Grade 4 Unit 1 Cool-Down Guidance

Lesson	Response to Student Thinking	Support
1	Students create rectangles but do not relate them to multiplication.	After the warm-up, ask students to work with a partner to discuss and add to their responses to this cool-down.
2	Students do not list all of the factor pairs for a given number.	During the launch of the first activity in the next lesson, remind students about available math tools that can help them reason about the side lengths and area of rectangles.
3	The student confuses vocabulary from the previous lessons: prime, composite, factor pairs, multiples.	When explaining how to play Find the Number game in the next lesson, connect key vocabulary with drawings of rectangles.
4	Student shares reflections.	Before the warm-up, consider sharing reflections from the previous day and inviting students to keep these ideas in mind in their work today.
5	Students do not recognize either 6 and 8 as factors of 72.	After the warm-up, ask students to work with a partner to discuss their responses to this cool-down and relate it to skip counting.
6	Students share reflections (about organizing and adjusting their thinking) that may benefit the math community.	Before the warm-up, consider sharing reflections from the previous day and inviting students to keep these ideas in mind in their work today.
7	Students confuse the terms "factor" and "multiple."	Launch warm-up or activities by highlighting important vocabulary from previous lessons.

Grade 4 Unit 2 Cool-Down Guidance

Lesson	Response to Student Thinking	Next Day Support
1	Students describe what the second tape diagram shows but not how it could be used to show sixths.	At the start of the next lesson, invite students to share how they would show sixths on a blank diagram and on a diagram already partitioned into halves.
2	Students do not attend to the size of 1 whole in representing the fractions, or do not recognize $\frac{9}{8}$ as greater than 1.	Add this cool-down to Activity 1 to review how to represent fractions greater than 1.
3	Students who used tape diagrams to reason about $\frac{4}{10}$ and $\frac{4}{5}$ may reason correctly about each fraction but draw different lengths to represent 1 whole (for instance, a longer tape to show tenths and a much shorter one for fifths), leading to the wrong conclusion about which one is greater.	Before the warm-up, display and discuss tape diagrams for $\frac{4}{10}$ and $\frac{4}{5}$. Ask students to notice and wonder. Explain that to compare two fractions, the 1 whole must be the same size.
4	Students place the labels between the tick marks on the number line, rather than at or below the tick marks.	Consider explaining that, on a fraction strip or a tape diagram, a label like $\frac{1}{2}$ is not placed at the partition line because the number refers to a portion of the tape, rather than to the distance from 0.
5	Students label $\frac{5}{6}$ but do not explain or show the equivalence of $\frac{5}{6}$ and $\frac{10}{12}$.	Before the warm-up, ask students to work with a partner to discuss a correct response to this cool-down. Encourage them to use both fraction strips and a number line to support their reasoning.
6	Students respond that $\frac{6}{10}$ is less than $\frac{1}{2}$ or $\frac{11}{12}$ is more than 1 whole.	In a small group, give students access to pre-made fraction strips. Ask them to list fractions that have the same size as $\frac{1}{2}$ and to notice patterns in the numbers in those fractions.
7	Students provide equivalent fractions but do not explain or show reasoning.	After the warm-up, have students revise their cool-down and discuss with a partner.
8	When reasoning about the second problem, students labeled the right end of the number line with 1 and plotted or between 0 and 1.	Before the warm-up, ask students to discuss with a partner how to label a number line to show fractions greater than 1, such as $\frac{8}{5}$ or $\frac{13}{10}$.
9	Students do not explain or show why the fractions are equivalent or not.	Encourage students to use visual representations to justify the equivalence of fractions they generate and focus on the use of multiples.
10	Students multiplied the numerator by a number and the denominator by a different number, thinking that as long as both are being multiplied by a number, an equivalent fraction could be generated.	Encourage students to use visual representations to justify the equivalence of fractions they generate.
11	Students multiply or divide the numerator and the denominator by two different numbers resulting in fractions that are not equivalent.	Present this approach as a warm up for the next lesson. Ask students to analyze the approach and discuss student reasoning.
12	When responding to the last problem, students may say that $\frac{6}{10}$ and $\frac{7}{12}$ were the same size because they are both 1 unit fraction greater than $\frac{1}{2}$ ($\frac{6}{10}$ is $\frac{1}{10}$ away from $\frac{5}{10}$, and $\frac{7}{12}$ is $\frac{1}{12}$ away from $\frac{6}{12}$).	Before the warm-up, ask students to think about these questions with a partner: "Are $\frac{6}{10}$ and $\frac{7}{12}$ greater or less than $\frac{1}{2}$? Are they the same distance from $\frac{1}{2}$? How do you know?"
13	Students tried to write equivalent fractions by dividing both numbers in each fraction, but the numerator doesn't divide equally (or has a remainder).	Before the warm-up, display $\frac{15}{8}$ and $\frac{7}{4}$. Discuss with students why it would be helpful to rewrite $\frac{7}{4}$ with a denominator 8 to compare these fractions.
14	Students conclude that Kiran ran the furthest because both the numerator and denominator are larger.	Launch Activity 1 with a discussion about what each fraction would look like on a number line and using this representation to compare fractions.

