

Kindergarten Homework Options

Mathematics

Please choose an activity to complete with your child.

These activities are closely related to our curriculum goals.

These are activities for home so there is no need to return anything to school.

Counting and Cardinality

Know number names and the count sequence

1. **Counting to 100 by ones.** Practice counting from 1-100. If counting to 100 seems overwhelming, practice counting to 20 or 50. The more you practice the higher you'll be able to count. Extension: Practice writing from 1-100.
2. **Counting to 100 by tens.** Practice counting to 100 by tens. (10, 20, 30, 40, 50, 60, 70, 80, 90,100) Extension: Write 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100. What do you notice is the same about the numbers? What is different? Can you count by 2's or 5's?
3. **Counting On.** Have an adult say a number such as 8. You count on 9, 10, 11 until you reach 20. Have an adult say another number such as 24. You count on until you reach 30. Continue playing with any number 1-100. Play until it is no longer fun. Extension: Can you count forward by 10's or 5's?
4. **Numbers At Home.** Look around your home for numbers. Look on the phone, clock, remote control, microwave, etc. Talk about the different uses for numbers. Extension: Take a notebook with you and write down the numbers you see.
5. **Numbers Around the Neighborhood.** Take a walk around the neighborhood. Look for numbers on houses, street signs, license plates, etc. Name the numbers you see. Extension: Instead of naming the numbers you see such as one, five, seven (157), try reading the number as one hundred fifty seven.
6. **Telephone Game.** Think of someone you would like to call. Have an adult tell you the phone number. You punch in the numbers and call him/her. Extension: Call someone else.

Number Recognition

1. **Pointing Game.** Create number flashcards. Lay your number flashcards face up on the floor. Have an adult say a number and you point at the corresponding flashcard.
2. **See and Say.** Create number flashcards. Have an adult hold up a flashcard. Look at the flashcard and say the number on the flashcard.

3. **Musical Numbers.** Create number flashcards. Place flashcards face up in a large circle on the floor. Play music and hop around the cards. When the music stops, hop on a number, and say the number.
4. **What number is missing?** Create number flashcards. Put the flashcards in numerical order. Then have an adult remove one of the flashcards. You say which number is missing.
5. **Representing numbers.** Create number flashcards. Put the flash cards in order. Think of different representations for each number. Such as, "I have 0 sisters. I ate 1 sandwich for lunch. I have 2 feet. I've lost 3 teeth." Extension: Think of number combinations for each number such as I have 2 dogs and 1 cat, that makes 3 animals. 2 kids and 2 parents equal 4 people in our family.
6. **Flashcards and Counting.** You will need small objects for this activity. Place your flashcards in a pile upside down. Draw one flashcard. Count out the number of objects corresponding to your flashcard. For example, if your flashcard says 12, you count out 12 objects. Extension: Combined two sets. What do you get when you put a set of 3 together with a set of 4? (7)
7. **Jump and Shout.** Have an adult hold up a flashcard. You say the number on the flashcard then jump while counting. For example: If an adult holds up a flashcard with the number 5. You will say, "5!" Then jump while counting, "1,2,3,4,5."

Numeral Writing

1. **Sugar or Salt Writing.** Put some sugar or salt in the bottom of a pie pan. Have an adult say a number from 0-20. You write the number. Erase by shaking. Continue the activity practicing numbers from 0-20. Extension: Try more difficult numbers such as 72, 36, etc.
2. **Listen and Write.** Have an adult clap slowly as you listen. When he/she stops, you write the number of claps on a piece of paper or in salt. For example, if you hear five claps, write the number 5. Keep playing until you have practiced writing all the number 0-20 in random order. Extension: While doing this activity, write the number and number word. (12 and twelve)
3. **Practice Writing From 0-20.** In your best handwriting, write the numbers 0 –20. Have an adult watch as you write to make sure you are forming the number correctly. (There is a guide for correct formation on pg. 43) Extension: Practice writing to 100.
4. **Objects and Numbers.** Have an adult place a number of objects ranging from 0-20 on the table. You count how many objects are on the table and write the number on a piece of paper. Continue the activity counting objects ranging from 0-20 and writing the number on a piece of paper until no longer fun. Extension: Record what you see pictorially. (Draw eight circles and write the number 8.)

