

# Circle 4 Syllabus



## Course Summary

This course is meant for students ages 7 to 10 who have completed the Common Core (or equivalent) for Grade 3. Students will be exposed to the Focus Areas section listed below, and we expect students to master the skills listed in the Expected Outcomes section listed below.

## Focus Areas at this Level

Concepts, skills, and learning tools students see in this course include, but are not limited to:

- Multiply and divide any whole number by any other whole number
- Fraction understanding, addition and subtraction, multiply a fraction by a whole number and equivalent fractions
- Simple equations, setting them up from word problems and solving them

## Expected Outcomes

Students will be **expected to adequately perform in or explain** the following areas after course completion:

- Rounding by place value up to 100,000,000s
- Addition and subtraction of numbers under 100,000,000
- Multiplication of one number by another (both with any number of digits)
- Division of one number by one- or two-digit numbers
- Different calculation strategies for multiplication and division
- Making and interpreting graphs
- Understanding fractions, how to add and subtract and how to make equivalent fractions
- Equations using balance scales, guess and check and inverse operations
- Basic measurements in length, weight, money, time, and volume
- Graphs and coordinates
- Areas of shapes, composite shapes and symmetry

## Pre Requisites

Students registering for this course should be **comfortable with the following Math**:

- Identifying numbers up to 1,000
- Comfortable with arithmetic operations: addition and subtraction (3-digits), multiplication and division (using times tables up to 10)
- Identifying fractions visually from  $\frac{1}{2}$  to  $\frac{9}{10}$ , adding fractions with the same denominator

Students should also be **willing and able to**:

- Communicate in English at a beginner's level
- Be respectful of other students in their classes
- Practice writing things down on paper
- Share their thoughts with the instructors to help them discover solutions to their problems
- Take constructive criticism when it comes to their learning habits

## Course Materials (Required)

- All classes will be taught online, via [Zoom](#). Your student will need a device with a microphone and camera.
- Parents are expected to have read and understood the Parent Handbook
  - Parents should review the expectations in class with their student(s)
  - Parents of this age group will need to help their students learn the technology used on the student's end

Students should also have access to:

- Ruler
- Pencils
- Eraser
- Paper
- Colored pencils or markers
- Reliable internet connection and digital device capable of using Zoom effectively

## Homework Expectations

Homework at EMC is set up to be flexible for the needs of your student. Usually we feel students fall into three general categories:

- EMC is **replacing public school** or accelerating my student for **testing out of Math** in the future
  - All Homework is **mandatory**
- EMC is helping **improve my grades** or **skills**
  - Homework is **highly recommended**, we recommend concentrating on school homework first
- EMC is for **interest's sake** and/or for **exposure** to problem solving **before seeing it in school**
  - Homework is **recommended, yet optional**

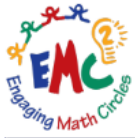
## Homework Delivery

Homework is delivered in a two main ways:

- **Practice Homework**
  - Nearpod, an interactive slideshow, facilitates self-paced learning including lesson review and extra practice at the end of each Content section
    - Lesson slides you already may have seen are provided as reference for review
    - Draw It, Quiz or Matching slides are the **mandatory practice**
    - "Extras" are extra practice and competition style questions to keep other skills sharp
  - PDFs to download and print the lesson or questions are also made available
- **Assessment Homework** (aka Quizzes, Tests)
  - Canvas, set of questions to show instructors a student's understanding of the content
  - Auto-graded upon submission
  - Instructors adjust grades after seeing results to give partial marks where appropriate, and plan to cover certain problem areas in the Homework Check portion of next class

## Course Calendar

On yellow dates on the calendar below, no classes are held. Some days of the week (Sat, Sun, Mon) have less classes per year. These courses will have slightly condensed in-class schedules, and your instructor will let you know which homework assignments to do each week.



## EMC SCHOOL

### 2026-2027 School Calendar

August 2026						
M	Tu	W	Th	F	Sa	Su
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

September 2026						
M	Tu	W	Th	F	Sa	Su
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

October 2026						
M	Tu	W	Th	F	Sa	Su
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November 2026						
M	Tu	W	Th	F	Sa	Su
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

December 2026						
M	Tu	W	Th	F	Sa	Su
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

January 2027						
M	Tu	W	Th	F	Sa	Su
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

February 2027						
M	Tu	W	Th	F	Sa	Su
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

March 2027						
M	Tu	W	Th	F	Sa	Su
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

April 2027						
M	Tu	W	Th	F	Sa	Su
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

May 2027						
M	Tu	W	Th	F	Sa	Su
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

June 2027						
M	Tu	W	Th	F	Sa	Su
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

First and Last Day of School  
 School Holidays & Vacations

Aug 17 First Day of Classes  
 Sep 5 - 7 Labor Day Weekend - No Classes  
 Nov 23 - 29 Thanksgiving Week - No Classes  
 Dec 21 - Jan 3 Winter Break - No Classes

