Grade 1 • Curriculum Correlation

Grades K–3 Open Questions for the Three-Part Lesson and the 2020 Ontario Curriculum

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Grades K–3 Open Questions for the Three-Part Lesson: Number Sense and Numeration [Number]

2020 Ontario Curriculum Expectations	K–3 Open Questions for the Three-Part Lesson: *Number Sense and Numeration*	Book & Page Number
B. NUMBER		
B1. Number Sense **Overall Expectation:** By the end of Grade 1, students will demonstrate an understanding of numbers and make connections to the way numbers are used in everyday life		
Whole Numbers		
B1.1 read and represent whole numbers up to and including 50, and describe various ways they are used in everyday life	**Q:** You use tally marks to show a number…How many items might you have counted? Explain your answer and draw the tally marks.	Number • Page 30
	Q: You write a number less than 10 as a word and use four letters. What might the number be?	
	Q: You use more than two 10-frames to show a number. The last 10-frame is not very full. What might the number be?	
	Q: Represent the number 24 in different ways to show the following: a) 24 is greater than 20. b) 24 is almost 25. c) 24 is made up of groups of 4. Explain your representation.	Number • Page 31
	Q: Choose a number less than 10. Tell as many things about it as you can.	
	Q: Choose a number closer to 40 than to 20. How would you arrange objects to show that the number is closer to 40 than to 20?	
	Q: Choose two numbers that you think are alike in some ways and different in some ways. Represent each of your numbers in three ways. Tell how your representations show what makes the numbers alike. Tell how the representations show what makes them different.	
	Q: Why is it useful to use 10-frames to represent numbers in the 20s and 30s?	Number • Page 32
	Q: How would you represent the number 9 so that it is easy to see that it's 9?	
	Q: When is 20 a lot of something? When is it not?	
	Q: I am thinking of a number that might be the number of buses at the school door at the end of the day. What might that number be? What would it not be? Explain your thinking.	

B1.1 (continued)	**Q:** Create a number line by skip counting by 10s. Choose five numbers, not ending in 0, and place them on your number line. Explain your thinking.	Number • Page 45
B1.2 compose and decompose whole numbers up to and including 50, using a variety of tools and strategies, in various contexts	**Q:** Represent the number 24 in different ways to show the following: a) 24 is greater than 20. b) 24 is almost 25. c) 24 is made up of groups of 4. Explain your representation.	Number • Page 31
	Q: What numbers under 20 can you show in the shape of a triangle? How does your picture show how your number can be broken up into parts?	Number • Page 33
	Q: You can show an amount of money with coins in more than two ways. What might that amount be?	
	Q: You add a number to itself. The answer is less than 20. What might the number be?	
	Q: Choose three different amounts of money between 5¢ and 20¢. For each amount, show two or more ways to represent it with coins.	Number • Page 34
	Q: You have about 20 counters. You separate them into three piles. One pile has exactly 6 more counters than another. How many counters could be in each pile?	
	Q: How could you break the number 12 into parts to show each of the these things? a) 12 is 2 equal groups of something. b) 12 is between 10 and 20. c) 12 can be broken up into 3 equal groups. d) 12 is a lot less than 50. e) 12 is 10 plus something.	
	Q: Choose a number between 8 and 15. Break it up in three or more ways. Tell something that each representation helps you see about that number.	
	Q: How could knowing how to break up the number 12 into parts help you to figure out a way to make the number 13?	Number • Page 35
	Q: Which numbers less than 10 would you find easy to write in four parts? Which numbers would you find hard to write in four parts?	
	Q: You have five coins. When you count the value of your coins out loud, what do you say. How much might your coins be worth?	
	Q: How might you break 15 books into three piles so that one pile has a few more in it than another pile.	

