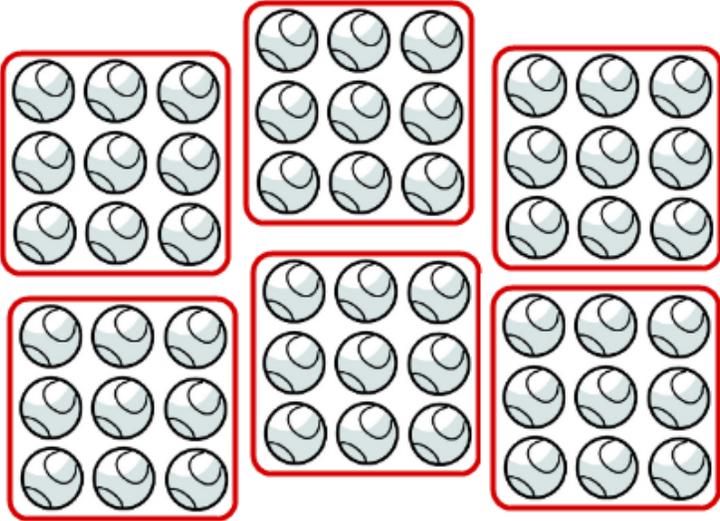


Title:	Baseball Season
Grade:	3
Claim(s):	<p>Claim 4: Modeling and Data Analysis Students can analyze complex, real-world scenarios and can construct and use mathematical models to interpret and solve problems.</p> <p>Claim 3: Communicating Reasoning Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others.</p> <p>Claim 2: Problem Solving Students can solve a range of well-posed problems in pure and applied mathematics, making productive use of knowledge and problem-solving strategies.</p>
Assessment Target(s):	<p>Claim 4 A. Apply mathematics to solve problems arising in everyday life, society, and the workplace. E. Analyze the adequacy of and make improvements to an existing model or develop a mathematical model of a real phenomenon.</p> <p>Claim 3 C. State logical assumptions being used. E. Distinguish correct logic or reasoning from that which is flawed and—if there is a flaw in the argument—explain what it is.</p> <p>Claim 2 A. Apply mathematics to solve well-posed problems in pure mathematics and arising in everyday life, society, and the workplace. B. Select and use appropriate tools strategically.</p>
Standard(s):	<p>Item 1 - 3.NBT.2 C2TA Item 2 - 3.OA.3, 3.OA.1 C4TE Item 3 - 3.MD.7b C3TC Item 4 - 3.OA.8 C4TA, C4TE Item 5 - 3.MD.1 C2TB Item 6 - 3.MD.1 C3TE</p> <p>3.NBT.2, 3.OA.3, 3.OA.8, 3.MD.1, 3.MD.7b.</p>
Mathematical Practice(s):	1, 2, 3, 5, 6, 7
Blooms Taxonomy Level:	Analyze - 4
DOK Level:	Strategic Thinking/Reasoning - 3
Score Points:	11 points possible
Difficulty:	Medium
Resources:	N/A
Notes:	N/A
Task Overview:	The students will use the four operations in multiple situations to complete task.
Teacher Preparation/Resource Requirements:	None required
Time requirements:	Approximately 60-80 minutes

Prework:	None
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Sample Top-Score Response (Session 1)	<p>Baseball season is about to begin! In this task, you will use the information given to help answer questions about the upcoming baseball season.</p> <p>Part A</p> <p>1. The second graders and the third graders in your school will be divided between 6 baseball teams, and the coaches have asked for help in figuring out how many players will be on each team. There are a total of 36 second graders who will play baseball this season and a total of 27 third graders who will play baseball this season.</p> <p>What is the total number of baseball players this year?</p> <p>_____ baseball players</p> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin: 5px 0;">63</div>
	<p>2. Tommy was given baseballs to pass out to some of the baseball teams for this season. He wanted to separate the baseballs out so that he knew that each team got the same number of baseballs. Tommy split the baseballs into the groups shown below.</p> <div style="text-align: center;">  </div> <p>Write and solve a multiplication equation to represent the total number of baseballs Tommy will give out.</p> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin: 5px 0;">$9 \times 6 = 54$ or $6 \times 9 = 54$</div>

Part B

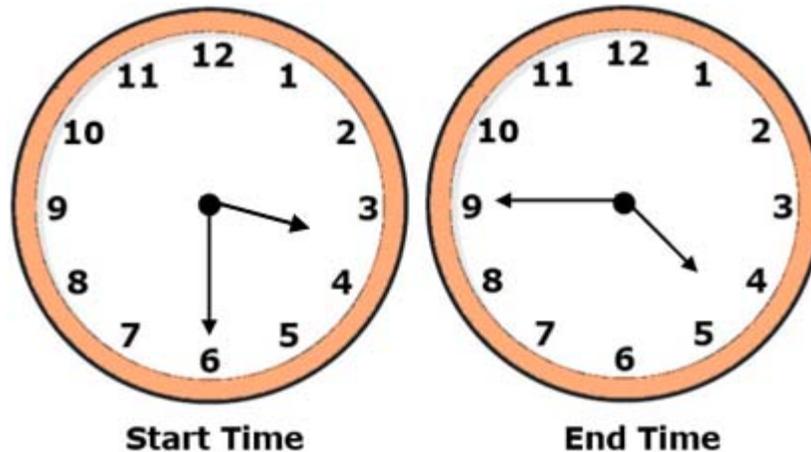
3. The rectangular warm-up area on the field you play on needs new grass. Before the season begins, your coach wants to re-do the grass in that rectangular warm-up area. Your coach estimates that he will need 90 square feet of grass to fill the area. If the length of the warm-up area is 9 feet, what assumption did your coach make to get his estimation?

