**Conversions with Ratio Tables**

**Teacher Model**

1. Maria ran her first marathon this weekend! She trained hard and finished the race in 5 hours and 47 minutes. How many minutes did she spend running?

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1. The area of Rhode Island is approximately 1,200 square miles. What is the area of Rhode Island in acres?

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1. The average platypus weighs approximately 2.3 kg. How much does that average platypus weigh in grams?

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1. Kevin needs to purchase 3 gallons of ice cream for a party, but the store only sells pint-sized containers. He knows that one gallon contains 4 quarts, and that each quart contains 2 pints. How many pints of ice cream should Kevin buy?

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**Conversions with Ratio Tables**

**Teacher Model Solution Strategy**

1. Maria ran her first marathon this weekend! She trained hard and finished the race in 5 hours and 47 minutes. How many minutes did she spend running?

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| --- | --- | --- | --- |
| 1 hour | 2 hours | 4 hours | 5 hours |
| 60 minutes | 120 minutes | 240 minutes | 300 minutes |

1. Use a doubling strategy to convert 1, 2, and 4 hours to minutes. Then add 1 more hour’s worth of minutes: 60 + 240 = 300. We know 5 hours is the same as 300 minutes.
2. Next, add the remaining 47 minutes Maria ran: 300 + 47 = 347.
3. Maria ran the marathon in 347 minutes.
4. The area of Rhode Island is approximately 1,200 square miles. What is the area of Rhode Island in acres?

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| --- | --- | --- | --- | --- |
| 1 sq. mi. | 2 sq. mi. | 1,000 sq. mi. | 200 sq. mi. | 1,200 sq. mi. |
| 640 acres | 1,280 acres | 640,000 acres | 128,000 acres | 768,000 acres |

1. First, we doubled 640 to find 2 square miles is equivalent to 1,280 acres.
2. Next, we applied our knowledge of multiplying by multiples of 10 to find 1,000 square miles as 640,000 acres and 200 square miles as 128,000 acres.
3. Finally, we combined 640,000 and 128,000 acres to get our final answer.
4. Rhode Island is approximately 768,000 acres in area.
5. The average platypus weighs approximately 2.3 kilograms. How much does that average platypus weigh in grams?

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| --- | --- | --- | --- | --- |
| 1 kg | 2 kg | 0.1 kg | 0.3 kg | 2.3 kg |
| 1,000 g | 2,000 g | 100 g | 300 g | 2,300 g |

1. First, we found 2 kilograms in grams by doubling: 1,000 g x 2 = 2,000 g.
2. Next, we applied what we know about place value to divide by 10: 1 kg ÷ 10 = 0.1 kg and 1,000 g ÷ 10 = 100 g.
3. Third, we used proportional thinking and multiplication to determine 0.3 kg = 300 g because 0.1 kg = 100 g.
4. Finally, we used addition to determine the total number of grams in 2.3 kilograms: 2,000 g + 300 g = 2,300 g.
5. The average platypus weighs 2,300 grams.
6. Kevin needs to purchase 3 gallons of ice cream for a party, but the store only sells pint-sized containers. He knows that one gallon contains 4 quarts, and that each quart contains 2 pints. How many pints of ice cream should Kevin buy?

|  |  |  |
| --- | --- | --- |
| 1 gallon | 2 gallons | 3 gallons |
| 4 quarts | 8 quarts | 12 quarts |

|  |  |
| --- | --- |
| 1 quart | 12 quarts |
| 2 pints | 24 pints |

1. First, we determined the number of quarts in 3 gallons by skip counting.
2. Next, we used that information to create a ratio table to convert quarts to pints.
3. We knew we needed 12 quarts. Because there are two pints in each quart, we can multiply by two: 12 x 2 = 24.
4. Kevin should buy 24 pints of ice cream.