15	Students attempted to compare $\frac{99}{100}$ and $\frac{9}{10}$ by writing equivalent fractions with 1,000 as the common denominator but didn't manage to complete the multiplication of multi-digit numbers (as the skill is not yet an expectation at this point in their study).	Before the warm-up, display $\frac{99}{100}$ and $\frac{9}{10}$ and ask: "What strategies can we use to compare these two fractions? Let's find as many ways as possible."
16	Students put the fractions in an order other Than $\frac{4}{10}, \frac{5}{12}, \frac{8}{6}, \frac{7}{5}$.	Before the warm-up, display number lines with the given fractions and ask students to justify comparisons.

Grade 4 Unit 3 Cool-Down Guidance

Lesson	Response to Student Thinking	Next Day Support
1	Students do not relate the equal-group situation to a multiplication expression.	During the warm-up, review the representation used to solve the problem. Consider asking students to identify parts of the problem in the representation.
2	Students write the number of shaded parts in each diagram rather than the value (for example, they write 6×1 instead of $6 \times \frac{1}{12}$).	Before the warm-up, display the diagram and ask students to name the value each shaded part represents. Discuss how knowing that value might help us write a multiplication expression to represent the value of all the shaded parts.
3	Students may account for only the numerator when writing an expression for a given fraction. For instance, they may reason that there are 2 groups of $\frac{4}{9}$ but write $\frac{8}{9} = 2 \times 4$ instead of $2 \times \frac{4}{9}$.	Before the warm-up, pass back the cool-down and work in small groups to make corrections, being sure to use diagrams to support reasoning.
4	Students multiply the whole number by the numerator of the fraction but do not attend to the denominator (for instance, expressing the value of the first expression as 12 instead of $\frac{12}{5}$).	Before the warm up, select a student's cool-down from the previous lesson (name anonymous). Ask students to identify what the student did well and what the student needs to do to improve the cool down.
5	Students generate only one equivalent expression.	During the activity syntheses, connect diagrams to expressions or equations.
6	Students determine the total number of liters of milk to be something other than $\frac{15}{4}$.	Before the warm-up, pass back the cool-down and have students discuss strategies they could use to find the product.
7	Students find three ways to compose $\frac{7}{4}$ from other fractions but do not represent them with expressions.	Launch the warm-up or Activity 1 by highlighting important notation from previous lessons.
8	The numerators in the equations students write for the first problem do not add to 13.	Launch Activity 1 with a discussion about this cool-down.
9	Students incorrectly represent $2\frac{1}{5}$ on the number line or do not see it as equivalent to $\frac{11}{5}$.	Launch Activity 1 with a discussion about this cool-down.
10	For the last expression, students rewrite $\frac{11}{6}$ as $1\frac{5}{6}$ and subtract the 1 whole from 4, but leave the fractional part unattended (writing $3\frac{5}{6}$ as a result of the subtraction).	Before the warm-up, invite students to work in small groups to discuss a correct response to this cool-down.
11	Students do not yet represent a mixed number as the sum of two or more fractions.	Launch Activity 1 by reviewing a correct response to the cool-down.
12	Students find the value of the difference without explaining their first step.	Before the first activity, pair students up to discuss their responses.
13	Students find a difference between the shortest and longest pencils other than $3\frac{7}{8}$ inches.	Before the warm-up, have students work in groups of 2 to discuss a correct response to one of the problems of this cool-down.
14	Students say that there are five data points that are greater than $1\frac{3}{8}$ because they mistake the third tick mark between 1 and 2 to be $1\frac{3}{8}$, while it should be $1\frac{3}{4}$.	Before the warm-up, have students work in groups of 2 to discuss a correct response to this cool-down.
15	Students correctly recognize the heights of the two stacks as $\frac{1}{3}+\frac{1}{3}+\frac{1}{6}$ and $\frac{1}{2}+\frac{1}{6}+\frac{1}{6}$, but do not use equivalence to find each height. (They may, for instance, add the numerators of each expression, as they had done when adding fractions with the same denominator.)	Launch Activity 1 with a discussion about this cool-down.