B1.3 compare and order whole numbers up to and including 50, in various contexts	**Q:** What number might the dot represent? How sure are you?	Number • Page 36
	Q: Choose a number that is near the top of a 100-chart and another number that is farther down. How does the chart help you tell that the second number is greater?	
	Q: Lisa says that a number is close to 5, but Ravi says it's close to 10. Do you think they could both be right? Explain.	
	Q: Fill in the blanks with digits 0 to 5 so that these numbers are in order from least to greatest. How do you know that your numbers are in the correct order?	Number • Page 37
	Q: Use linking cube trains to show four numbers. Make sure the greatest number is a lot more than the least number. Tell what numbers you are showing. Order the numbers from least to greatest. Explain how you know.	
	Q: Choose numbers that make sense for each situation. Then, order the numbers from least to greatest • number of people in a car • number of people in an elevator • number of people in a bus • number of people in a class • number of people dancing at a party	
	Q: Name a number to fit each of the following rules a) close to 5 b) close to 10 c) closer to 5 than 10 d) closer to 10 than 5	Number • Page 38
	Q: Make a number line that shows the numbers 0, 5, and 10 on it. What numbers would go near 5? What number would go near 10?	
	Q: You use base ten blocks to represent two two-digit numbers. Can you use fewer blocks to represent the greater number? If you can, give an example of when and why it can happen.	
	Q: Choose five numbers less than 50 and put them in order from least to greatest. Tell why the least one is least.	

B1.4 estimate the number of objects in collections of up to 50, and verify their estimates by counting	**Q:** You make a long line of linking cubes. You can hold the line of linking cubes in your hand without it breaking. How long of a line of linking cubes do you think you can make without it breaking?	Number • Page 30
	Q: (Show students a set of 23 counters arranged as below for 3 seconds.) About how many counters do you think you just saw? What makes you think that?	Number • Page 36
	Q: (Create three jars that hold 19, 29, and 44 linking cubes. Place 5 linking cubes beside the jars.) Choose a jar and use the 5 cubes to estimate the number of cubes the jar holds. Explain your answer.	Number • Page 37
	Q: You have to estimate how many counters you see without counting each of them. How might you do this?	Number • Page 38
B1.5 count to 50 by 1s, 2s, 5s, and 10s, using a variety of tools and strategies	**Q:** You skip count by a number and you eventually say the number 20. What might you have been counting by? What were you not counting by? How do you know?	Number • Page 44
	Q: Choose a number to count backwards from. Then, tell a number you will say early in the count and a number you will say later.	
	Q: Describe different ways to count where you would include the number 20. When might you count this way?	Number • Page 46
	Q: Name some numbers you say when you skip count by either 2s or 5s. Which numbers are on both lists?	
	Q: Count backwards from the number 20. What is the third number you might say?	
	Q: You are holding 10 marbles in one hand. One at a time, you drop 4 marbles. Which of the following would you say? • 10, 9, 8, 7 • 9, 8, 7, 6 • 10, 9, 8, 7, 6 Explain why.	

Fractions		
B1.6 use drawings to represent and solve fair-share problems that involve 2 and 4 sharers, respectively, and have remainders of 1 or 2	**Q:** What are some ways you can divide this cake into four equal parts?	Number • Page 40
	Q: Is a one-half big or small?	
	Q: What does one-fourth look like?	
	Q: Take each pattern block and trace it. Show how to divide each block into equal parts and tell what fraction each part would be. Try not to use the same number of parts each time.	Number • Page 41
	Q: What are some different ways you can cut this square into two equal spaces?	
	Q: Explain how you can fold a piece of paper to make eight equal parts.	
	Q: Do you think that there is such a thing as a bigger half of a sandwich? Explain why or why not.	Number • Page 42
	Q: What fractions of a circle are easy for you to show? Why are they easy to show? Are the same fractions easy to show for a rectangle?	
	Q: You cut a shape into fourths. Do you think the fourths have to look the same?	
B1.7 recognize that one half and two fourths of the same whole are equal, in fair-sharing contexts	There are no Grade 1 Open Questions that meet this 2020 curriculum expectation.	
B1.8 use drawings to compare and order unit fractions representing the individual portions that result when a whole is shared by different numbers of sharers, up to a maximum of 10	There are no Grade 1 Open Questions that meet this 2020 curriculum expectation.	

