RETHINK EDUCATION
North Carolina Department of Public Instruction

An At-Home Guide for Families

Kindergarten Math in North Carolina Public Schools

Content **Outline**

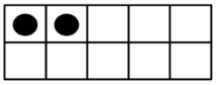
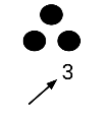
At the end of the year, my child will know how to…

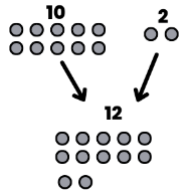
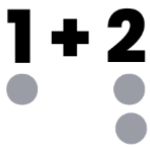
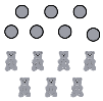
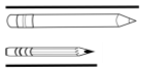
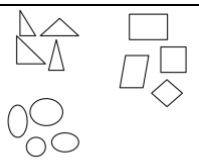
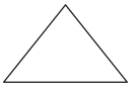
- count to 100 by ones and tens.
- count objects.
- compare numbers.
- add and subtract within 10.
- solve addition and subtraction word problems.
- write numbers 0-20.
- compose and decompose numbers 1-19.
- compare measurable attributes of an object, such as weight and length.
- classify objects into categories.
- recognize, describe, and compare 2-dimensional shapes.
- recognize, describe, and compare 3-dimensional shapes.

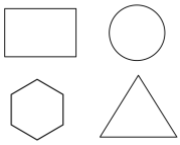
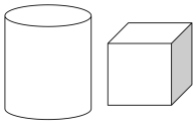
Curious what the specific standards are for Kindergarten Math in North Carolina?

Check out the **North Carolina Standard Course of Study** to learn more. Looking for additional explanations about what students should be able to do at the end of this course? Check out **NC DPI's unpacked contents document** aligned to the course standards.

Key Vocabulary

Visual	Term	Definition
	**10-frame**	a math tool used for counting and understanding numbers
	**numeral**	a written number
	**subitize**	to see how many without counting
	**decompose**	to break up a number or quantity into smaller parts

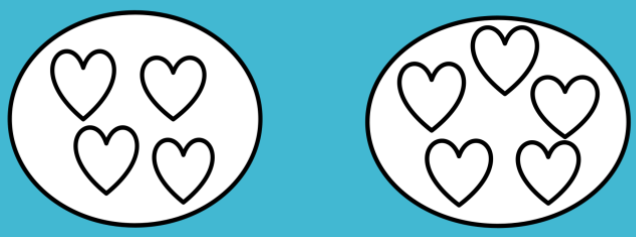
Visual	Term	Definition
	**compose**	putting a number together using its parts
	**expression**	a mathematical phrase that combines numbers using addition and subtraction without an equal sign
3 + 2	**addition expression**	a way to represent addition with numerals and a plus sign
5 − 2	**subtraction expression**	a way to represent subtraction with numerals and a minus sign
	**manipulative**	objects used as math tools to help us see and represent a number or quantity
	**measurable attribute**	characteristics of an object that we can measure in some way
	**Compare**	Determining how an object is longer than, shorter than, or taller than another object
	**Sort/Classify**	To group objects by their attributes
	**hexagon**	2-dimensional figure with 6 straight sides and 6 vertices (or corners)
	**rectangle**	2-dimensional figure with 4 straight sides and 4 vertices (or corners). The opposite sides are the same length
	**triangle**	2-dimensional figure with 3 straight sides and 3 vertices (or corners)
	**circle**	2-dimensional figure with a curved surface

Visual	Term	Definition
	**square**	2-dimensional figure with 4 straight sides, 4 vertices (or corners). All sides are equal length
	**cube**	3-dimensional figure with 6 square faces
	**sphere**	3-dimensional figure with a curved surface
	**cone**	3-dimensional figure with a circle face and 1 point
	**cylinder**	3-dimensional figure with 2 circle faces
	**2-dimensional shape**	a shape that does not have any depth
	**3-dimensional shape**	a shape with depth

Learning in Action: Grade Level Skills

Examples of Grade Level Skills

Problem One: How many hearts are in each group? Which group has more hearts?



Solution One: Students can count the amount of hearts in each group. The group on the left has 4 hearts and the group on the right has 5 hearts. This means that the group on the right has more hearts.

Problem Two: Jeremy had 4 toy cars. Then Kaitlyn gave him 3 toy cars. How many toy cars does Jeremy have now?

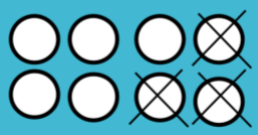
Solution Two: Students can draw 4 circles and then draw 3 more circles to show 7 cars total.

Students can also write out the expression 4 + 3 = 7

Students can use 4 toy cars and add 3 more toy cars to get 7.

Problem Three: Macy had eight crayons. She gave 3 of her crayons to Jenny. How many crayons does Macy have now?

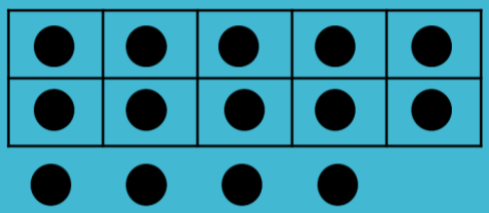
Solution Three: Students can draw 8 circles and then cross off 3 circles to show 5 circles left.