Apr 12 - 18 Spring Break - No Classes  
 May 29 - 31 Memorial Day - No Classes  
 Jun 13 Last Day of School

## Course Itinerary

Chapter	Lesson	Class Dates	Focus Skills
Chapter 1: Place Value	1) Rounding Numbers	Aug 17- Aug 23	<ul style="list-style-type: none"> <li>rules of rounding up versus down</li> <li>refreshing place values of large numbers and rounding to different digits</li> </ul>
	2) Estimating	Aug 24 - Aug 30	<ul style="list-style-type: none"> <li>purpose and methods of estimation</li> <li>using estimation to save time</li> </ul>
	3) Number Patterns	Aug 31 - Sept 6 OFF Sat Sept 5, Sun Sept 6 Labor Day	<ul style="list-style-type: none"> <li>100s charts</li> <li>odds and evens</li> <li>using patterns to save time</li> </ul>
Chapter 2: Ordering Operations	4) Operations and Parentheses	Sept 7 - Sept 13 OFF Mon Sept 7 Labor Day	<ul style="list-style-type: none"> <li>reviewing addition and subtraction</li> <li>overriding order using parentheses</li> </ul>
	5) Order of Operations	Sept 14 - Sept 20	<ul style="list-style-type: none"> <li>solving expressions with parentheses and the 4 basic operations</li> <li>understanding why there needs to be an order</li> </ul>
	6) Nested Parentheses	Sept 21 - Sept 27	<ul style="list-style-type: none"> <li>how to read and write expressions with multiple nested sets of parentheses</li> <li>simplifying complex expressions</li> </ul>
Chapter 3: Multiplication	7) Multiplication Models	Sept 28 - Oct 4	<ul style="list-style-type: none"> <li>using the area of a compound rectangle</li> <li>using the dancing partners algorithm</li> </ul>
	8) Multi-digit Multiplication	Oct 5 - Oct 11	<ul style="list-style-type: none"> <li>using the stacking algorithm</li> </ul>
	9) Perfect Squares	Oct 12 - Oct 18	<ul style="list-style-type: none"> <li>multiplying by yourself</li> <li>perfect squares up to 100</li> </ul>
	10) Perfect Square Strategies	Oct 19 - Oct 25	<ul style="list-style-type: none"> <li>visual techniques to find the next perfect square</li> <li>finding perfect squares of numbers that end in 5</li> </ul>
Chapter 4: Division	11) Division	Oct 26 - Nov 1	<ul style="list-style-type: none"> <li>dividing wholes into equal parts</li> <li>division as the opposite of multiply</li> <li>divisor, dividend quotient and remainder</li> </ul>
	12) Partial Quotient	Nov 2 - Nov 8	<ul style="list-style-type: none"> <li>how to divide large numbers using the partial quotient method</li> </ul>
	13) Long Division	Nov 9 - Nov 15	<ul style="list-style-type: none"> <li>how to divide large numbers using the long division algorithm</li> </ul>

<b>Chapter 5: Fractions</b>	<b>14) Fractions as Numbers</b>	Nov 16 - Nov 22	<ul style="list-style-type: none"> <li>fractions as parts of whole numbers</li> <li>fractions as answers to division questions</li> </ul>
<b>Holiday</b>	<b>Thanksgiving</b>	<b>OFF</b> Nov 23 - Nov 29	<b>Have a great week!</b>
<b>Chapter 5: Fractions</b>	<b>15) Mixed Numbers</b>	Nov 30 - Dec 6	<ul style="list-style-type: none"> <li>how to write and use mixed fractions</li> <li>how to convert from improper to mixed using division</li> </ul>
	<b>16) Simplifying Fractions</b>	Dec 7 - Dec 13	<ul style="list-style-type: none"> <li>using a number line or bar model to write a fraction in a different way</li> </ul>
<b>17) Midterm Review</b>		Dec 14 - Dec 20	<ul style="list-style-type: none"> <li>Review of Chapters 1 through 5</li> </ul>
<b>Holiday</b>	<b>Winter Break</b>	<b>OFF 2 WEEKS</b> Dec 21 - Jan 3	<b>Have a great break!</b>
<b>Chapter 6: Fraction Operations</b>	<b>18) Comparing (Equivalent) Fractions</b>	Jan 4 - Jan 10	<ul style="list-style-type: none"> <li>using multiples of numerator and denominator to make equivalent fractions</li> <li>comparing fractions as <math>&gt;</math> or <math>&lt;</math> or <math>=</math></li> </ul>
	<b>19) Adding and Subtracting Fractions</b>	Jan 11 - Jan 17	<ul style="list-style-type: none"> <li>finding a common denominator (<math>kd_1 = d_2</math>)</li> <li>able to add and subtract most fractions</li> </ul>
	<b>20) Multiply Fractions by a Whole</b>	Jan 18 - Jan 24	<ul style="list-style-type: none"> <li>visually multiplying fractions</li> <li>multiplying numerator by the whole</li> </ul>
	<b>21) Decimals in Money</b>	Jan 25 - Jan 31	<ul style="list-style-type: none"> <li>thinking of cents as fractions of a dollar</li> <li>introducing how a decimal place relates to fractions</li> </ul>
<b>Chapter 7: Algebraic Thinking 4.OA</b>	<b>22) Distributive Property</b>	Feb 1 - Feb 7	<ul style="list-style-type: none"> <li>visual distribution</li> <li>expanding the multiplication model to variable cases</li> </ul>
	<b>23) Distributive Strategies (Factoring)</b>	Feb 8 - Feb 14	<ul style="list-style-type: none"> <li>going backwards to factor a number</li> <li>solving visual puzzles involving distributive property</li> </ul>
	<b>24) Expressions</b>	Feb 15 - Feb 21	<ul style="list-style-type: none"> <li>defining and simplifying expressions</li> <li>evaluating expressions with different values</li> </ul>