B2. Operations **Overall Expectation:** By the end of Grade 1, students will: use knowledge of numbers and operations to solve mathematical problems encountered in everyday life		
Properties and Relationships		
B2.1 use the properties of addition and subtraction, and the relationship between addition and subtraction, to solve problems and check calculations	**Q:** You bought two things and spent a total of 8¢. What could the more expensive item have cost?	Number • Page 48
	Q: You add two numbers to get 11. What do you know for sure about the two numbers you might use?	
	Q: You subtract two numbers and the answer is just a bit more than 3. What might the numbers have been?	
	Q: Tell three addition questions and three subtraction questions you could figure out if you had 10 counters. You do not have to use all 10 counters. Make up stories that the questions could be about.	Number • Page 49
	Q: How could you fill in the boxes to make the three sides all add up to the same amount? Use each digit only once.	
	Q: Are there more ways to subtract to get 3 than ways to add to get 3? Explain your answer.	Number • Page 50
	Q: When you subtract, why do you end up with a smaller number?	
	Q: What is one way to add 8 + 9?	
Math Facts		
B2.2 recall and demonstrate addition facts for numbers up to 10, and related subtraction facts	**Q:** The answer to a question is 8¢. What could the question be?	Number • Page 48
	Q: Could you subtract 12 − 3 in your head? How would you do it?	Number • Page 50
Mental Math		
B2.3 use mental math strategies, including estimation, to add and subtract whole numbers that add up to no more than 20, and explain the strategies used	There are no Grade 1 Open Questions that meet this 2020 curriculum expectation.	

Addition and Subtraction		
B2.4 use objects, diagrams, and equations to represent, describe, and solve situations involving addition and subtraction of whole numbers that add up to no more than 50	**Q:** Which expression do you think doesn't belong? 3 + 3 7 -1 5 + 2 4 + 2 Explain why.	Number • Page 48
	Q: You bought two things and spent a total of 8¢. What could the more expensive item have cost?	
	Q: You add two numbers to get 11. What do you know for sure about the two numbers you might use?	
	Q: The answer to a question is 8¢. What could the question be?	
	Q: You subtract two numbers and the answer is just a bit more than 3. What might the numbers have been?	
	Q: Tell three addition questions and three subtraction questions you could figure out if you had 10 counters. You do not have to use all 10 counters. Make up stories that the questions could be about.	Number • Page 49
	Q: How could you fill in the boxes to make the three sides all add up to the same amount? Use each digit only once.	
	Q: Make up three problems you could solve by subtracting 4 from 9. Explain why you would subtract. Use a number line to show the problem.	
	Q: You subtract to solve a problem involving money. What might the problem be about?	Number • Page 50
	Q: What is one way to add 8 + 9?	
Multiplication and Division		
B2.5 represent and solve equal-group problems where the total number of items is no more than 10, including problems in which each group is a half, using tools and drawings	There are no Grade 1 Open Questions that meet this 2020 curriculum expectation.	

F. FINANCIAL LITERACY		
F1. Money and Finances **Overall Expectation:** By the end of Grade 1, students will demonstrate an understanding of the value of Canadian currency		
Money Concepts		
F1.1 identify the various Canadian coins up to 50¢ and coins and bills up to $50, and compare their values	**Q:** There are two different amounts of money that can be shown the same number of ways with coins. For example, 15¢ and 20¢ can be shown two ways (without pennies). What might the two amounts be?	Number • Page 30
	Q: How would you describe a nickel?	Number • Page 32

Grades K–3 Open Questions for the Three-Part Lesson: Measurement • Patterning & Algebra [MPA]