Count to tell the number of objects

1. **Hopping Fun.** Have someone time 20 seconds on a clock as you hop. Count as you hop. How many times can you hop in 20 seconds? Now try clapping, turning, snapping,

etc. Have an adult monitor as you count to make sure you are saying the right number names in the counting sequence. Extension: Record how many times you hopped, clapped, and turned on a piece of paper. Which activity could you do the fastest? Which activity did you do the slowest?

2. **Snack Counting.** Choose a snack. Count the pretzels in your bowl, grapes in your hand, fruit snacks in your sack, etc. Have an adult monitor as you count to make sure you are saying the right number names in the counting sequence. Extension: Record your data. Draw a picture of how many pretzels you ate and write the number.
3. **Switch it, Change it, and Rearrange it.** Have an adult place a number of objects ranging from 2-20 on a table. You count the objects and say how many. Have an adult rearrange the objects on the table. Now, how many are on the table? The goal is to recognize the number of objects is the same regardless of their arrangement or the order in which they are counted. Keep playing with numbers ranging from 2-20 until no longer fun. Extension: Have an adult place a number of objects ranging from 1-5 on the table. You take a quick look. Can you say how many objects are on the table just by looking and not counting?
4. **Adding One.** Have an adult put one object on the table. You count and say how many objects. (1) Then have an adult put one more object on the table. You say how many. (2) Have an adult continue adding one at a time up to ten. The goal is to understand each successive number name refers to a quantity that is one larger. (When you are counting the sequence is 5, 6 ... $5+1=6$) Extension: Write number sentences as you are adding on one more objects ($0+1=1$, $1+1=2$, $2+1=3$, etc).
5. **Numbers Plus One.** Count out 5 objects. Then add one more. How many do you have now? Continue playing by having an adult say a random number from 0-9. You count out that many objects. Then add one more. How many objects are there now? The goal is to understand each successive number name refers to a quantity that is one larger. (When you are counting the sequence is 5, 6 ... $5+1=6$) Extension: Write number sentences as you add on one more object. ($5+1=6$, $2+1=3$, etc).
6. **Counting Objects in Shapes.** Have an adult place 7 object in a line. You count and say how many objects. Then have him/her place 12 objects in a square. You count and say how many objects. Continue having an adult arrange 4-20 objects in rectangles, circles, and arrays. (An array is objects placed in rows and columns. E.g., three rows with four objects in each row equaling twelve objects altogether.) You count and say the number of objects. Extension: Can you arrange 9 objects in a line, rectangle, square, and array?
7. **Scattered Counting.** Have an adult place 6 objects in a scattered configuration (design) on the table. You count and say how many objects. Continue having an adult arrange 1-10 objects in scattered configurations. You count and say how many objects. Extension: Instead of saying the number, write the number and number word on a piece of paper (8, eight).
8. **Counting Objects to 20.** Have an adult say a number from 0-20. You count out the given number of objects. Continue playing by having the adult say a number from 0-20 and you count out the objects. Extension: Have an adult say a number from 0-20. You

count out the number of objects. Then have an adult say another number, you either add on more objects or take objects away to make the new number.

Compare Numbers

1. **Share and Compare.** Put a small handful of objects in your hand. Have an adult put a small handful of objects in his/her hand. Compare the objects in each hand and say who has less and who has more. ("I have less and you have more.") Continue playing with different quantities in your hands. Extension: Stretch your thinking by saying, "I have 2 more than you, or you have three less than me."
2. **More or Less.** Put a handful of objects in a spot on a table. Put more objects in another spot on the table. Compare the two sets by using matching or counting strategies. Use words such as greater than, less than, or the same to compare the two sets. Keep playing until it is no longer fun. Extension: Write a number sentence about your sets. Example: $9 > 2$
3. **Comparing Written Numerals.** Find numbered cards from an old card game or make a set of 40 cards numbered 1-10. Deal the cards to both players. Each player lays one card face up. Compare the numerals on the two cards. The highest card wins and that player takes both cards. If the cards are the same, players lay down another card until one is higher. When all the cards have been played, each player counts up his/her cards. The player with the majority of the cards wins! Extension: Play the same game, only this time the person with the least amount of cards at the end wins.
4. **Less is more.** Think of things you'd rather have less of. For instance, it's better to have less cavities and less time-outs. Extension: Make a list of things you'd rather have less of.