16	Students write an equivalent fraction for the tenths but also multiply the numerator of the hundredths by 10, changing the value of the hundredths.	Launch Activity 1 with a discussion about this cool-down.
17	Students add or subtract only the numerators of the fractions when finding sums or differences of tenths and hundredths.	Before the warm-up, invite students to work in small groups to discuss a correct response to this cool-down.
18	Students do not accurately add tenths and hundredths.	Before the warm-up, invite students to work in small groups to discuss a correct response to this cool-down.
19	Students determine the notebook is not tall enough for Han's design.	Before the warm-up or practice problems, review strategies and solutions for the cool-down.

Grade 4 Unit 4 Cool-Down Guidance

Lesson	Response to Student Thinking	Next Day Support
1	For the last problem, students may shade 7 small squares (instead of 70 small squares) to represent 0.7.	Launch Activity 1 with a discussion about this cool-down.
2	Students may say that options B (5.40 = 5.04) and D (0.07 = 0.70) in the first problem are both true because, in each case, the numbers on the two sides of the equal sign have the same set of digits, just in different places. (Option B has a 5, a 4, and a 0, and option D has two 0s and a 7.)	Launch the lesson by asking students to recap the important points of the previous lessons.
3	Students may disregard the decimal points in each pair of numbers and compare the numbers as if they were whole numbers.	Launch the warm-up or Activity 1 by highlighting important notation from previous lessons.
4	Students reason that 5.01 is greater than 5.1 because 5.01 has more digits.	Before the warm-up present students with 5.1 and 5.01 and the argument that both represent the same quantity. Pair students up to discuss this argument and offer a statement of agreement or argument against this reasoning.
5	Students may compare only the digits in the ones place, disregarding the tenths and hundredths, or be unsure how to compare the tenths and hundredths in different notations (for instance, $3\frac{2}{100}$ and 3.2).	Before the warm-up, invite students to work in partners to discuss the similarities and differences between $3\frac{2}{100}$ and 3.2.
6	Students represent only parts of the number and leave out thousands or ten-thousands.	Launch Activity 1 by reviewing a correct response to the cool-down.
7	Students identify the numbers with the digit 2 in places other than the ten-thousands place.	Launch the lesson by asking students to recap the important points of the previous lessons.
8	Students express 234,000 as something other than 200,000 + 30,000 + 4,000 in expanded form or in representations.	Before the warm-up, pass back the cool-down and work in small groups to make corrections.
9	Students identify the value of the 5 in each number as something other than 500,000 or 50,000.	Before the warm-up, invite students to work in small groups to discuss a correct response to this cool-down.
10	Students correctly identify the value of 2 and 7 in each number but write an addition expression to represent the relationship between the digits in the number.	Before the warm up, select a student's cool-down from the previous lesson (name anonymous). Ask students to identify what the student did well and what the student needs to do to improve the cool-down.
11	Students place the number 28,500 between 200,000 and 300,000, or suggested that the number line need to be extended to accommodate 28,500.	Launch the next day's lesson with a discussion of this cool-down.
12	Students compare the two numbers with different digits in the two blanks. Or, they compare the numbers with the same digit in the blanks but don't compare all the possible digits or don't attend to place value when making comparisons.	Add this cool-down to the first activity and ask students to discuss how they could figure out which digits would make the second number greater without trying each digit in both numbers.
13	Students identify 279,099 as being greater than 279,104, either because they misread the digits, or because the former has two 9s in the last three digits and the latter has a 1 and a 4.	Before the warm-up, have students work in partners to discuss the digits that help them decide which is larger and the reasoning behind the mistake that 279,099 is larger.
14	Students may inadvertently disregard the 2 in the ten-thousands place and mistake 627,800 to be between 670,000 and 680,000 on the number line.	Before the warm-up, invite students to work in partners to discuss strategies for determining the order of the numbers in this cool-down.

