Reasoning and Problem Solving Step 1: Converting Units of Time

National Curriculum Objectives:

Mathematics Year 5: (5M4) Solve problems involving converting between units of time

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Use understanding of units of time and concept of 'greater than', 'equals' and 'less than' to arrange 3 cards into a correct number sentence. Only 1 possible answer. Convert units with no remainders.

Expected Use understanding of units of time and concept of 'greater than', 'equals' and 'less than' to arrange 5 cards into a correct number sentence. Between 2 and 4 possible answers to find. Convert units with remainders.

Greater Depth Use understanding of units of time and concept of 'greater than', 'equals' and 'less than' to arrange 7 cards into a correct number sentence. 8 possible answers to find. Non-direct conversion of units with remainders and decimals.

Questions 2, 5 and 8 (Reasoning)

Developing Convert between different units of time with no remainders to explain who has the correct answer.

Expected Convert between different units of time with remainders to explain who has the correct answer.

Greater Depth Non-direct conversion between different units of time with remainders to explain who has the correct answer.

Questions 3, 6 and 9 (Problem Solving)

Developing Convert 3 units of time with no remainders to solve word problems.

Expected Convert 3 units of time with remainders to solve word problems.

Greater Depth Non-direct conversion of 4 units of time with remainders and decimals to solve word problems.

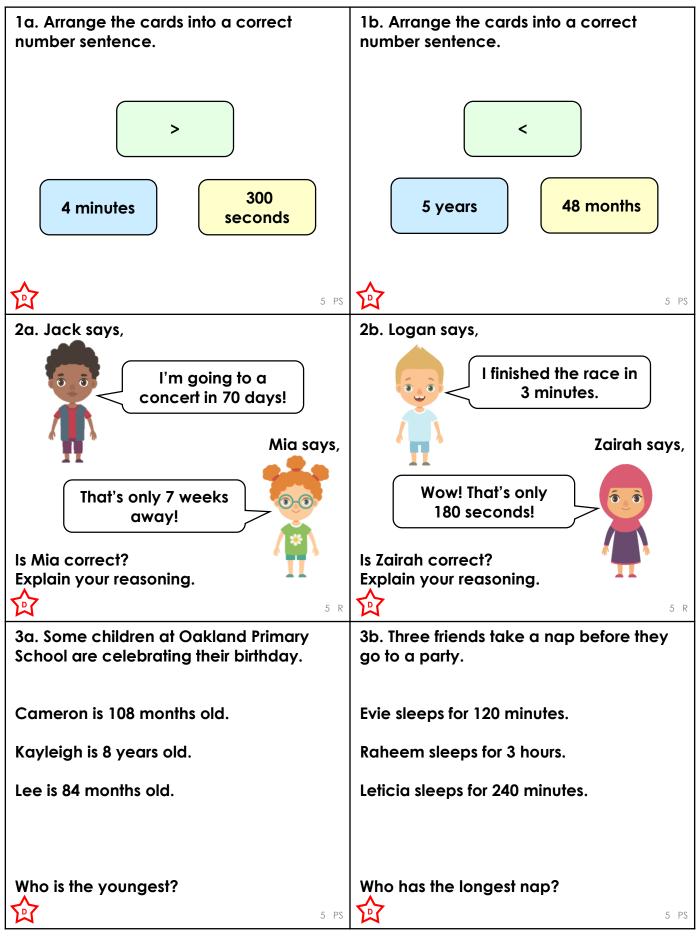
More Year 4 and Year 5 Converting Units resources.