Math Operations and Algebraic Thinking

Understand addition as putting together, adding to.

Understand subtraction as taking apart, taking from.

1. **Math Stories.** Have an adult make up a math story. For example: "Let's say you invite 3 friends to come over. 1 of your friends leaves and goes home. How many friends are left to play with?" (2) You solve the problem by using your fingers, mental math, drawings, etc. Explain to the adult how you came up with the answer. Keep making up addition and subtraction stories until it is no longer fun. Extension: Record the story on paper by drawing a picture of your friends with one leaving, or writing a number sentence $3 - 1 = 2$. Use larger numbers.
2. **Solving Addition Word Problems.** Have an adult say an addition problem using numbers equaling 10 or under. For example, "What's 3 plus 4?" (Abstract word problem) or "If you had 3 cookies and I had 4 cookies. How many cookies would that be all together?" (concrete word problem) You solve the problem by using objects (put 3 beans on the table and then add 4 more beans), drawings (draw 3 circles and 4 circles), fingers

(put up three fingers and 4 fingers), or mental math (solve the problem in your head). Keep solving addition problems until it is no longer fun. Extension: Have an adult write out equations. You write in the answers. ($3+4=7$) Use larger numbers.

3. **Solving Subtraction Word Problems.** Have an adult say a subtraction problem using numbers equaling 10 or under. For example: "What is 8 minus 4?" (Abstract word problem) or "If you had 8 chicken nuggets and you eat, how many chicken nuggets would you have left?" (more concrete word problem) You solve the problem by using objects (put 8 beans on the table and take 4 beans away), drawings (draw 8 circles then cross out 4 circles), fingers (put up 8 fingers then put 4 fingers down), or mental math (solve the problem in your head). Keep solving subtraction problems until it is no longer fun. Extension: Have an adult write out equations. You write in the answers. ($8-4=4$) Use larger numbers.
4. **Rolling Addition.** Find a dice. Roll the dice and put that number of objects in one set. Roll again and put that many in another set. Join the sets together and tell how many are all together. You can also solve the math problems by rolling two dice and counting the dots on the dice. Keep playing until it is no longer fun. Extension: Write an equation. ($4+5=9$) Use multiple dice.
5. **Rolling Subtraction.** Find a dice. Place 6 objects in a set. Roll the dice and take that many objects away from the set. How many are left? Keep playing until it is no longer fun. You can also solve the math problems, by subtracting on your fingers. Extension: Write an equation. ($6-2=4$) Use multiple dice.
6. **Multiple Representations of a Number.** Have an adult say a number from 1-10. Write down all the ways you can think of to represent that number. For example, to represent 5 you could write the numeral, write the word five, draw a picture of 5 objects, draw a picture of 3 kids with their 2 parents. Extension: Stretch your thinking to include more representations of five such as a nickel, 5 tally marks, a basketball team, 5 fingers, $2+3=5$, and $6-1=5$.
7. **Decomposing Numbers.** Have an adult say a number from 1-10. You decompose (break apart) the number into two or more pairs. (6 can be broken down into 3 3, 4 2, 6 0, and 5 1) Record your findings with numbers (3 3 and 4 2), drawings (***) (***) , or equations ($6=3+3$). If you cannot think of a strategy for decomposing numbers try this one. Draw 6 circles. Then draw a line between two of the circles. Count how many circles are to the right of the line and count how many circles are to the left of the line. Write down the two numbers. This is your first pair of numbers. Then draw 6 circles again and put the line in a different place. Count how many circles are to the right of the line and count how many circles are to the left of the line. Write down the two numbers. This is your second pair of numbers. Continue decomposing numbers until no longer fun. Extension: Think of numbers you can subtract to make 6. ($10-4=6$, $7-1=6$, $8-2=6$)
8. **Making Ten.** Have an adult say a number from 1-9. You figure out what number you need to add to get 10. If an adult says 2, you would have to add 8 to get to 10. To solve the problem you can use objects (put 2 objects on the table and then add objects until you get to 10), drawings (draw 2 circles and then add circles until you get to 10), fingers (put up 10 fingers, put two fingers down, and count how many fingers are still up), or

mental math (figure it out in your mind). When you solve the problem, tell an adult your answer. "2 plus 8 equals 10." Continue with other numbers from 1-10. Extension: Have an adult write an algebraic equation $2+x=10$. You solve the problem and then write the answer $2+8=10$. Can you find what makes 20?

