[5+6] Kangaroo Syllabus Winter 2026

Course Summary

This course is meant for students looking to prepare for Math Competitions at the Grade 5 and 6 level with a focus on competition style questions at this skill level.

Focus Areas at this Level

Concepts, skills, and learning tools students see in this course include, but are not limited to:
- Spatial awareness, geometric and directionality
- Elimination of answers via logic, process of elimination, fallacies, estimation
- Arithmetic tips and tricks to help maximize time efficiency in a competition setting

Expected Outcomes

Students will be **expected to adequately perform in or explain** the following areas after course completion:
- Rounding by place value up and down to 100,000,000s and 1,000ths
- Addition and subtraction of fractions and decimals numbers
- Multiplication of one number by another (whole or fractions)
- Division of one number by a whole with remainders
- Understanding fractions, how to operate with them and how to make equivalent fractions
- Using integers and decimals and simple operations with them
- Using counting principles and probability
- Properties (like perimeter and area) of shapes, including triangles and circles

Pre Requisites

Students registering for this course should be **comfortable with the following Math**:
- Identifying numbers up to 100,000,000
- Comfortable with arithmetic operations: addition and subtraction (3-digits), multiplication and division (both 2-digit operands)
- Adding simple fractions with one denominator being a multiple of the other denominator
- Simple order of operations with addition, subtraction, parentheses and multiplication

Students should also be **willing and able to**:
- Communicate verbally at a basic level
- Learn to read and write numbers and simple words
- 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:
- Pencils
- Eraser
- Paper
- Colored pencils or markers
- Reliable internet connection and digital device capable of using Zoom effectively

Homework Expectations

The **Competition Team** will assign **homework weekly**. Students are expected to attempt all quizzes **before class** on Canvas. If you are having trouble accessing content, please email andy@engagingmathcircles.com.

Homework Delivery

Homework is delivered in a two main ways:
- **Practice Quiz (Weeks 1 - 8)**
  - Canvas, weekly set of questions to allow students to practice new concepts learned in class and previewing concepts to be introduced in the upcoming class
  - Approximately 5-15 questions
- **Practice Test (Week 9)**
  - Canvas, full length test to provide real test-taking experience for students
  - 30 problems
- Both auto-graded upon submission
  - The final score may be updated based on input from the instructor

Course Itinerary

Lesson	Class Dates Week of:	Focus Skills	Practice (Homework)
1 **Geometry & Patterns**	January 10 or 11	- Shapes, geometric figures - Area - Perimeter - Lines, rays, angles - Basic 3-D geometry - Length, Time, Currency	**Canvas Quiz 1**
2 **Numbers & Operations**	January 17 or 18	- Arithmetic - Place value - Comparing numbers - Mental math tricks - Decomposition of numbers & distribution	**Canvas Quiz 2**
3 **Fractions and**	January 24 or 25	- Parts of a whole - Converting fractions, mixed numbers, decimals, & percents	**Canvas Quiz 3**

Parts		● Arithmetic with fractions	
4 **Spatial Reasoning & Logic**	January 31 or February 1	● Spatial relations & visualization ● Rotations, reflections ● "Worst case scenario" problems ● Truth tables ● Puzzles	**Canvas Quiz 4**
5 **Algebraic Thinking**	February 7 or 8	● "Picture algebra" ● Finding missing values ● Working backwards	**Canvas Quiz 5**
6 **Counting Principles**	February 14 or 15	● Sets & Venn diagrams ● Counting possibilities ● Averages	**Canvas Quiz 6**
7 **Numbers & Operations**	February 21 or 22	● Counting, skip counting ● Place value ● Addition & subtraction ● Comparing numbers ● Mental math tricks ● Ordinal numbers	**Canvas Quiz 7**
8 **Fractions & Parts**	February 28 or March 1	● Parts of a whole ● Converting fractions, mixed numbers, decimals, & percents ● Arithmetic with fractions	**Canvas Quiz 8**
9 **Put It Together**	March 7 or 8	● A little bit of everything ● Problem solving strategies ● Test taking strategies	**Full Practice Test**
10 **Mock Test**	March 14 or 15	**LIVE In-Class Mock Test**	**No Homework!** **Good luck!**

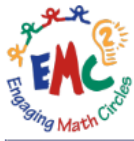# Thursday March 19, 2026

EMC Proctored Online Test:

Saturday March 21st, 2026 @ 1pm PST

EMC Academic 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

2025-2026 School Calendar

August 2025

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 2025

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 2025

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 2025

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 2025

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 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	

February 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	

March 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					

April 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			

May 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

June 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					

Legend:
- First and Last Day of School
- School Holidays & Vacations

Date	Event
Aug 18	First Day of Classes
Aug 30 - Sep 1	Labor Day Weekend - No Classes
Oct 31	Halloween - No Classes
Nov 25 - 30	Thanksgiving Week - No Classes
Dec 22 - Jan 4	Winter Break - No Classes
Apr 13 - 19	Spring Break - No Classes
May 23 - 25	Memorial Day - No Classes
Jun 14	Last Day of School

EMC²
Engaging Math Circles