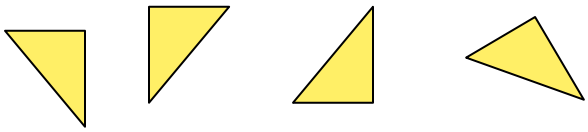


Grouped as large squares





- ❑ Recognize that shapes, even when they are turned around or flipped over are the same shape. For example:



- ❑ Create and describe patterns involving geometric objects.
- ❑ Find and name locations using maps and grids.

Data and Probability

Data Analysis and Statistics (*)

Use Pictographs (*)

- ❑ Make pictographs in which the pictograph stands for more than one object.
- ❑ Example: ☺ stands for 2 or ☺ stands for 3 people
- ❑ Read and interpret pictographs where the pictographs stand for 2 or 3 objects or people.
  Example: How many cookies did each child ?

  Each ☺ = 2

James	☺ ☺ ☺ ☺
Kylia	☺ ☺
Bob	☺ ☺ ☺ ☺ ☺

Second Grade **English Language Arts** (ELA) is more than just reading and writing. It includes skills like speaking, listening, and viewing as well. ELA offers us a way to communicate. Through ELA, your child can apply what s/he learns to solve real problems at home, at school and in the community.

Glossary Terms
Words that have asterisks **(*)** are defined in the Glossary located at the end of this section.

By the end of second grade, your child should know and be able to do the following:

Reading

Word Recognition & Word Study

Phonemic Awareness (*)
- ❑ Change the sounds of words by changing letters that can make new words. Example: "hat" becomes "_at", sat, mat, etc.
- ❑ Recognize that words are made of sounds blended together and that words have meaning.

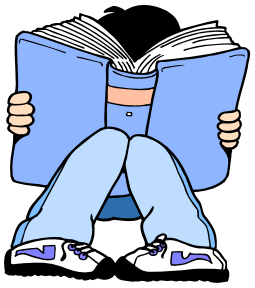
Phonics (*)
- ❑ Understand that sounds in words are represented by letters of the alphabet.
- ❑ Use letter-sound clues to recognize and decode words with:
  - long and short vowels, (a, e, i, o, u)
  - consonant diagraphs **(*)** (th, ch, sh, wh, ph)
  - irregular vowels (ei, ie, ea, ue)

Word Recognition
- ❑ Easily recognize familiar second grade level words
- ❑ Automatically recognize a growing number of basic sight vocabulary words. (Obtain a list from your child's teacher.)
- ❑ Be able to use prefixes, suffixes **(*)** and context clues **(*)** to read and understand unknown words (**un**tie, **re**play, care**less**, play**ful)**.

Vocabulary
- ❑ Know the meaning of words second graders see often. (Ask the teacher for a grade-level vocabulary list)
- ❑ Use strategies to make sure the words used in texts sound right and make sense.
- ❑ Use strategies to help figure out the meaning of words that describe objects, actions, etc., when they appear in a story.

Fluency (*)
- ❑ Automatically read words second graders see often, whether they appear alone or in a sentence.
- ❑ Read aloud using expression reacting to the periods and question marks.
- ❑ Independently read aloud new text with 95% accuracy in books matched to their ability.

Narrative Text (Fiction)



- ❑ Discuss and describe how the events and characters are similar in high-quality literature from around the world.
- ❑ Identify and describe a variety of genre of narrative texts, like poetry, fantasy, legends, and drama.
- ❑ Identify and describe different story elements:
  - o what characters do and why
  - o when the story takes place
  - o the problem and solution
  - o the order of events
- ❑ Identify how authors/artists use:
  - o pictures to support story elements
  - o titles to predict what happens in a story
  - o metaphor/simile **(*)** to show characters' thoughts and actions
- ❑ Show through their conversations, drawings, or writing that they know how two or more stories are connected.

Informational Text (Non-fiction)

- ❑ Name and describe different types of informational text, such as how-to books, science and social studies magazines.
- ❑ Discuss patterns such as the order in which things happen or ways they are described.
- ❑ Explain how authors and illustrators use features like bold-faced text, graphs, maps, and charts to help readers understand ideas.
- ❑ Show through drawings, writing or conversations how two or more informational texts are connected.

Comprehension

- ❑ Use their own experiences to help understand new ideas and connect to ideas in texts.
- ❑ Retell the main idea(s) and details from text matched to their ability.
- ❑ Connect and compare a story to their lives as well as compare a story other stories.
- ❑ Compare and contrast relationships among characters, events and key ideas.
- ❑ Use drawings to show key ideas and details in stories.
- ❑ Ask questions as they read.
- ❑ Remember and use what has been read from other subject areas.

Metacognition (*)

- ❑ Know when they need help to understand what they read.
- ❑ Know when they do or do not understand the texts.
- ❑ Use simple strategies to increase their understanding of texts. Example: Reread the story.
- ❑ Use book covers and/or pictures to predict what might happen next.
- ❑ Talk about the author's purpose.
- ❑ Make predictions and draw conclusions.
- ❑ Ask questions before, during and after reading.
- ❑ Begin to sort and put information in order with the help of the teacher.
- ❑ Discuss with teacher which comprehension strategies worked.

Critical Standards (*)

- ❑ Decide and discuss what qualities make a good story.
- ❑ With help from the teacher, begin to know how to measure the quality of their own work and the work of others.

