

### Measure Prior Assessment Question 5

Objective: I can convert between miles and kilometres

NC M3: convert between miles and kilometres

#### Teacher Input Ideas:

Ask the children to discuss all of the measurements they know for length. What different ones do they know and what facts do they know about them? Discuss the difference between the different metric units and why we have them. Introduce imperial units and when we might see these used. Show the children a variety of speed road signs and ask the children what speed they are? Show the children signs for distance from the town they live to other cities or London. What distance are these? Why? How do you know?

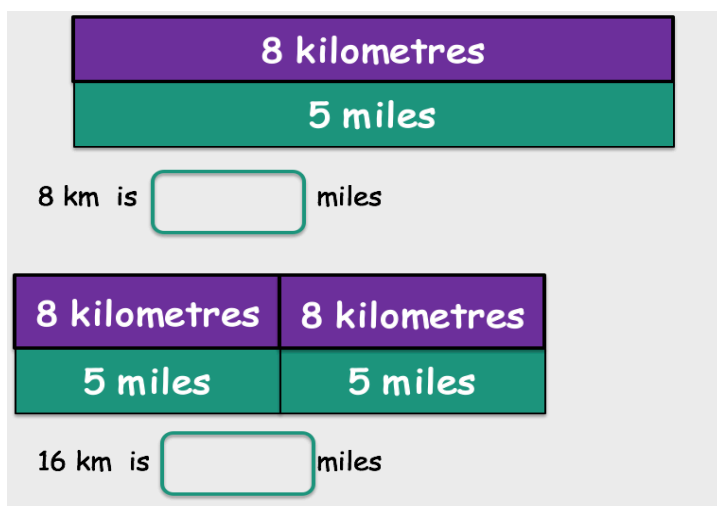
Discuss when miles are used? Can the children give examples? Allow them time to search the internet for places from where they are on maps. What distance are they given? Why? Ask the children what other unit of measure could we use for long distances?

Discuss that there is a link between KM and miles, but it is a little trickier to convert than metres and KM. For example 1 mile does not equal 10 or 1000 km. Ask the children if they know anything about the link.

Display 5 miles = 8km. So 5 miles is the same as 8 km. It can be trickier to work out 1 mile as a KM or 1 km as a mile as these will both be presented in decimals.

So if I know that 5 miles = 8km, how many miles will 16 km be? How will you work this out? .

For children that need to see this visually, a bar model may want to be used.



Provide lots of exploration and talk time. Give the children time to work out different facts using  $5 \text{ miles} = 8 \text{ km}$ .

For example: If I know 5 miles is 8km, then 10 miles will be 16km.

Model using the bar model for trickier conversions as below:

12 kilometres	
8 KM	4 KM
5 miles	2.5 miles

I know 4 is half of 8.

So I can use this to halve 5 miles.

### Practice Activities

**Purple Practice:** Most suited for children who made errors in Question 5 and will benefit from converting kilometres to miles with visual support.

For the purple activity the children are presented with the bar model to help them to convert kilometres to miles. The children are to work out multiples of 8 km and convert these in to miles. For the last 2 questions the children are not provided with bar models and they should suggest drawing their own or apply knowledge that they will need to multiply 5 by 4 to work out 32 km and 5 by 5 to work out 40km.

**Green Practice:** Most suited for children who made errors in Question 5 and will benefit from converting miles to kilometres with visual support.

The green activity is presented the same as the purple activity however the children are to convert miles to kilometres.

**Yellow Practice** Most suited for children who show some accuracy in Question 5 and will benefit from exploring converting between miles and kilometres with different examples.

This activity provides the children with the opportunity to convert miles to kilometres and kilometres to miles. The information is presented in a table and the children are to convert between the 2 measurements to fill in the missing data. The examples require the children to spot relationships between numbers. Such as: if they have 12 km, how can they use this to work out miles? What is the relationship between 12 and 8? Some children may need help with this and the use of the bar model may help.