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Converting Units of Time

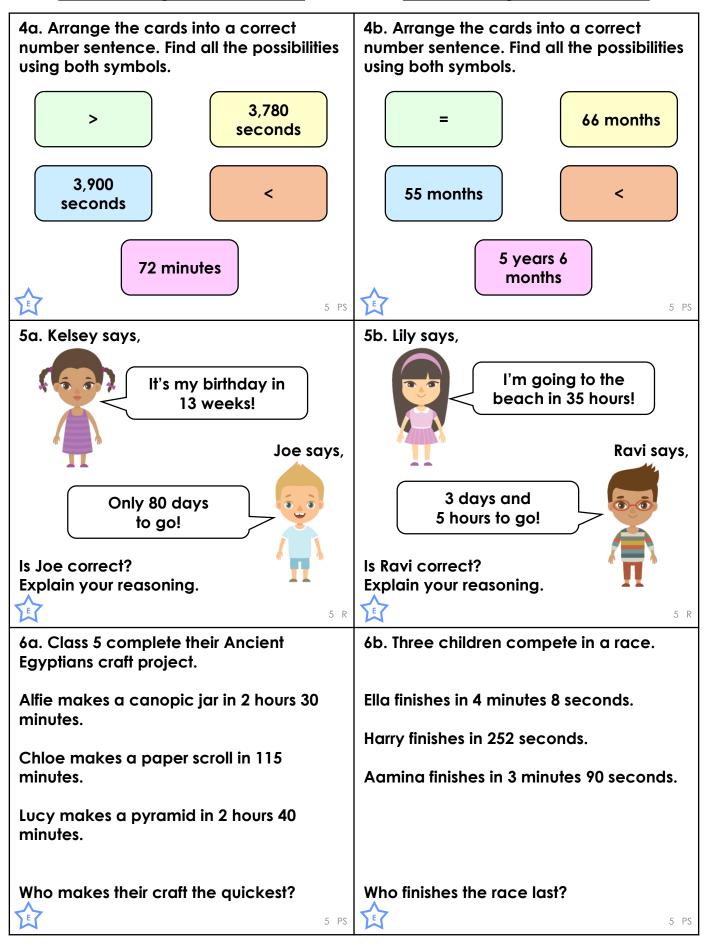
Converting Units of Time





Converting Units of Time

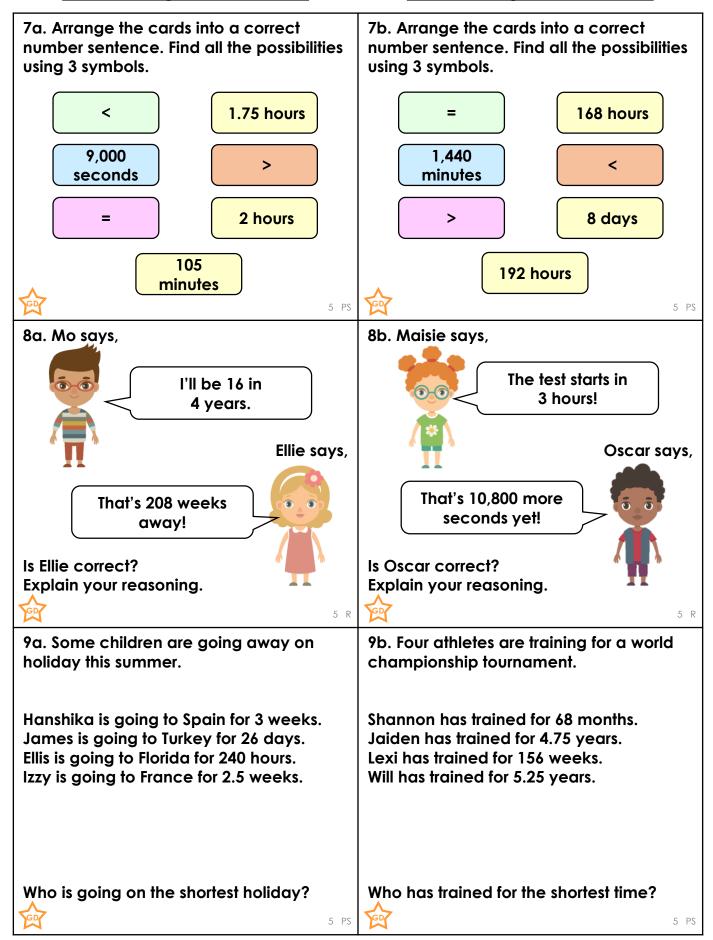
Converting Units of Time





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Reasoning and Problem Solving Converting Units of Time

<u>Developing</u>

1a. 300 seconds > 4 minutes

2a. No, Mia is incorrect. There are 7 days in 1 week. $70 \div 7 = 10$ so 70 days = 10weeks. $7 \times 7 = 49$ so 7 weeks = 49 days.

3a. Lee is the youngest at 84 months.

Expected

4a. 72 minutes > 3,780 seconds < 3,900 seconds

3,780 seconds < 72 minutes > 3,900 seconds

3,900 seconds < 72 minutes > 3,780 seconds

3,900 seconds > 3,780 seconds < 72 minutes

5a. No, Joe is incorrect. There are 7 days in 1 week. 13 x 7 = 91 so 91 days = 13 weeks. 80 days = 11 weeks, 3 days 6a. Chloe makes her craft the quickes, in 1 hour and 55 minutes

<u>Greater Depth</u>

7a. Various possible answers: for example, 1.75 hours = 105 minutes < 9,000 seconds > 2 hours

105 minutes = 1.75 hours < 9,000 seconds > 2 hours

9.000 seconds > 1.75 hours = 105 minutes < 2 hours

2 hours > 1.75 hours = 105 minutes < 9,000 seconds

8a. Yes, Ellie is correct. There are 52 weeks in 1 year and $4 \times 52 = 208$

9a. Ellis is going on the shortest holiday as he is only away for 10 days.

Reasoning and Problem Solving Converting Units of Time

<u>Developing</u>

1b. 48 months < 5 years

2b. Yes, Zairah is correct. There are 60 seconds in 1 minute. $3 \times 60 = 180$ so there are 180 seconds in 3 minutes.

3b. Leticia has the longest nap at 240 minutes.

Expected

4b. 55 months < 66 months = 5 years 6months

55 months < 5 years 6 months = 66 months 5b. No, Ravi is incorrect. There are 24 hours in 1 day therefore Lily is going to the beach in 1 day and 11 hours. $3 \times 24 = 72$ and 72 + 5 = 77 so 3 days and 5 hours = 77 hours.

6b. Aaming finishes the race last as she takes 270 seconds.

Greater Depth

7b. Various possible answers: for example, 192 hours = 8 days > 1,440 minutes < 7 days

8 days = 192 hours > 1,440 minutes < 7

1,440 minutes < 192 hours = 8 days > 7 days

7 days > 1,440 minutes < 192 hours = 8 days

8b. Yes, Oscar is correct. There are 60 minutes in 1 hour. $3 \times 60 = 180$. There are 60 seconds per minute so $180 \times 60 =$ 10.800

9b. Lexi has trained for the shortest time as 156 weeks = 3 years.

