

Math - Kindergarten Unit 6

Content Area: **Math**
Course(s):
Time Period: **Marking Period 2**
Length: **3-4 weeks**
Status: **Published**

Course Pacing Guide

Students construct meaning with authentic mathematical problems using a variety of strategies. Through mathematical discussions students justify and explain their thinking. Students are using manipulatives as tools to solve problems and represent thinking. They may use math journals to represent through models and record thinking.

Section 1 - Counting	MP -1	3 weeks
Section 2 - Shapes	MP -1	3 weeks
Section 3 - Number Sequence	MP -1	3 weeks
Section 4 – Measurement, Count by 10’s	MP -1	3 weeks
Section 5 - Teen Numbers, Operation symbols	MP-2	4 weeks
Section 6 - 3D Shapes, Subtraction, Measurement	MP -2	4 weeks
Section 7 - Addition & Subtraction	MP-2	4 weeks
Section 8 - Making 10	MP- 2	3 weeks
Section 9 - Addition & Subtraction	MP-2	3 weeks

Unit Overview

Length Measurement: Children will use strings to compare their heights to the heights of classroom objects. They will also order objects from shortest to longest. Finally children will explore quantifying length by measuring themselves with stick-on note “units” to see if they are tall enough to go on an imaginary amusement park ride.

2- and 3-Dimensional Shapes: Children will learn to describe and name many 3-dimensional shapes, such as cubes, spheres, cylinders, and cones. They will also compare 3-dimensional shapes to one another and to 2-dimensional shapes. In the process, children will notice the many 2-dimensional shapes that form the faces of 3-dimensional shapes and objects.

Subtraction: Children will use the subtraction symbol to represent “taking away” or “taking apart” situations. Children will make sense of the relationship and differences between addition and subtraction as they solve

a variety of number stories and play Growing and Disappearing Train.

Enduring Understandings

- Objects have measurable attributes that can be recognized and described.
 - Objects can be compared and ordered by length and weight.
- 2D and 3D shapes have specific names regardless of their orientation and size.
- 2D shapes are flat, 3D shapes are solid.
 - Separating parts from a whole is one interpretation of subtraction.
 - Taking part of a group away is one interpretation of subtraction.
 - Comparing two quantities to find how much more/less one quantity is than the other is one interpretation of subtraction
- Subtraction number sentences using - and = can be used to show a number

Essential Questions

- How can objects be compared and ordered by length?
- What characteristics make a shape two-dimensional?
- What 2D and 3D shapes do you see in the environment?
- How do you use mathematical language to describe 2D and 3D shapes?
- What is subtraction?
- How can we use objects, images, and other representations to show subtraction?

New Jersey Student Learning Standards (No CCS)

Measurement and Data

K.MD

A. Describe and compare measurable attributes.

1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
2. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*

Geometry

K.G

A. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

2. Correctly name shapes regardless of their orientations or overall size.
3. Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).

B. Analyze, compare, create, and compose shapes.

4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).
5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes

A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

1. Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings², sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
5. Demonstrate fluency for addition and subtraction within 5.

Amistad Integration

Ten Black Dots by Donald Crews

Holocaust/Genocide Education

Interdisciplinary Connections

SCI.K-ESS3-1

Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.

Technology Standards

8.1.2.A.4

Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).

8.1.P.A.5

Demonstrate the ability to access and use resources on a computing device

21st Century Themes/Careers

HPE.2.2.8.A.2

Demonstrate the use of refusal, negotiation, and assertiveness skills when responding to peer pressure, disagreements, or conflicts.

9.2.4.A.4

Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success

Financial Literacy Integration

Grades K-4

9.1.4.B.1 Differentiate between financial wants and needs.

