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| **NC.5.NF.1****How Much Wood?**  |
| **Domain** | **Numbers and Operations - Fractions** |
| **Cluster** | **Use equivalent fractions as a strategy to add and subtract fractions.** |
| **Standard(s)** | **NC.5.NF.1**: Add and subtract fractions, including mixed numbers, with unlike denominators using related fractions: halves, fourths, and eighths; thirds, sixths, and twelfths; fifths, tenths, and hundredths.* Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.
* Solve one- and two-step word problems in context using area and length models to develop the algorithm. Represent the word problem in an equation.
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| **Materials** | Paper and pencilOptional: fraction bars or pattern blocks |
| **Task** | How Much Wood? Each of the Boy Scouts has 5 feet of wood. **Part 1:** For a project, they use a certain amount of wood. How much wood does each person have left?

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| **Person** | **Amount of Wood Used** | **Amount of Wood Left** |
| Blake | 2 $\frac{1}{3}$ feet |  |
| Chris | 1 $\frac{3}{4}$ feet |  |
| Deondre | 4 $\frac{5}{6}$ feet |  |
| Hector | 3 $\frac{4}{12}$ feet |  |
| Tyrone | 2 $\frac{6}{8}$ feet |  |

**Part 2:** How much wood did Blake, Deondre, Hector use? How much wood did Chris and Tyrone use? **Part 3:** Using your work from Part 2, how many feet of wood did all five boys use for their projects?**Part 4:** Write an explanation about how you solved Part 3. Solutions:* Part 1: Student correctly identifies how much wood each Boy Scout has left:

Blake- 2 $\frac{2}{3}$ feet, Chris- 3 $\frac{1}{4}$ feet, Deondre- $\frac{1}{6}$ foot, Hector- 1 $\frac{8}{12}$ feet, Tyrone- 2 $\frac{2}{8}$ feet* Part 2: Blake, Deondre, and Hector- 10 $\frac{6}{12}$ feet; Chris and Tyrone- 4 $\frac{4}{8}$ feet
* Part 3: Total- 15 feet

Part 4: The explanation includes an accurate description of how the student added fractions to find the correct sum. |

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| **Rubric** |
| **Level I****Not Yet** | 1. **Level II**
2. **Progressing**
 | **Level III****Meets Expectations** |
| * Student is not yet able to solve at least 2 of the parts of this task.
 | * Student correctly solves 2 or 3 parts of the task correctly.
 | * Student correctly solves all 4 parts of the task correctly.
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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 Much Wood?**

Each of the Boy Scouts has 5 feet of wood.

**Part 1:** For a project, they use a certain amount of wood. How much wood does each person have left?

|  |  |  |
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| **Person** | **Amount of Wood Used** | **Amount of Wood Left** |
| Blake | 2 $\frac{1}{3}$ feet |  |
| Chris | 1 $\frac{3}{4}$ feet |  |
| Deondre | 4 $\frac{5}{6}$ feet |  |
| Hector | 3 $\frac{4}{12}$ feet |  |
| Tyrone | 2 $\frac{6}{8}$ feet |  |

**Part 2:**

How much wood did Blake, Deondre, Hector use?

How much wood did Chris and Tyrone use?

**Part 3:**

Using your work from Part 2, how many feet of wood did all five boys use for their projects?

**Part 4:**

Write an explanation about how you solved Part 3.