2020 Ontario Curriculum Expectations	Open Questions for the Three-Part Lesson: *Measurement • Patterning & Algebra*	Book Page Number
C. ALGEBRA		
C1. Patterns and Relationships **Overall Expectation:** By the end of Grade 1, students will identify, describe, extend, create, and make predictions about a variety of patterns, including those found in real-life contexts		
Patterns		
C1.1 identify and describe the regularities in a variety of patterns, including patterns found in real-life contexts	**Q:** How are these patterns alike? How are they different?	MPA • Page 36
C1.2 create and translate patterns using movements, sounds, objects, shapes, letters, and numbers	There are no Grade 1 Open Questions that meet these 2020 curriculum expectations.	
C1.3 determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in patterns		
C1.4 create and describe patterns to illustrate relationships among whole numbers up to 50		

C2. Equations and Inequalities **Overall Expectation:** By the end of Grade 1, students will demonstrate an understanding of variables, expressions, equalities, and inequalities, and apply this understanding in various contexts		
Variables		
C2.1 identify quantities that can change and quantities that always remain the same in real-life contexts	There are no Grade 1 Open Questions that meet this 2020 curriculum expectation.	
Equalities and Inequalities		
C2.2 determine whether given pairs of addition and subtraction expressions are equivalent or not	There are no Grade 1 Open Questions that meet these 2020 curriculum expectations.	
C2.3 identify and use equivalent relationships for whole numbers up to 50, in various contexts		

C3. Coding **Overall Expectation:** By the end of Grade 1, students will solve problems and create computational representations of mathematical situations using coding concepts and skills		
Coding Skills		
C3.1 solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential events	There are no Grade 1 Open Questions that meet these 2020 curriculum expectations.	
C3.2 read and alter existing code, including code that involves sequential events, and describe how changes to the code affect the outcomes		

E2. Measurement **Overall Expectation:** By the end of Grade 1, students will compare, estimate, and determine measurements in various contexts		
Attributes		
E2.1 identify measurable attributes of two-dimensional shapes and three-dimensional objects, including length, area, mass, capacity, and angle	There are no Grade 1 Open Questions that meet this 2020 curriculum expectation.	
E2.2 compare several everyday objects and order them according to length, area, mass, and capacity	**Q:** You have two glasses that are different sizes. Each glass has some water in it. How could you decide which glass has more water?	MPA • Page 27
Time		
E2.3 read the date on a calendar, and use a calendar to identify days, weeks, months, holidays, and seasons	**Q:** When might you hear the word *tenth*?	MPA • Page 44

Grades K–3 Open Questions for the Three-Part Lesson: Geometry and Spatial Sense • Data Management and Probability [GSSDP]

2020 Ontario Curriculum Expectations	Grades K–3 Open Questions for the Three-Part Lesson: *Geometry and Spatial Sense • Data Management and Probability*	Book & Page Number
D. DATA		
D1. Data Literacy **Overall Expectation:** By the end of Grade 1, students will manage, analyse, and use data to make convincing arguments and informed decisions, in various contexts drawn from real life		
Data Collection and Organization		
D1.1 sort sets of data about people or things according to one attribute, and describe rules used for sorting	**Q:** These students are in a group together. Why might they be in the same group?	GSSDP • Page 54
	Q: Which number do you think does not belong with the others? Explain your answer.	
	Q: Tell as many things as you can about these socks.	
	Q: Shen says that the square and the triangle below belong in a group together. Danielle says that they do not belong together. Which person do you agree with? Why?	
	Q: Work with a partner. Say some things that are alike in what you and your partner are wearing. Say some things that are different in what you and your partner are wearing.	
	Q: Collect seven or eight different objects from around the classroom. Show how you can sort them in different ways.	GSSDP • Page 55
	Q: These objects go together: Why do you think that they are together? What else could go with these objects? What else could not? What is another reason that this toy car and soccer ball might go together?	
	Q: You are asked to help someone sort something at home. What might that be? Draw a picture to show how you would sort it. Then, explain what your picture shows.	
	Q: Why is it always possible to sort objects in different ways? Use objects from the classroom to show some examples.	GSSDP • Page 56