15	Students may identify the nearest multiple of 10,000 for 248,640 as 50,000 instead of 250,000, or the nearest multiple of 1,000 for 248,640 as 9,000 instead of 249,000. They may focus on the digits in the right places to find the nearest 10,000 or 1,000, but neglect the fact that the number is actually in the 200,000s.	Before the warm-up, invite students to use a number line to explain the claim that 248,640 is closest to 9,000. Ask students what makes sense about the claim and what might be missing.
16	Students use the digit in the hundred-thousands place to round to the nearest 100,000, use the digit in the ten-thousands place to round to the nearest 10,000, and so on, neglecting to consider the value of the digits that follow. (For instance, seeing the 5 in 569,003, they round it to 500,000, and seeing the 6, they round it to 560,000.)	Launch the lesson by asking students to recap how we determine the nearest multiple when rounding.
17	Student explains with reasoning about how close the altitude is to the nearest thousand or ten-thousand.	Add this cool-down to review prior to the practice problems. Consider asking students to round altitudes from the list and then to identify the planes that are nearest and furthest from their rounded altitudes and how this could affect problem solving.
18	Students misalign digits when adding or subtracting multi-digit numbers.	During the launch of the first activity in the next lesson, remind students about available grid paper for the lesson.
19	Students subtract the smaller number from the larger number regardless of placement in each number. They do not decompose units when needed, resulting in calculation errors.	Launch Activity 1 with a discussion about organizing digits.
20	Students only decompose one time or lose track of notation when regrouping several times.	Launch Activity 1 by highlighting important notation from previous lessons.
21	Students make errors with decomposing or notation when subtracting from numbers with more than one zero.	Launch Activity 1 by highlighting important notation from previous lessons.
22	Students misalign digits when subtracting multi-digit numbers.	Add this cool-down to review prior to the practice problems. Consider asking students to estimate or round as a strategy.

