Reasoning and Problem Solving
Step 2: Kilometres

National Curriculum Objectives:

Mathematics Year 4: (4M5) Convert between different units of measure (for example, kilometre to metre; hour to minute)

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Convert given measurements to identify 3 measurements that total a given distance. Includes whole units only.
Expected Convert given measurements to identify 3 measurements that total a given distance. Includes half and whole units only.
Greater Depth Convert given measurements to identify 3 measurements that total a given distance. Includes quarter, half, three-quarter and whole units.

Questions 2, 5 and 8 (Reasoning)
Developing Identify and explain if a one-step statement comparing two distances is correct. Includes whole units only.
Expected Identify and explain if a two-step statement comparing three distances is correct. Includes half and whole units only.
Greater Depth Identify and explain if a two-step statement comparing three distances is correct. Includes quarter, half, three-quarter and whole units.

Questions 3, 6 and 9 (Reasoning)
Developing Explain if a statement comparing two distances travelled is correct. Includes whole units only.
Expected Explain if a statement comparing two distances travelled is correct. Includes half and whole units only.
Greater Depth Explain if a statement comparing two distances travelled is correct. Includes quarter, half, three-quarter and whole units.
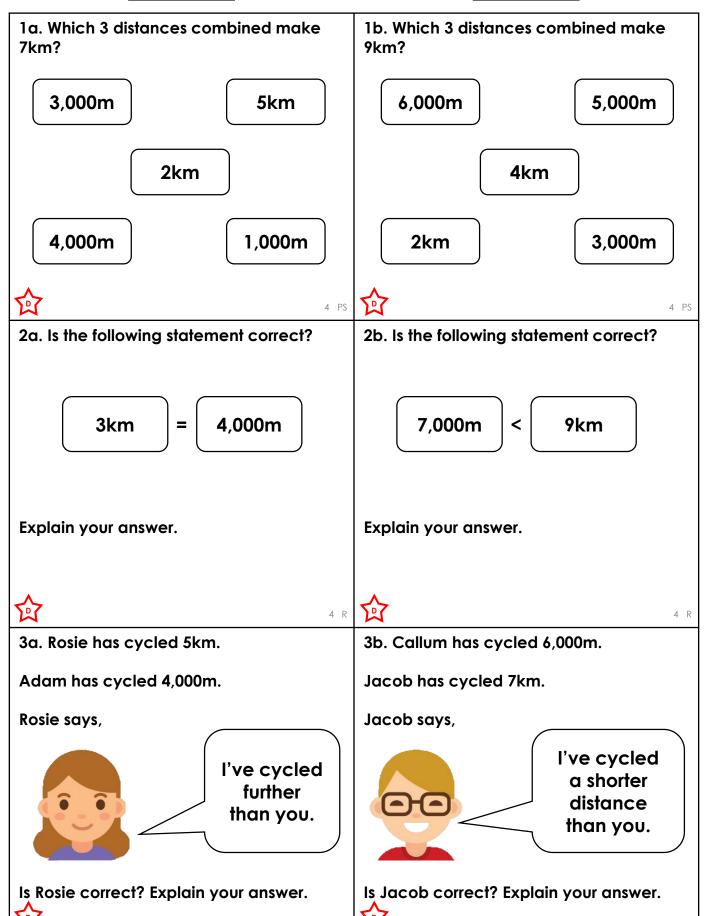
More resources which follow the same small steps as White Rose.

Did you like this resource? Don't forget to review it on our website.

Kilometres

Kilometres

1a. Which 3 distances combined make 7km?

3,000m	5km

2km

4,000m	1,000m

D   4 PS

1b. Which 3 distances combined make 9km?

6,000m	5,000m

4km

2km	3,000m

D   4 PS

2a. Is the following statement correct?

3km = 4,000m

Explain your answer.

D   4 R

2b. Is the following statement correct?

7,000m < 9km

Explain your answer.

D   4 R

3a. Rosie has cycled 5km.

Adam has cycled 4,000m.

Rosie says,

I've cycled further than you.

Is Rosie correct? Explain your answer.

D   4 R

3b. Callum has cycled 6,000m.