D1.1 (continued)	**Q:** When might you use two sorting hoops like these? When might you use three sorting hoops like these? Give an example for each case.	GSSDP • Page 56
	Q: Think of something that you have a lot of at home. Describe your collection in as many ways as you can. Tell how you sort the items in your collection at home. Describe different ways that you could sort the items and what the categories could be each time.	
D1.2 collect data through observations, experiments, or interviews to answer questions of interest that focus on a single piece of information; record the data using methods of their choice; and organize the data in tally tables	**Q:** Make three sentences. Have each one use one of these terms: most, least, about as much	GSSDP • Page 57
	Q: Think of three questions so that you have a question where you think: • a lot more people would answer "yes" than "no;"␤• a lot more people would answer "no" than "yes;"␤• about the same number of people would answer "yes" as "no." Ask your classmates your question for each case, and find out if you are right. Show your results by using tally marks in charts like this one	GSSDP • Page 58

Data Visualization		
D1.3 display sets of data, using one-to-one correspondence, in concrete graphs and pictographs with proper sources, titles, and labels	**Q:** Imagine that the graph below describes seven people's feelings about something. What might this graph be about? Why?	GSSDP • Page 57
	Q: How could you organize these counters to make it easy to see which colour of counter there is more of?	
	Q: What do you know for sure by looking at this graph?	
	Q: What is something that you are likely to do after school today? Find out how many of your classmates are also likely to do this today after school. Show your results using tally marks in a chart like the one below. What do you notice?	GSSDP • Page 58
	Q: Display this set of data in two different ways. How are your two ways similar?	GSSDP • Page 59
	Q: Sort some of these objects into a concrete graph so that one category has a lot more objects in it than another. Describe the shape that your set of data makes. Then, sort some or all of the objects to make another graph so that all the categories have about the same number of objects. Describe the shape that your set of data makes now.	GSSDP • Page 132

Data Analysis		
D1.4 order categories of data from greatest to least frequency for various data sets displayed in tally tables, concrete graphs, and pictographs	There are no Grade 1 Open Questions that meet this 2020 curriculum expectation.	
D1.5 analyse different sets of data presented in various ways, including in tally tables, concrete graphs, and pictographs, by asking and answering questions about the data and drawing conclusions, then make convincing arguments and informed decisions	**Q:** Ask two different groups of people the same question. Collect and record the results. Tell why it is possible to get different results. How could you use the data from each group?	GSSDP • Page 60
	Q: Answer the following questions about the graph below while using the terms "more," "less," or "about the same": • What information does this graph tell about a class? • What does it not tell? Then, tell what this graph makes you wonder. What is a question that you could ask to find out the answer?	
	Q: Imagine that you had to describe this set of data from a graph to someone	

D2. Probability **Overall Expectation:** By the end of Grade 1, students will describe the likelihood that events will happen, and use that information to make predictions		
D2.1 use mathematical language, including the terms "impossible", "possible", and "certain", to describe the likelihood of events happening, and use that likelihood to make predictions and informed decisions	**Q:** I flip a coin, and it lands on heads. What do you think will happen the next time that I flip the coin? Why?	GSSDP • Page 61
	Q: How could you use each of the words below in a sentence? Write or say one sentence for each word.	
	Q: Draw a picture of something that is certain, and draw a picture of something that is impossible. Tell how you know that each thing is certain or impossible.	GSSDP • Page 62
D2.2 make and test predictions about the likelihood that the categories in a data set from one population will have the same frequencies in data collected from a different population of the same size	**Q:** Ask two different groups of people the same question. Collect and record the results. Tell why it is possible to get different results. How could you use the data from each group?	GSSDP • Page 60