9. **Hide the Pennies.** You will need 3 pennies for this activity. Have an adult put some of the pennies in each hand and close his/her fists so you cannot see the pennies. You tap the hand you want opened first. Have an adult open the hand you tapped. Count the pennies in that hand. Now figure out how many pennies are in the other hand. Have an adult open his/her other hand and see if you are right. Practice all the number combinations of 3. Play again using 4 or 5 pennies. If you are having a hard time figuring out the answer mentally try using your fingers, drawing pictures, or using your own set of pennies. Extension: Explain your problem solving strategies. How did you know how many pennies were in the other hand?
10. **Adding Quickly.** Have an adult say addition problem that equals no more than 5. (1+4, 2+2, 3+1, etc.) You solve the problem as fast as you can and say the answer. You can use objects, fingers, mental math, or drawings to solve the problems. Extension: Have an adult write down math equations and you write in the answers as fast as you can. Can you do it within 5 seconds? Try higher numbers when ready.
11. **Subtracting Quickly.** Have an adult say a subtraction problem that starts from 1-5. (5-1, 1-0, 4-2, etc.) You solve the problem as fast as you can and say the answer. You can use objects, fingers, mental math, or draw pictures to solve the problems. Extension: Have an adult write down math equations and you write in the answers as fast as you can. Can you do it within 5 seconds? Try higher numbers when ready.

Math Numbers and Operations in Base Ten

Working with numbers 11-19

to gain foundations for place value

1. **Composing numbers from 11 to 19.** Have an adult draw a picture of a number from 11-19 broken down into tens and ones. You count the objects in the picture and write down the number. Example: An adult draws one ten and three ones. You count the squares/stars and write 13.

Continue playing with other numbers from 11-19 until no longer fun. Extension: Compose higher numbers in the same way.

1. **Decomposing numbers from 11 to 19.** Have an adult say a number from 11-19. You represent the number by showing the number broken down into tens and ones. (14 is one group of ten and four extras.) Represent the number with an equation ($14= 10+4$) or a drawing. Examples of drawings shown below.

Continue playing with other numbers from 11-19 until no longer fun. Extension: Decompose higher numbers in the same way. (24 is 2 groups of ten and 4 ones/extras). Represent the number with a drawing or equation.

Math Measurement and Data

Describe and compare measurable attributes

1. **Describing Measurable Attributes.** Find an object in your home. Tell an adult all the different ways you can measure that object. For example: You could measure your backpack by seeing how tall it is (length), how big around it is (width) and how heavy it is (weight). Keep playing describing several ways to measure different objects in your home. Extension: Use a measuring tape or scale to measure the different objects.
2. **Comparing Height.** Put two people back to back. Measure to see who is taller and who is shorter. Describe the people using the words “taller” and “shorter.” Keep measuring people until no longer fun. Remember, it’s not a contest. The goal is to compare, not to compete! Extension: Compare three or more people and line them up shortest to tallest. Use words such as short, shorter, shortest, tall, taller, tallest, or short, medium, tall.
3. **Comparing Length.** Find some crayons (or pencils). Pick two crayons and compare their length. Describe the crayons using the words “longer” and “shorter.” Keep measuring crayons until no longer fun. Extension: Line up all your crayons from shortest to longest.
4. **Comparing Volume.** Find some cups (or bowls). Compare two cups and predict which cup would hold more water. Describe the capacity of the cups by using the words “holds more water” and “holds less water.” Continue measuring cups until no longer fun. Extension: Pour 1 cup of water into two of the cups you compared. Were your predictions right? Which cup truly can hold more water?