	<b>25) Solving for Variables</b>	Feb 22 - Feb 28	<ul style="list-style-type: none"> <li>variables as missing values</li> <li>adding cancels subtracting</li> <li>multiplication cancels division</li> </ul>
	<b>26) Modelling Equations</b>	Mar 1 - Mar 7	<ul style="list-style-type: none"> <li>removing like objects from both sides</li> <li>writing equations from scales and word problems</li> </ul>
<b>27) Spring Review</b>		Mar 8 - Mar 14	<ul style="list-style-type: none"> <li>Review of Chapters 6 through 7</li> <li><b>Math Map</b> Where does this go?</li> </ul>
<b>Chapter 8: Data and Statistics</b>	<b>28) Length, Weight and Volume</b>	Mar 15 - Mar 21	<ul style="list-style-type: none"> <li>common units of length, weight and volume</li> <li>converting units using fraction ratios</li> </ul>
	<b>29) Temperature, Time</b>	Mar 22 - Mar 28	<ul style="list-style-type: none"> <li>common units of temperature, time</li> <li>converting units using fractions and multiplication</li> </ul>
	<b>30) Graphing</b>	Mar 29 - Apr 4	<ul style="list-style-type: none"> <li>how to plot points on an xy-plane</li> <li>how to plot expressions with different inputs</li> </ul>
	<b>31) Average</b>	Apr 5 - Apr 11	<ul style="list-style-type: none"> <li>calculating your first statistic: the mean</li> <li>finding the average of sets of data</li> <li>shortcuts to finding larger averages</li> </ul>
<b>Holiday</b>	<b>Spring Break</b>	<b>OFF</b> Apr 12 - Apr 18	<b>Have a great week!</b>
<b>Chapter 9: Polygons</b>	<b>32) Angles and Polygons</b>	Apr 19 - Apr 25	<ul style="list-style-type: none"> <li>acute, right, straight, obtuse, complementary and supplementary</li> <li>measuring angles and naming polygons by their angles' properties</li> </ul>
	<b>33) Perimeter</b>	Apr 26 - May 2	<ul style="list-style-type: none"> <li>finding the perimeter of a variety of polygons</li> </ul>
	<b>34) Area</b>	May 3 - May 9	<ul style="list-style-type: none"> <li>finding the area of rectangular and triangular shapes</li> <li>finding shortcuts to solve complex rectilinear areas or find rectilinear side lengths using a given area</li> </ul>
<b>Chapter 10: Compound Shapes</b>	<b>35) Joining and Splitting Shapes</b>	May 10 - May 16	<ul style="list-style-type: none"> <li>using compound shapes to find area by parts</li> <li>areas of polygons using a grid</li> </ul>
	<b>36) Area Formulas</b>	May 17 - May 23	<ul style="list-style-type: none"> <li>formulae as expressions</li> <li>using formula to find rectangle, triangle and parallelogram areas</li> </ul>

	<b>37) Applied Areas</b>	May 24 - May 30 OFF Sat Sun May 29 and 30 Memorial Day	<ul style="list-style-type: none"> <li>applying fractions, division, and the distributive model of multiplication</li> </ul>
	<b>38) Surface Area</b>	May 31 - June 6 OFF Mon May 31 Memorial Day	<ul style="list-style-type: none"> <li>review: 3D shapes (prisms, pyramids, cylinders, cones, spheres)</li> <li>finding the surface area of flattened 3D cuboids, prisms and pyramids (revisiting Lesson 34 where needed)</li> </ul>
<b>39) Final Review</b>		June 7 - June 13	<ul style="list-style-type: none"> <li>Review of Chapters 6 through 10</li> </ul>