Reading Attitude

- ❑ Be excited about reading and learning how to read.
- ❑ Choose to read and write on their own during free time in school and at home.

Writing

Writing Genre

- ❑ Write fiction/fantasy/personal stories that include characters, settings, problem/solution and events written in order.
- ❑ Begin to write poetry based on reading a variety of grade level poetry.
- ❑ Produce a magazine article that describes something/someone, lists features of an item or tells how to do something.
- ❑ Produce and present a research project with help from the teacher. The steps should include using the writing process.

Writing Process

- ❑ Think about the audience and the purpose for writing.
- ❑ Write two paragraphs, each containing a main idea and details.
- ❑ Make changes to their own writing to fit the needs of the audience and the purpose of the project.
- ❑ Write a story from their viewpoint **(*)** or in third person **(*)**.

Personal Style

- ❑ Develop a personal style when speaking, writing or acting out messages. Example: they may express feelings, use details and show examples.

Grammar and Usage

- ❑ Write with complete sentences using nouns, verbs, comas, contractions, and capitalization.

Spelling

Correctly spell two-syllable words they see often including words with common suffixes and prefixes.

- ❑ Use beginning and simple ending sounds, or words lists provided by the teacher to figure out how to spell more words.

Handwriing

- ❑ Print upper and lower case letters neatly, so that people can read them.
- ❑ Begin to write the cursive **(*)** alphabet.

Writing Attitude

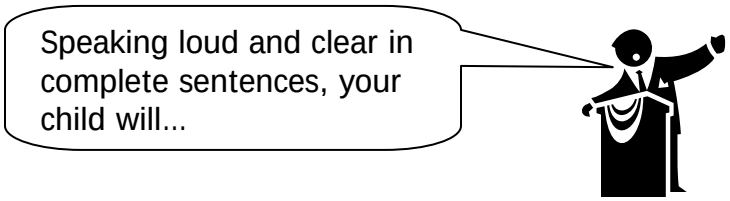
- ❑ Be eager to write and learn to write.

Speaking

Conventions (*)

- ❑ Use words such as although, instead of, and so that.
- ❑ Use pronouns such as he, she, and they.
- ❑ Use possessive pronouns such as my/mine, his/her, their/your.
- ❑ Use common subject/verb agreement. (Ann plays with Sue.)
- ❑ Use common pronoun/noun agreement. (They go to the store.)
- ❑ Use language to communicate with all kinds of people for all kinds of reasons (express wants and needs, solve problems).
- ❑ Give a speech speaking clearly, with expression and loud enough to be heard.
- ❑ Make presentations using Standard English **(*)** or their version of Standard English if they are in the process of learning English.

Spoken Discourse (*)



- ❑ Stay on topic while responding to comments and questions from others during conversations.
- ❑ Briefly tell or retell familiar stories in an organized way that make sense from the beginning to end with details about the characters, setting and events.
- ❑ Be able to talk about the meanings of and the connections between two or more stories.
- ❑ Plan and deliver simple presentations or reports that are organized and include illustrations, facts and details.

Listening and Viewing

Conventions (*)

- ❑ Give, restate and follow three and four-step directions.
- ❑ Ask good questions during a report or presentation.
- ❑ While in conversations, use eye contact and pay attention to evaluate messages on radio, T.V. and in newspapers or magazines.
- ❑ While in large or small groups, pay attention and listen carefully to others.
- ❑ Be able to tell who is giving a message and who is receiving the message.
- ❑ Tell the difference between fact and opinions.

Response

- ❑ Choose, listen to or view and discuss a variety of good books, both classic and recently written.
- ❑ Listen to or view and discuss a variety of genre (fairy tales, poetry, stories).
- ❑ Make connections between two or more stories as they think about them. They can do this by discussing the stories, drawing pictures and/or writing.

* Glossary Terms

- **consonant diagraphs** - two consonants together that make one sound. Examples: ch, sh, th.
- **context clues** - hints from the surrounding words, phrases or sentences about the unknown word.
- **conventions** - the rules about how words and language works when speaking or writing.
- **critical standards** - the high level of quality students must be able to recognize, to determine if their work reaches that expectation.
- **cursive** - a style of handwriting in which the letters in a word are connected.
- **genre** - a category used to describe different kinds of texts, such as poetry, fantasy, legend, etc.
- **metacognition** - the process of thinking about one's own thinking. Example: Being able to monitor when you know or don't understand a lesson.
- **metaphor/simile** - figures of speech in which two things or ideas are compared. Similes use words such as "like" or "as" to compare. (The fog is <u>like</u> a blanket.) Metaphors compare two things with out using the word "like". (The fog is a wet blanket.)
- **phonics -** the predictable relationship between the sounds of spoken language and the letters of the alphabet that represent those sounds in written language.
- **phonemic awareness** - the ability to notice, think about and work with the individual sounds in spoken words
- **point of view** (**third person**) - telling the story from a viewpoint that knows actions and private thoughts of all characters
- **prefixes/suffixes** - word parts known as affixes. These parts are added to words. Prefixes are added to the beginning of words (<u>un</u>tie) and suffixes are added to the end of words (cheer<u>ful</u>)
- **Standard English -** the form of English widely accepted as being clear and proper
- **writing genre** - a category used to describe different kinds of writing, usually by form such as poetry, fiction, magazine article, etc.

Ways to Encourage Your Child

Wonderful!
I'm happy to see you working so hard.
You made my day.
That's the way to do it!
You're learning fast.