E. SPATIAL SENSE		
E1. Geometric and Spatial Reasoning **Overall Expectation:** By the end of Grade 1, students will describe and represent shape, location, and movement by applying geometric properties and spatial relationships in order to navigate the world around them		
Geometric Reasoning		
E1.1 sort three-dimensional objects and two-dimensional shapes according to one attribute at a time, and identify the sorting rule being used	**Q:** I'm thinking about a shape with four sides. What might it be?	GSSDP • Page 36
	Q: Which shape does not belong? Explain your answer.	
	Q: Draw two triangles that are different. Tell how they are different.	
	Q: How does the shape change each time? What might come next?	
	Q: You start sorting shapes like this: Draw 6 to 10 more shapes that are all different, and add them inside or outside of the sorting hoops. Explain how you sorted.	GSSDP • Page 37
	Q: There is one thing about this shape that changes with each new picture. First, the figure gets smaller, then it has stripes, then it gets bigger, then it changes to purple: Using this as a model, draw a square, a circle, or a triangle. Then, change one thing about your shape so that you have a second different shape. Repeat this starting with the second shape. Continue until you have a train of five shapes. Explain what changes with each shape.	
	Q: How could you sort these shapes into groups? Then, draw five or six shapes, and sort them into your groups.	
	Q: On a geoboard, use one colour to make some rectangles that are squares. Then, use a different colour to make some rectangles that are not squares. Tell which colour you used for each. Explain how you know that each colour represents a rectangle or a square.	GSSDP • Page 38
	Q: One of your classmates draws a square that you cannot see. What do you know for sure about the square? What are you not so sure about?	
	Q: Which two of these shapes are the most alike? Which two of these shapes are the most different?	
	Q: You have a picture of something in your head. You think that circles are the best shape to use to draw it. Draw your picture. Tell why circles are the best shape to use for your drawing.	
	Q: These figures have been sorted together. What is a reason that they could be together? What is another figure that could go with them? What is a figure that couldn't go with them?	GSSDP • Page 39

E1.1 (continued)	**Q:** Noah is holding a classroom object that looks like a cylinder. What could it be?	GSSDP • Page 39
	Q: Which one of these is the least like the others? Explain your answer.	
	Q: Choose one of the figures from this collection. Without using its name, what clues about the figure could you give a partner that would help him or her guess which figure you chose?	GSSDP • Page 40
	Q: Find an object in the classroom that is similar to this basketball. Tell how the two figures are alike and how they are different.	
	Q: Use linking cubes to make three rectangle-based prisms that look very different from one another. Describe the shapes that their faces make.	
	Q: Pick three of the choices below. Then, choose a 3-D figure that has these three attributes.	
	Q: How could you use these hoops to sort the following figures? What rule did you use?	GSSDP • Page 41
	Q: Find an example of a cube, a cylinder, a cone, or a sphere in the classroom. Tell all the things that make it a cube, a cylinder, a cone, or a sphere.	GSSDP • Page 42
	Q: Use two or three sorting hoops to sort the 3-D figures. Make a sorting rule that involves numbers. What is your sorting rule, and how many hoops did you use?	
	Q: Which one of these objects do you think is the most different from the others? Explain your answer.	GSSDP • Page 72
	Q: Which of these figures do you think are the most alike? Explain your answer.	
	Q: Find three or four objects in the classroom that look similar to a rectangle-based prism. Tell as many ways as you can how rectangle-based prisms can be different from one another.	GSSDP • Page 73