Grade 4 Unit 5 Cool-Down Guidance

Lesson	Response to Student Thinking	Next Day Support
1	Students select an image that represents "3 more than 2" and not "3 times as many as 2."	After the warm-up, ask students to use cubes to build two representations: one showing "2 more than" and one showing "twice as many." Discuss the differences.
2	Students select a statement that says Elena has more cubes or an equation that shows a relationship other than 5 x 4.	Launch Warm-up or Activity 1 by highlighting how diagrams show times as many and how equations represent this comparison.
3	Students interpret the situation as "4 times as many as 28."	Before the warm-up, invite students to discuss with a partner how the diagrams for these two situations might be the same and different: "quantity A is 4 times as many as 28" and "4 times as many as quantity A is 28."
4	Students write an equation or draw a diagram that represents a different problem.	Before the warm-up, invite students to look at the equation or diagram and discuss how it matches the problem and how it might be adjusted to better match the problem.
5	Students find how much was spent on comics, but do not find the total amount spent.	During the activity syntheses, connect diagrams to expressions or equations and ask: "What equation would help us find the solution to this problem?"
6	Students write true statements that relate the values 3, 30, and 300 without using a multiplicative comparison.	Before the practice problems, invite students to work in small groups to discuss a correct response to this cool-down.
7	Students may say that 62 centimeters is longer than 1 meter because 62 is greater than 1.	Launch the lesson by asking students to recap the important points of the previous lessons.
8	Students may say that Kiran's classmate lives farther from school (or that 800 meters is greater than 7 kilometers) if they mistake 7 kilometers to be 700 meters instead of 7,000 meters, or if they confuse the relationship between kilometers and meters with that between meters and centimeters.	Launch the Warm-up by highlighting the relationship between kilometers and meters by creating an ongoing vocabulary chart that is revisited at the end of each lesson.
9	Students may not notice that the second question asks for an amount in milliliters and answer the question in liters (8 liters).	Before the warm-up, invite students to work in small groups to discuss a correct response to this cool-down.
10	Students may misinterpret the question and compare the amount consumed at the end of the game to 1 liter, rather than the total amount consumed to 1 liter.	Before the warm-up, pass back the cool-down and work in small groups to make corrections.
11	Students may try to find the number of ounces in $3\frac{1}{2}$ pounds by multiplying $3\frac{1}{2}$ and 16 but aren't sure how to proceed.	Before the warm-up pass back the cool-down and ask students to discuss strategies for finding the total number of ounces.
12	Students may try to express 400 minutes in hours but aren't sure how to do so because 400 is not a multiple of 60. They may not answer the comparison question completely because of this.	Launch Activity 1 with a discussion about strategies for comparing 400 minutes and 8 hours.
13	Students may misinterpret the problem statement to mean that Priya needs 4 times as many raisins as she does oats.	Before the practice problems, pass back the cool-down and work in small groups to discuss what the question was asking and strategies for solving.
14	Students may misinterpret the statement "the art teacher buys 6 pounds of clay, which is 4 times as much clay as what the kindergarten teacher buys" to mean that the latter buys 4 times 6 pounds. Or they may interpret the statement correctly but miss that the question is asking for a quantity in ounces.	Launch Activity 1 with a discussion about this statement.

15	Students may get stuck when finding a number that gives 5 feet when multiplied by 4 or may not recall that 1 foot is 12 inches.	Before the warm-up, have students work in small groups to discuss how the units in the problem were related.
16	Students may mistake perimeter for area and use factors of 20 as possible side lengths. For example, they may say 5 inches and 4 inches are possible side lengths because 5 x 4 = 20.	Launch the lesson by asking students to recap how two rectangles could have the same area but different side lengths.
17	Students may not notice that the side lengths of the rectangle were given in feet and the perimeter of the trapezoid was given in yards.	Before the practice problems, pass back the cool down and work in small groups to make corrections.