- 9.1.4.B.2 Identify age-appropriate financial goals.
- 9.1.4.B.3 Explain what a budget is and why it is important.
- 9.1.4.B.4 Identify common household expense categories and sources of income.
- 9.1.4.B.5 Identify ways to earn and save.
- 9.1.4.C.1 Explain why people borrow money and the relationship between credit and debt.
- 9.1.4.C.2 Identify common sources of credit (e.g., banks, credit card companies) and types of credit (e.g., loans, credit cards, mortgages).
- 9.1.4.C.3 Compare and contrast credit cards and debit cards and the advantages and disadvantages of using each.
- 9.1.4.C.4 Determine the relationships among income, expenses, and interest.
- 9.1.4.C.5 Determine personal responsibility related to borrowing and lending.
- 9.1.4.C.6 Summarize ways to avoid credit problems.
- 9.1.4.D.1 Determine various ways to save.
- 9.1.4.D.2 Explain what it means to “invest.”
- 9.1.4.D.3 Distinguish between saving and investing.
- 9.1.4.E.1 Determine factors that influence consumer decisions related to money.
- 9.1.4.E.2 Apply comparison shopping skills to purchasing decisions.
- 9.1.4.F.1 Demonstrate an understanding of individual financial obligations and community financial obligations.
- 9.1.4.F.2 Explain the roles of philanthropy, volunteer service, and charitable contributions, and analyze their impact on community development and quality of living.
- 9.1.4.G.1 Describe how valuable items might be damaged or lost and ways to protect them.

[Money Basics Part 1 \(Vocabulary\)](#)

Instructional Strategies & Learning Activities

Engaging Experience 1: Teaching Point: Today I want to teach you that you can use string to compare the

lengths of objects.

One way to do this is to use lesson 6-1 by using string to compare children's body heights to classroom objects. Answer questions about which object is longer or shorter.

Engaging Experience 2: Teaching Point: Today I want to teach you that you can compare and order objects by their length.

One way to do this is to use lesson 6-2 by using straws of various lengths and ordering by length. Answer questions such as: Which straws were easier to order? Which were more difficult? Why?

Engaging Experience 3: Teaching Point: Today I want to teach you that you can name shapes as flat or solid by identifying if the shape is flat (not thick) or solid (thick).

One way to do this is to use lesson 6-5 to teach that objects have shape. Some objects, such as a sheet of paper or a photograph, are two-dimensional, or flat shapes. Some objects, such as a ball, can, box, or jar, are three-dimensional, or solid shapes.

Engaging Experience 4: Teaching Point: Today I want to teach you that you can describe and identify solid figures by telling their attributes and comparing them to everyday objects.

One way to do this is to use lesson 6-4 to teach that spheres, cylinders, cones, and cubes are solid figures. Many everyday objects closely approximate these figures.

Engaging Experience 5: Teaching Point: Today I want to teach you that you can write an equation to show subtraction by using the minus sign and equal sign to take apart and take from a group.

One way to do this is to use lesson 6-8 to teach students that taking apart or taking from a group is one interpretation of subtraction. Equations using $-$ and $=$ can be used to show parts of a whole.

Engaging Experience 6: Teaching Point: Today I want to teach you that you can represent subtraction as taking away from a number using cubes and pictures.

One way to do this is to use lesson 6-9 to teach students that taking away one or more objects from an existing group is one interpretation of subtraction.

Differentiated Instruction

- Inquiry/Problem-Based Learning
- Learning preferences integration (visual, auditory, kinesthetic)
- Sentence & Discussion Stems
- Tiered Learning Targets
- Learning Through Play

- Meaningful Student Voice & Choice
- Choice Boards
- Mastery Learning (feedback toward goal)
- Goal-Setting & Learning Contracts
- Game-Based Learning
- Flexible Grouping
- Rubrics
- Learning Menus
- Math games with Mentor Buddy
- Learning Through Workstations
- Student Interest & Inventory Data

Formative Assessments

EDM Assessment Check-Ins

Summative Assessment

Report Card Assessments

Benchmark Assessments

End-of Year Math Assessment

Alternate Assessments

Resources & Technology

Apps and Websites:

Number Flash, Splash Math, Math Bingo

http://em-ccss.everydaymathonline.com/g_login.html

<http://www.abcy.com/>

BOE Approved Texts

Everyday Math Kindergarten

Closure

- Math Celebration - audience writes feedback on post-it notes for each student
- Snowstorm - Students write down what they learned on a piece of scratch paper and wad it up. Given a signal, they throw their paper snowballs in the air. Then each learner picks up a nearby response and reads it aloud.
- Parent Hotline - Include an interesting question about the lesson (along with the answer) in parent communications so that the topic can be discussed over dinner.
- Gallery Walk - On chart paper, small groups of students write and draw what they learned. After the completed works are attached to the classroom walls, others students affix post-its to the posters to extend on the ideas, add questions.
- Have students write down three quiz questions (to ask at the beginning of the next class).
- Kids answer the following prompts: "What takeaways from the lesson will be important to know three years from now? Why?"
- Ask a question. Give students ten seconds to confer with peers before you call on a random student to answer. Repeat.
- Have kids orally describe a concept, procedure, or skill in terms so simple that a child in preschool would get it.
- Direct kids to raise their hands if they can answer your questions. Classmates agree (thumbs up) or

disagree (thumbs down) with the response.