Students can write out the expression 8 - 3 = 5

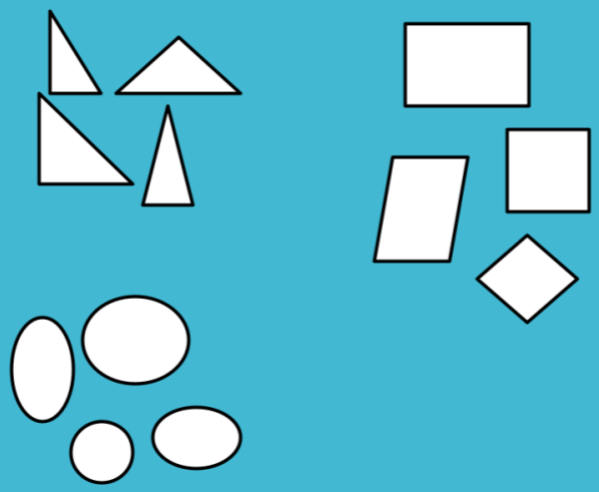
Students can use 8 actual crayons and take 3 away to leave 5.

Problem Four: Can you quickly determine how many dots are on the 10 - frame?



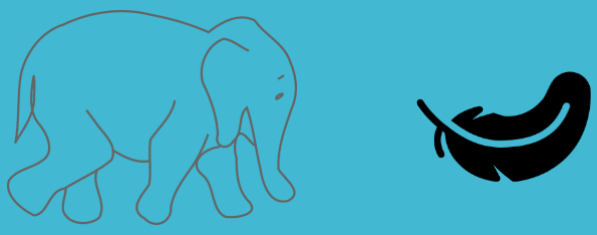
Solution Four: Students should be able to quickly determine that there are 10 dots within the 10-frame and then add the additional 4 dots to make 14.

Problem Five: How are these shapes sorted?



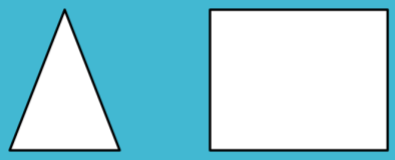
Solution Five: The shapes are sorted by the number of points each shape has. The group in the top left all have three points, the group in the top right all have 4 points, and the group in the bottom left all have no points.

Problem Six: Determine which object is heavier.



Solution Six: Students should be able to determine that the elephant would be heavier than the feather.

Problem Seven: Describe the shapes you see below. Tell how they are similar and different.



Solution Seven: The rectangle and the triangle are both 2-dimensional shapes. They both have corners. The rectangle has 4 sides and 4 corners and the triangle has three sides and three corners.

Resources

Links and online resources to allow you to support your child's learning.

- Math Games - practice basic skills for kindergarten
- Didax Virtual Manipulatives - find a ten frame, shapes, a geoboard and more
- Digital Pattern Blocks - students can manipulate the difference shapes
- Kindergarten Math IXL - digital practice on all skills
- Khan Academy for Kindergarten - digital practice on all skills
- Dreme Family Math - resources and games for families to support math with young students
- Learning Trajectories for Math - resources for families to support math at home
- PBS kids games - explore different games
- Fact Monster Flashcards - addition and subtraction flashcards
- Math Easily Flashcards - more flashcards

At-Home Connections

- Ask your child to count different objects in your environment, you can go all the way to 100.
- Count with your child. Have your child say one number and you say the next and continue back and forth. You can also count by 10s.
- Ask your child to look at a group of objects and tell how many without counting.
- Ask your child to show 3 cars and 4 more. (Substitute any numbers 1 -10 or objects)
- Ask your child how they could show having 10 cookies and eating 6 of them? (Substitute any numbers 1 -10 or objects)

- Ask your child which object is heavier or lighter using objects in your environment.
- Ask your child which object is smaller or bigger using objects in your environment.
- Ask your child to tell you different ways to group objects together?
- Ask your child to count the number of objects in each group and tell which group has fewer or more objects.
- Ask your child to identify and describe what shapes they see in their environment.

Challenges to Anticipate

It can be hard to watch your child struggle with something, but sometimes this is a necessary part of the learning process. Help your child by asking them to explain the problem to you and encourage them to keep trying even if they do not get it the first time.

Learning to count for the first time can be challenging. Practice counting any time that you can. Have your child start any number other than one and continue counting from there. (For example, start at 6, then count 7, 8, 9, 10…). The more your child practices, the better they will become.

Writing and identifying numbers can be another source of struggle. Point out numbers in your environment and ask your child to say the number. You can also print off these practice sheets from the lessons to have your child practice writing the numbers 0 - 20. You can even have them write the numbers with shaving cream, trace them within sand, or even create them with play doh or modeling clay.

Adding and subtracting can also be difficult. Here are some ways for students to practice adding and subtracting digitally so they can get instant feedback.

Communicating with Your Child's Teacher

Still feeling stuck? Reach out to your child's teacher to discuss what you can do further your child's learning. Some questions that might guide your discussion:

- What resources would you suggest I use to support my child?
- Where do you see my child struggling? What can we do together to help?
- What should my child practice at home?
- What collective message can we send together to help my child learn?

Need Technical Help?

Reach out to your student's home school for technical assistance. Include the type of device (PC, Mac, Chromebook, etc.) and browser (Chrome, Firefox, Safari, etc.).