**Mastery** Practical: For this activity, provide the children with time to use computers to research distances to different places. A place linked to topic work, history lessons or geography lessons could be used or ask the children to name 5 cities that they know in England. Encourage the children to research the distance in miles or km to that place. The children may need to round this amount to the nearest mile or km. The children are then to convert this amount into km or miles. For those children finding this difficult, they could research the distance in miles and km and then record and compare the measurements.

**Answers:**

**Purple:**

8km = 5 miles

16 km = 10 miles

24 km = 15 miles

32 km = 20 miles

40 km = 25 miles

**Green:**

5 miles = 8 km

10 miles = 16 km

15 miles = 24km

20 miles = 32 km

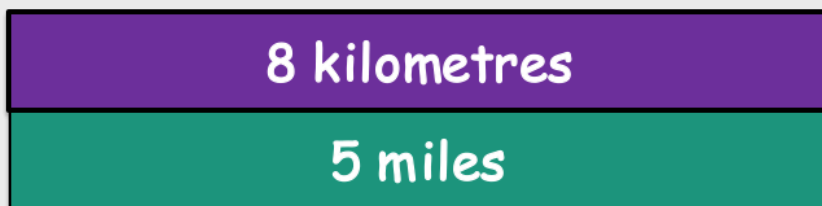
25 miles = 40km

**Yellow**

Kilometres	Miles
8	5
4	2.5
16	10
12	7.5
32	20
24	15
20	12.5

Fill in the missing green boxes using the bar model to help you .

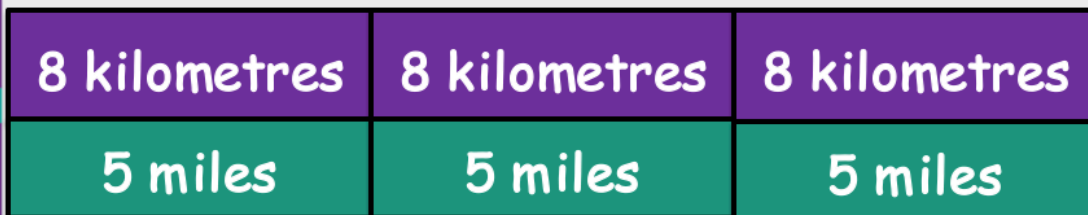
Remember  $8\text{ km} = 5\text{ miles}$



8 km is  miles



16 km is  miles



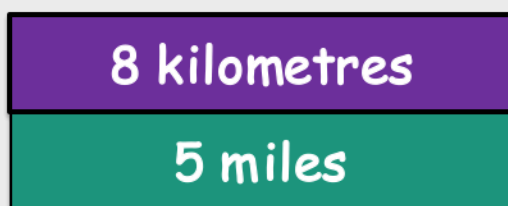
km is  miles

What is 32 km in miles?

What is 40 km in miles ?

Fill in the missing green boxes using the bar model to help you .

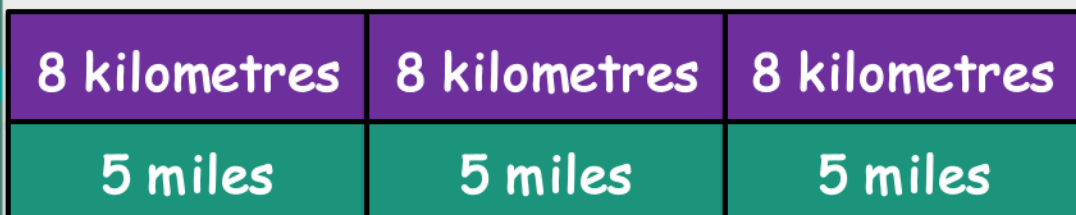
**Remember 5 miles = 8 kilometres**



5 miles is  kilometres



10 miles is  kilometres



15 miles is  kilometres

What is 20 miles in kilometres?

What is 25 miles in km

**Yellow Activity**

LO: I can convert between miles and kilometres.

Fill in the missing parts of the table that shows the relationship between kilometres and miles.

**Remember : 8km = 5 miles**

Kilometres	Miles
8	
4	
	10
	7.5
	20
24	
20	

**Challenge:** can you think of your own distances in kilometres and convert these into miles?