Grade 4 Unit 6 Cool-Down Guidance

Lesson	Response to Student Thinking	Next Day Support
1	Students start counting the 15th stage from the third one, leading to an incorrect number of triangles and squares.	During the warm-up of the next lesson, have students work with a partner to discuss a correct response to the cool-down.
2	Students may find the 42nd shape by drawing all the smiley faces up to that point, rather than by using numerical reasoning.	Before the warm-up, display reasoning that mirrors a common misconception. Ask students to make sense of the reasoning and note any questions they have about it. Discuss possible revisions to the reasoning and allow students to review and revise their cool-downs.
3	Students say that 50 could represent a side length or the perimeter of a rectangle in the pattern because they incorrectly recall multiples of 3 and 6.	Before the warm-up, invite students to work in small groups to discuss a correct response to this cool-down.
4	Students list every multiple of 8 rather than using a pattern.	Before the practice problems, have students work in small groups and compare their strategies for answering the question. Allow them to make revisions.
5	Students find a number of seats other than 218.	After the warm-up, have students discuss with a partner their strategies for the cool-down and allow time to make revisions to their thinking.
6	Students use a diagram, but find a value other than 498 as the product.	Launch warm-up or activities by highlighting important representations from previous lessons.
7	Students may find the correct partial products but add them incorrectly.	Before the warm-up, invite students to work in small groups to discuss a correct response to this cool-down.
8	Students may decompose factors in ways to result in partial products that are not useful.	Launch warm-up or activities by analyzing two different ways to decompose the factors to multiply. Discuss which is most useful and why.
9	Students decompose factors and multiply without considering place value, resulting in incorrect partial products.	After the warm-up, have students discuss with a partner their strategies for the cool-down and allow time to make revisions to their thinking.
10	Students multiply the digits without accounting for their place value (for example, treating 4 and 1 as ones, rather than 4 tens and 1 ten), resulting in inaccurate partial products.	Before the warm-up, have students discuss in small groups the partial products for this problem and this specific error.
11	Students may decompose the multi-digit factors by place value and correctly find the partial products but make computation errors when adding them.	Before the warm-up, invite students to work in small groups to discuss a correct response to this cool-down.
12	Students who use an algorithm that uses partial products may neglect to consider the place value of the digits they are multiplying and end up with some incorrect partial products.	Before the practice problems, select a student's cool-down from the previous lesson (name anonymous). Ask students to identify what the student did well and what the student needs to do to improve the cool-down.
13	Students show they understand the situation as a division problem, but find a quotient other than 16.	After the warm-up in the next lesson, pair students up to discuss their responses.
14	Students do not write a division equation to represent the situation.	Launch the warm-up or Activity 1 by highlighting important notation from previous lessons.
15	Students show they understand the problem as a division or unknown side length problem, but find a solution other than 26 square sticky notes.	After the warm-up in the next lesson, pair students up to discuss their responses.
16	Reflection	

17	Students decompose the dividend into 100, 30, and 2, divide each part by 4 separately, and do not divide completely when working with 30 and 2. (For example, they see that dividing 30 by 4 gives 7 with a remainder of 2 but do not combine it with the 2 ones.)	Before the warm-up, select a student's cool-down from the previous lesson (name anonymous). Ask students to identify what the student did well and what the student needs to do to improve the cool-down.
18	Students find the correct partial quotients but don't find their sum, or don't connect the sum to the value of $430 \div 5$. Students complete one student's work, but not both.	Launch the warm-up or Activity 1 by highlighting important notation from previous lessons.
19	Students identify partial quotients appropriately but make computation errors when multiplying a number by 4, or when subtracting numbers from the dividend.	Before the warm-up, invite students to work in small groups to discuss a correct response to this cool-down.
20	Students disagree with Mai because of an error in computation or reasoning. (For example, they may think that 200 is a multiple of 6 and therefore 194, which is 6 less than 200, is also a multiple of 6.)	Before the practice problems, invite students to work in small groups to discuss a correct response to this cool-down.
21	Students estimate instead of calculate the number of tickets sold and draw an incorrect conclusion as a result. (For example, they may think that 5 + 4 is 9, which is close to 10, find 10 x 278 instead, and reason that 2,780 is quite a bit more than 2,600.)	Launch Activity 1 with a discussion about whether to estimate or to calculate precisely when solving a problem such as in the cool-down. Invite students to consider the implications of each approach.
22	Students find an area other than 3,456 square inches for the new banner, or a difference other than 1,152 square inches when comparing the area of the banners.	Before the warm-up, invite students to work in small groups to discuss a correct response to this cool-down.
23	Students only answer part of the problem.	Before the warm-up, select a student's cool-down from the previous lesson (name anonymous). Ask students to identify what the student did well and what the student needs to do to improve the cool-down.
24	Students may determine the number of people under 18 as something other than 345,599.	Before the practice problems, review strategies and solutions for the cool-down.