Jacob has cycled 7km.

Jacob says,

I've cycled a shorter distance than you.

Is Jacob correct? Explain your answer.

D   4 R

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Reasoning and Problem Solving – Kilometres – Year 4 Developing

Kilometres

Kilometres

4a. Which 3 distances combined make $3\frac{1}{2}$km?

| $2\frac{1}{2}$ km | 1,000m |

| 500m |

| 3,000m | 2km |

4b. Which 3 distances combined make 6km?

| 4,000m | 3,000m |

| $1\frac{1}{2}$ km |

| $\frac{1}{2}$ km | 2km |

5a. Is the following statement correct?

| 8km | > | 8,000m | > | 7km |

Explain your answer.

5b. Is the following statement correct?

| $5\frac{1}{2}$km | < | 6,500m | > | 5km |

Explain your answer.

6a. Hunter has cycled 2,500m.

Oliver has cycled 2km.

Oliver says,

> I've cycled the same distance as you.

Is Oliver correct? Explain your answer.

6b. Hallie has cycled $5\frac{1}{2}$km.

Charlie has cycled 5,500m.

Hallie says,

> I've cycled further than you.

Is Hallie correct? Explain your answer.

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Reasoning and Problem Solving – Kilometres – Year 4 Expected

Kilometres

7a. Which 3 distances combined make 12,250m?

6,500m	7km

5,000m

$3\frac{1}{4}$km	$2\frac{1}{2}$km

4   PS

7b. Which 3 distances combined make $9\frac{3}{4}$km?

500m	750m

$2\frac{3}{4}$km

4,750m	$4\frac{1}{2}$km

4   PS

8a. Is the following statement correct?

4,750m	<	$4\frac{1}{2}$km	=	4,500m

Explain your answer.

4   R

8b. Is the following statement correct?

$9\frac{3}{4}$km	>	8,750m	<	$9\frac{1}{4}$km

Explain your answer.

4   R

9a. Daniel has cycled 6,250m.

Ava has cycled 6km.

Ava says,

> I've cycled a shorter distance than you.

Is Ava correct? Explain your answer.

4   R

9b. Ayla has cycled 12,750m.

Leo has cycled 12km.

Leo says,

> We've cycled the same distance!

Is Leo correct? Explain your answer.

4   R

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Reasoning and Problem Solving – Kilometres – Year 4 Greater Depth

Reasoning and Problem Solving
Kilometres

Reasoning and Problem Solving
Kilometres

Developing

1a. 4,000m + 2km + 1,000m = 7km

2a. No; 3km = 3,000m which is less than 4,000m.

3a. Yes; 5km = 5,000m. 5,000m is more than 4,000m.

Developing

1b. 3,000m + 4km + 2km = 9km

2b. Yes; 9km = 9,000m which is more than 7,000m.

3b. No; 7km = 7,000m. 7,000m is greater than 6,000m.

Expected

4a. 1,000m + 2km + 500m = $3\frac{1}{2}$km

5a. No; 8km = 8,000m and 8,000m is greater than 7km.

6a. No; 2km = 2,000m which is less than 2,500m.

Expected

4b. 4,000m + $\frac{1}{2}$ km + $1\frac{1}{2}$ km = 6km

5b. Yes; $5\frac{1}{2}$ km = 5,500m which is less than 6,500m. 6,500m is also greater than 5km.

6b. No; $5\frac{1}{2}$ km is an equal distance to 5,500m.

Greater Depth

7a. 6,500m + $2\frac{1}{2}$km + $3\frac{1}{4}$km = 12,250m

8a. No; $4\frac{1}{2}$ km = 4,500m which is less than 4,750m.

9a. Yes; 6km = 6,000m which is a shorter distance than 6,250km.

Greater Depth

7b. 4,750m + 500m + $4\frac{1}{2}$ km = $9\frac{3}{4}$ km

8b. Yes; $9\frac{3}{4}$ km = 9,750m which is greater than 8,750m. $9\frac{1}{4}$km = 9,250m which is greater than 8,750m.

9b. No; 12km = 12,000m which is a shorter distance than 12,750m.

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