E1.2 construct three-dimensional objects, and identify two-dimensional shapes contained within structures and objects	**Q:** Sarah and Stella can see only this face on a 3-D figure: Sarah says that the 3-D figure is a cube. Stella says that the 3-D figure is a rectangle-based prism, but it is not a cube. Which person do you agree with? Why?	GSSDP • Page 39
	Q: *(Show students a square-based prism, a cube, a cylinder, and a cone.)* Pick two of these figures. On a sheet of paper, trace the flat faces from each figure. What do you notice about the shape of the faces?	GSSDP • Page 41
	Q: Tell everything that you know about a rectangle- based prism. Build one out of linking cubes to show that you are right.	GSSDP • Page 42
	Q: Emma is tracing faces of 3-D figures. She shows you the following shapes that she traced: What is one figure that each shape could belong to? Explain why you are right. What is a figure that each of Emma's shapes could not belong to?	
	Q: Trace one face from a 3-D figure onto a sheet of paper. What do you notice about what you traced? Tell what other figures this face could belong to. Tell what other figures it could not belong to.	GSSDP • Page 47
	Q: Joshua traces faces from 3-D figures and gets these shapes: Pick one of the attributes below. Which of Joshua's shapes could go together with this attribute to make one of the 3-D figures below? Tell why it makes sense that they go together.	GSSDP • Page 48
	Q: You start making a 3-D figure like this: What figure might you be making? What figure could you not be making?	GSSDP • Page 72
	Q: What figures and shapes do you see in this picture?	

E1.3 construct and describe two-dimensional shapes and three-dimensional objects that have matching halves	**Q:** Which picture does not belong? Explain your answer.	GSSDP • Page 43
	Q: How are these two pictures alike? How are they different?	
	Q: Stand facing a partner. Make an interesting pose. Ask your partner to act like a mirror and show your pose back to you. Switch roles.	
	Q: If you wrote the letters in your name on a sheet of paper and then folded each letter in half, which letters would have the same shape but flipped on each side of the fold?	
	Q: Place two geoboards side by side or one above the other. Make a small square on one geoboard. Then, make a small square on the other geoboard so that the geoboards look like mirror images of each other. Repeat this exercise four or five times using different designs.	GSSDP • Page 44
	Q: Find three things in the classroom that you could draw and fold in half so that their two halves look exactly the same but are facing each other. Then, find three things in the classroom that if you were to draw them and fold them in half, their halves would not look the same when facing each other.	
	Q: Fold a sheet of paper perfectly in half. Then, use scissors to make an interesting design out of it. Predict and draw what your design will look like when you unfold the paper. Unfold your paper to find out if you are right.	
	Q: How can you test to see if something has two sides that are the exact same but flipped? Find an example in the classroom to show that you are right.	GSSDP • Page 45
	Q: Find four pentomino shapes in this collection that each have two halves that are the same but facing each other. How do you know that you chose correctly?	
	Q: Use five pattern blocks to make a design that has two sides that match and face each other. When is it possible to use five pattern blocks to make a design like this?	
	Q: What do you notice about this design?	GSSDP • Page 78
	Q: Deesha says that hexagons are symmetrical since they have two sides that look the same, but one is flipped. Jacob says that hexagons are not symmetrical. Which person do you agree with? Explain or show why you're right.	
	Q: Use a Mira to show how you might reflect this pattern-block design in different ways.	
	Q: Fold a sheet of paper in half. Cut shapes or an interesting design out from along its fold line. Open the sheet of paper. What do you notice?	GSSDP • Page 79

E1.3 (continued)	**Q:** Use two to four pattern blocks to make four new shapes. Use a Mira or a ruler to see if each new shape shows symmetry. Describe why each shape shows or does not show symmetry. Do any of your shapes show symmetry in more than one way?	GSSDP • Page 79
	Q: Write your name with some upper-case letters and some lower-case letters. Then, do the following	
	Q: Choose two of the shapes below, and draw them. Then, do the following	GSSDP • Page 80
	Q: Create a design using eight or nine pattern blocks that has exactly one line of symmetry. Then, create another design using eight or nine pattern blocks that has more than one line of symmetry. Use a Mira or ruler to show that your designs work.	
	Q: What do you notice about this design?	GSSDP • Page 119
	Q: Make three designs each out of six square tiles. Use a Mira to reflect each of your designs, and make them symmetrical by adding more tiles to each one. Challenge a partner to predict where you placed your mirror each time.	GSSDP • Page 120
	Q: Place an elastic from one top corner to its opposite corner on a geoboard to break it up into two even triangles. Use 10 to 20 linking cubes to make a design on one side of your geoboard. Then, add cubes to the other side to make your board symmetrical.	
	Q: A design has a horizontal, a vertical, or a diagonal line of symmetry. What could the design look like? A different design has a horizontal, a vertical, and a diagonal line of symmetry. What could the design look like? What do you think about to make sure that you have the right lines of symmetry?	GSSDP • Page 121