Grade 4 Unit 7 Cool-Down Guidance

Lesson	Response to Student Thinking	Next Day Support
1	Students describe the image only in terms of real-world objects (such as "there are 2 kite-like shapes") or symbols (such as "two lines make a big X and one more line makes a letter A on the right side").	Launch warm-up or Activity 1 by highlighting key vocabulary from previous lessons.
2	Students recognize that some statements are false, but do not correct the statements.	Launch warm-up or Activity 1 by highlighting key vocabulary from previous lessons.
3	Students say the lines are parallel because they do not cross.	Before the warm-up, have students work in groups to discuss a correct response to this cool-down.
4	Students identify lines that are not parallel as being parallel.	Launch warm-up or Activity 1 by highlighting important ideas from previous lessons.
5	Students say figure B is an angle or identify some, but not all of the angles in the letter Y.	Launch warm-up or activities by highlighting important vocabulary from previous lessons.
6	Students may describe one way the angles are the same or different but not both. Students may compare the angles without describing the rays.	After the warm-up, ask students to work with a partner to discuss and add to their responses to this cool-down.
7	Students determine the larger angle but do not use precise language to describe how much larger.	Before the next day's warm-up, pair students up to discuss their responses.
8	Students find angle measurements that are more than 5 degrees greater or less than 90, 45, or 150.	Launch Activity 1 with a discussion about this cool-down.
9	Students find a measure other than 17°, 18°, or 65° degrees.	Launch the lesson by reviewing the use of a protractor and how to read it.
10	Students identify Figure A as an example of perpendicular lines. Students find angle measurements other than 53° and117°.	Launch warm-up or Activity 1 by highlighting key vocabulary from previous lessons.
11	Students draw an angle that is larger or smaller than required.	Before the practice problems. pass back the cool down and work in small groups to make corrections.
12	Students may recognize that “obtuse” and “acute” refer to angles that are greater than and less than 90º but get the terms reversed.	Launch warm-up or Activity 1 by highlighting key vocabulary from previous lessons.
13	Students may compose angles in ways that do not result in the correct answer.	During the activity syntheses, connect diagrams to expressions or equations.
14	Students may mistake the angle between two consecutive numbers to be 5° because that space represents 5 minutes of elapsed time.	Before the warm-up, select a student’s cool-down from the previous lesson (name anonymous). Ask students to identify what the student did well and what the student needs to do to improve the cool-down.
15	Students may not find the values of or if they don’t recall that a full turn around a point makes a 360° angle.	Before the warm-up, have students work in partners to discuss a correct response to this cool-down.

Grade 4 Unit 8 Cool-Down Guidance

Lesson	Response to Student Thinking	Next Day Support
1	Students choose attributes other than A and E.	Launch the warm-up by highlighting important ideas from previous lessons.
2	Students identify triangles other than A and E as right triangles. Students say triangle E belongs with triangles A, B, and C, or do not explain why their chosen triangle belongs.	Launch the warm-up or activities by highlighting important representations from previous lessons.
3	Students describe the number of sides and number of angles (or corners), but do not describe the length of sides, size of angles, or pairs of parallel sides.	Launch the warm-up or activities by highlighting important representations from previous lessons.
4	Students draw a line through the smiling face that splits the circle into halves but is not a line of symmetry.	Launch warm-up or Activity 1 by highlighting important ideas from previous lessons.
5	Students agree with Kiran or draw another figure that does not show the whole figure with the given line of symmetry.	Launch the warm-up or activities by highlighting important representations from previous lessons.
6	Students draw figures with more or fewer lines of symmetry than required.	Before the practice problems, have students work in partners to discuss a correct response to this cool-down.
7	Students find a value for the perimeter other than 84 mm.	Launch warm-up or activities by highlighting important representations from previous lessons.
8	Students determine side lengths other than 2 yd And $8\frac{1}{3}$ yd.	Before the warm-up, pass back the cool-down and work in small groups to make corrections.
9	Students provide a perimeter for the given triangle and not the pre-folded shape.	Before the warm-up, have students work in partners to discuss a correct response to this cool-down.
10	Students may omit angle p because it is not contained within the figure.	Before the practice problems, pair students up to discuss their responses.