The coach assumed that the width of the warm-up area was 10 feet. I know this because 10 feet multiplied by 9 feet equals 90 square feet.

4. Your team voted Mark to be the team leader. This means that he is in charge of giving out the uniforms. He has a group of 24 baseball caps. How many caps does he have left after giving 9 hats to the boys on the team and 8 hats to the girls on the team? Explain how you know.

Mark has 7 baseball caps left. I know this because $24 - 9$ is 15, and $15 - 8$ is 7. I could also add 9 and 8 to get 17 and subtract that from 24 to get 7 baseball caps.

5. Your first practice started and ended at the times shown on the clocks below. Find the time the practice started and the time the practice ended. Explain how you know these are the correct start and end times.



The practice started at 3:30 and ended at 4:45. I know this because the start time has the small hand pointing between three and four and the long hand pointing to six. The end time shows the small hand pointing between four and five and the long hand pointing at nine.

6. Use the start and end time in question five to answer this question.

Your teammate, Ryan, said that the practice would last 70 minutes. You believe the practice will last 75 minutes. Who is correct? Explain your reasoning.

Ryan is incorrect and I am correct. I found this by knowing that 3:30-4:30 is one hour, or 60 minutes. With an additional 15 minutes, that would be 75 minutes.

Scoring Rubrics:

Scoring Rubric Question 1:	
1 Point:	The student demonstrates good understanding of solving word problems with addition. The student correctly calculates the total number of baseball players for the year.
0 Points:	The student demonstrates no understanding of solving word problems with addition. The student does not correctly calculate the total number of baseball players for the year.

Scoring Rubric Question 2:	
1 Point:	The student demonstrates good understanding using images to write and solve multiplication equations. The student correctly writes and solves to find the total number of baseballs Tommy will give each team.
0 Points:	The student demonstrates no understanding of using images to write and solve multiplication equations. The student does not correctly write and solve to find the total number of baseballs Tommy will give each team.

Scoring Rubrics for Part B:

Scoring Rubric Question 3:	
2 Points:	The student demonstrates thorough understanding of solving for area by understanding the formula for area. The student correctly found that the width of the warm-up area was 10 feet and explained their reasoning.
1 Point:	The student demonstrates some understanding of solving for area by understanding the formula for area. The student correctly found that the width of the warm-up area was 10 feet but did not explain their reasoning.
0 Points:	The student demonstrates little to no understanding of solving for area by understanding the formula for area and by correctly determining the assumption that the coach made. The student does not correctly determine the area of the warm-up area or explain their reasoning correctly.

Scoring Rubric Question 4:	
2 Points:	The student demonstrates a thorough understanding of solving two-step word problems. The student determines that Mark will have 7 baseball caps and correctly explains why.
1 Point:	The student demonstrates some understanding of solving two-step word problems. The student determines that Mark will have 7 baseball caps but does not correctly explain why.
0 Points:	The student demonstrates little to no understanding of solving two-step word problems. The student does not correctly determine that Mark will have 7 baseball caps and does not correctly explain why.

Scoring Rubric Question 5:	
3 Points:	The student demonstrates a thorough understanding of reading clocks to tell time. The student determines that the practice started at 3:30, ended at 4:45, and explained how they know.
2 Points:	The student demonstrates a good understanding of reading clocks to tell time. The student determines that the practice started at 3:30 and explained how they know, correctly noted that the practice ended at 4:45 and explained how they know, OR correctly stated when the practice started and ended without explaining how they know.
1 Point:	The student demonstrates some understanding of reading clocks to tell time. The student determines that the practice started at 3:30 and 4:45 but did not explain how they know.
0 Points:	The student demonstrates little to no understanding of reading clocks to tell time. The student does not correctly determine either the start or end time of the practice and does not explain their reasoning.

Scoring Rubric Question 6*:	
2 Points:	The student demonstrates a thorough understanding of determining intervals of time. The student correctly notes that Ryan is incorrect because the practice will last 75 minutes and correctly explains their reasoning.
1 Point:	The student demonstrates some understanding of determining intervals of time. The student correctly notes that Ryan is incorrect because the practice will last 75 minutes but does not correctly explain their reasoning.
0 Points:	The student demonstrates little to no understanding of determining intervals of time. The student does not correctly note that Ryan is and does not correctly explain their reasoning.

**A student should receive full credit for this question if they correctly calculate with the incorrect numbers from the previous question(s).*