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| **NC.4.OA.3** **How Many Teams?**  |
| **Domain** | Operations and Algebraic Thinking |
| **Cluster** | Use the four operations with whole numbers to solve problems. |
| **Standard(s)** | **NC.4.OA.3** Solve two-step word problems involving the four operations with whole numbers.* Use estimation strategies to assess reasonableness of answers.
* Interpret remainders in word problems.
* Represent problems using equations with a letter standing for the unknown quantity.
 |
| **Materials** | activity sheet, pencil |
| **Task** | **How Many Teams?**The table below shows the number of fourth grade students signed up for basketball in each region of North Carolina.

|  |  |
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| **Region** | **Number of Students** |
| Western Region | 982 |
| Central Region | 517 |
| Eastern Region | 377 |

Every player will get placed on a team in their region of the state. **Part 1:** Each region’s league wants to place 9 players on each team. Leftover players will be added to teams, so some teams will have ten players. How many teams will have 9 players in each region of the state? How many teams will have 10 players in each region of the state? Explain your reasoning.*Western - 108 teams of 9, 1 team of 10* *Central - 53 teams of 9, 4 teams of 10**Eastern - 33 teams of 9, 8 teams of 10***Part 2:**In order to maximize playing time, each region’s league decides to only place 7 players on each team. If there are extra players, some teams will have 8 players. How many teams will have 7 players in each region of the state? How many teams will have 8 players in each region of the state? Explain your reasoning.*Western - 138 teams of 7, 2 teams of 8**Central - 67 teams of 7, 6 teams of 8**Eastern - 47 teams of 7, 6 teams of 8* |

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| **Rubric** |
| **Level I****Not Yet** | **Level II****Progressing** | **Level III****Meets Expectation** |
| Student is not able to complete any of the following correctly: * Uses a strategy to correctly solve the division problem
* Interpret remainders in the problem
* Explanations are clear and accurate
 | Student is able to do 1-2 of the following correctly: * Uses a strategy to correctly solve the division problem
* Interpret remainders in the problem
* Explanations are clear and accurate
 | Student is able to do all of the following correctly: * Uses a strategy to correctly solve the division problem
* Interpret remainders in the problem
* Explanations are clear and accurate
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| **Standards for Mathematical Practice** |
| **1. Makes sense and perseveres in solving problems.** |
| **2. Reasons abstractly and quantitatively.** |
| 3. Constructs viable arguments and critiques the reasoning of others. |
| 4. Models with mathematics. |
| 5. Uses appropriate tools strategically. |
| **6. Attends to precision.** |
| 7. Looks for and makes use of structure. |
| 8. Looks for and expresses regularity in repeated reasoning |

**How Many Teams?**

The table below shows the number of fourth grade students signed up for basketball in each region of North Carolina.

|  |  |
| --- | --- |
| **Region** | **Number of Students** |
| Western Region | Image result for basketball982 |
| Central Region | Image result for basketball517 |
| Eastern Region | 377 |

**Part 1:**

Every player will get placed on a team in their region of the state. Each region’s league wants to place 9 players on each team. Leftover players will be added to teams, so some teams will have ten players. How many teams will have 9 players in each region of the state? How many teams will have 10 players in each region of the state?

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| --- | --- | --- |
| Western Region\_\_\_ teams will have 9 players.\_\_\_ teams will have 10 players. | Central Region\_\_\_ teams will have 9 players.\_\_\_ teams will have 10 players. | Eastern Region\_\_\_ teams will have 9 players.\_\_\_ teams will have 10 players. |

Explain your reasoning.

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**Part 2:**

In order to maximize playing time, each region’s league decides to only place 7 players on each team. If there are extra players, some teams will have 8 players. How many teams will have 7 players in each region of the state? How many teams will have 8 players in each region of the state? Explain your reasoning.

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| Western Region\_\_\_ teams will have 9 players.\_\_\_ teams will have 10 players. | Central Region\_\_\_ teams will have 9 players.\_\_\_ teams will have 10 players. | Eastern Region\_\_\_ teams will have 9 players.\_\_\_ teams will have 10 players. |

Explain your reasoning.

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**Scoring Examples**

**Not Yet:** The student is unable to correctly solve the division problems and interpret remainders.



**Progressing:** Student is able to solve some division problems and interpret remainders.



**Meets Expectation:** Student is able to correctly divide and interpret remainders for all aspects of the task.