- Ask students to summarize the main idea in under 60 seconds to another student acting as an investigative reporter

- Ask students to write what they learned, and any lingering questions on an "exit ticket". Before they leave class, have them put their exit tickets in a folder or bin labeled either "Got It," "More Practice, Please," or "I Need Some Help!"

- After writing down the learning outcome, ask students to show with colored card: "Stop-red (I'm totally confused. Go-green (I'm ready to move on.)" or "Proceed with caution-yellow (I could use some clarification on . . .)"

-After announcing down the learning outcome, ask students to show with thumbs up (Got it!), down (Don't get it!) or sideways (More practice, please!)

- Create "I Am an Expert in" posters individually or in groups to share with the class or the preschool, as appropriate

ELL

- Alternate Responses
- Advance Notes to Parents or Educational Assistants
- Extended Time
- Teacher Modeling
- Simplified Verbal Instructions and Pictorial Instructions
- Frequent Breaks
- E-Dictionaries
- Google Translate

Special Education

- Shorten assignments to focus on mastery of key concepts.
- Shorten written assignments to focus on mastering the most functional concept/skill.
- Substitute alternatives for written assignments (clay models, posters, panoramas, collections, etc.)
- Specify and list exactly what the student will need to learn to pass.

- Evaluate the classroom structure against the student's needs (flexible structure, firm limits, etc.).
- Keep workspaces clear of unrelated materials.
- Keep the classroom quiet during intense learning times.
- Reduce visual distractions in the classroom (mobiles, etc.).
- Provide an iPad for math practice.
- Seat the student close to the teacher or a positive role model.
- Use a study carrel. (Provide extras so that the student is not singled out.)
- Provide an unobstructed view of the chalkboard, teacher, movie screen, etc.
- Keep extra supplies of classroom materials (pencils, books) on hand.
- Maintain adequate space between desks.
- Give directions in small steps and in as few words as possible.
- Number and sequence the steps in a task.
- Have student repeat the directions for a task.
- Provide visual aids.
- Go over directions orally.
- Permit as much time as needed to finish work and tests.
- Allow tests to be taken in a room with few distractions (e.g., the library).
- Divide tests into small sections of similar questions or problems.
- Allow the student to complete an independent project as an alternative test.
- Give progress reports instead of grades.
- Show a model of the end product of directions (e.g., a completed math problem or finished quiz).
- Stand near the student when giving directions or presenting a lesson.
- Provide assistance from classroom educational assistant
- Permit a student to rework missed problems for a better grade.
 - Provide math manipulatives

preferential seating

- extended time on tests and assignments
- reduced homework or classwork
- verbal, visual, or technology aids
- modified textbooks or audio-video materials
- behavior management support
- adjusted class schedules or grading
- pre-approved nurse's office visits and accompaniment to visits
- occupational or physical therapy
 - assistance from classroom educational assistant

At Risk

- Use of mnemonics
- Have student restate information
- Provision of notes or outlines
- Concrete examples
- Use of a study carrel
- Assistance in maintaining uncluttered space
- Weekly home-school communication tools (notebook, daily log, phone calls or email messages)
- Worksheets with highlighted instructions
- Graph paper to assist in organizing or lining up math problems
- Use of manipulatives
- No penalty for reversals or sloppy handwriting
- Follow a routine/schedule
- Teach time management skills
- Verbal and visual cues regarding directions and staying on task

- Adjusted assignment timelines
- Visual daily schedule
- Immediate feedback
- Work-in-progress check
- Preview test procedures
- Cue/model expected behavior
- Use de-escalating strategies
- Use peer supports and mentoring
- Have parent sign homework/behavior chart
- Chart progress and maintain data

Gifted and Talented

Offer the Most Difficult First

- Pretest
- Offer choice
- Speak to Student Interests
- Allow G/T students to work together
- Tiered learning
- Focus on effort and practice
- Encourage risk taking