Location and Movement		
E1.4 describe the relative locations of objects or people, using positional language	**Q:** You hear a classmate say, "It is near the window." What might this person be talking about? What might he or she not be talking about? How do you know?	GSSDP • Page 49
	Q: Make a tower out of seven linking cubes. In your tower, there should be a yellow cube above a red cube, a blue cube in between two red cubes, and a blue cube on top.	
	Q: Draw pictures to show what two of the following pairs of terms mean: inside/outside in front/behind over/under close/far	
	Q: How could you tell someone where the slide is if they couldn't see this picture?	GSSDP • Page 50
	Q: Use six pattern blocks to make a design. What instructions could you give to someone that would help him or her make your design without seeing it?	
	Q: What are some important things to remember when you are telling someone where something is?	GSSDP • Page 51
	Q: Draw a picture to show how it is possible to be in front of something and between other things at the same time. Explain how your drawing shows this.	
	Q: Why can I say that a person is "on" a chair but that the chair is also "under" the person?	
	Q: Create a tower using seven linking cubes. Then, use the following terms to give someone an idea about what your tower looks like.	
	Q: Using pattern blocks, create a map of an area of your classroom. Explain what each block represents and why it makes sense where you put the blocks on your map.	
	Q: Think of an object in the classroom. Make a list of clues to help a partner find it. Start off with clues that could work for many different objects. Then, add more details to your clues each time to get your partner closer to finding the object. Ask your partner what the object might be after you give each clue. Don't say what your object is until your partner guesses after your final clue.	GSSDP • Page 83

E1.5 give and follow directions for moving from one location to another	**Q:** Draw a map of a room that you know really well. Describe where a few of the things in the room are.	GSSDP • Page 50
	Q: Go for a walk around the classroom. Walk under something. Next, walk around something. Then, walk between some things. Move near and around some other objects as well. Say what you are doing with each of your movements.	GSSDP • Page 81
	Q: An image looks like this after one tile is moved: What do you think the design could have looked like before the tile was moved? Explain how you think that the one tile was moved.	GSSDP • Page 119
	Q: A hexagon started at Position A and ended at Position B. What might have happened?	

GRADE 1 OPEN QUESTIONS THAT NO LONGER ALIGN WITH THE ON 2020 CURRICULUM	Open Questions: Book Title	Page Number
Q: Choose a book. Cover half of the book with yellow pattern blocks. How many blocks did you use? How many do you think it would take to cover the entire book?	K–3 Number Sense and Numeration	Page 41
Q: Use square tiles to show that a single square tile could be one-half, one-third, or one-fourth of something.		Page 41
Q: How might you count this amount of money?		Page 44
Q: Describe a story where you would say the word *first* a lot.		Page 45
Q: When might you say the word *fourth*?		Page 46
Q: The third shape in a pattern is a circle. The fourth shape is a square. It is not an AB pattern. Draw what this pattern might look like.	K–3 Geometry and Spatial Sense • Data Management and Probability	Page 37
Q: Make a design using yellow pattern blocks. Show that it takes a lot more green pattern blocks than yellow blocks to cover your design.		Page 48
Q: Make a design out of 10 pattern blocks that has a yellow hexagon between a red trapezoid and a green triangle, and a green triangle above a blue rhombus.		Page 49
Q: Describe in different ways where the triangle is.		Page 50
Q: Use at least three of these terms to tell a short story: around, over, on, beside, under, in front.		Page 50