Classify objects and count the number of objects in categories

1. **Sorting Laundry.** Help sort the dirty laundry into piles. Have an adult explain how to classify each pile (whites, darks, towels, etc.) After you sort the laundry, count how many items are in each pile. Extension: After counting the piles, describe the piles using words such as more, less, or the same. (“There are more white clothes than dark clothes.”)
2. **Silverware Sort.** Help with the dishes by putting clean silverware back in the drawer. Count the number of spoons and then count the number of forks. Extension: Compare the number of spoons to forks by using words such as more, less, or the same.
3. **Stuffed Animal Sort.** Classify and sort your stuffed animals into categories (big/little, similar colors, farm/jungle/ocean animals). Count how many stuffed animals are in each category. Extension: Have an adult sort the stuffed animals into piles. See if you can guess how he/she classified each pile by looking for similarities.
4. **Free Choice.** Choose something to sort (toy cars, junk drawer items, coins, seashells, etc). Count how many items are in each category. Extension: After sorting the items into piles, see if an adult can guess how you classified each pile by looking for similarities.

Math Geometry

Identify and describe shapes

1. **Describe objects in our environment.** Look at two different objects. Describe the two objects by naming their shapes and relative position to one another. For example: The circle rug is under the oval table. The sphere ball is behind the cube ottoman. Extension: Have an adult describe two objects by naming their shapes and relative position to one another. You draw a picture of what he/she is describing.
2. **Shape Flashcards.** Have an adult hold up a shape flashcard. You name the shape on the flashcard. Have an adult turn the flashcard a $\frac{1}{4}$ turn and then a $\frac{1}{2}$ turn. Can you still name the shape? Remember no matter which way you turn the shape, the shape remains the same. Extension: Make more flashcards with other shapes such as octagon, rhombus, pentagon, rectangular prism, etc.
3. **Identifying two- and three-dimensional shapes.** Have an adult hold up a shape flashcard. You identify the shape as two-dimensional (flat) or three-dimensional (solid). Guide: Square, circle, triangle, rectangle, and hexagon are two-dimensional. Cube, cones, cylinder, and sphere are three-dimensional. Extension: Draw a two-dimensional shape to represent a three-dimensional object. For example: Draw a circle (two-dimensional) to represent a ball (three-dimensional).
4. **Three-Dimensional Objects.** Talk about different objects in our environment that are the shapes of cubes, cones, cylinders, and spheres. For example: A box is a cube. An oatmeal container is a cylinder. A ball is a sphere. A cotton candy stick is a cone. Continue thinking of different objects and their three-dimensional shapes until no longer fun. Extension: Have an adult write the words cube, cone, cylinder, and sphere on a piece of paper. You sound spell objects that are each of those shapes. (e.g., write the word ball next to the word sphere.)

Analyze, compare, create, and compose shapes

1. **Analyzing Two-Dimensional Shape.** Find your circle, square, rectangle, triangle, and hexagon flashcards. Describe each shape's attributes. For example: A square has 4 sides that are all the same length. A circle is round with an infinite number of sides. Extension: Have an adult draw other two-dimensional shapes on a piece of paper. (pentagon, octagon, trapezoid. etc) You describe the attributes of these shapes.
2. **Comparing Shapes.** Compare your shape flashcards by looking for similarities and differences. Share your findings with an adult. You may choose to compare the length of the sides, the number of vertices/"corners," etc. (Examples: A rectangle and square have four sides. A triangle has three vertices/"corners" and a cube has eight. A hexagon's sides are all the same length and a square's sides are also all the same length. The top and bottom of a cylinder is a circle.) Extension: Draw a big and small triangle. Count the number of sides on each triangle. Notice how the numbers of sides DOES NOT change regardless of the size of triangle.

3. **Shape Models.** Use art supplies such as clay, toothpicks, string, paper, and/or glue to make different two- and three-dimensional shapes. (square, circle, triangle, rectangle, hexagon, cube, cone, cylinder, and sphere) Extension: create your own design!
4. **Shape Art.** Think about shapes as you draw a picture of a person. What shape will you draw for the head? What shape will you use to draw the arms? Make the entire person using shapes. This means no stick figures! Extension: Draw something else as you think about shapes such as an animal, house, or rocket.
5. **Drawing Shapes in Our World.** Draw an outdoor scene including a mountain, sun, tree, and flower. Think about shapes as you draw. Extension: Add more details to your drawing. Use sound spelling to label the objects in your picture.
6. **Making Larger Shapes Out of Small Shapes.** Use toothpicks to make small shapes. Join the small shapes together to make a bigger shape. Describe to an adult what you are doing. (“I am putting two squares together to make a rectangle”) If you do not have toothpicks use string. Extension: Glue your shapes on a piece of paper.