

Please refer to Worksheet Template Icon Key v0.1 for symbols above

Teacher PART A - Guidelines



"Hello from the 5000mileproject! On 27th July 2012, we will fulfil a dream expedition and the biggest challenge of our lives, to run the length of South America, unsupported, in a year!! Running 15 to 25 miles per day, over 5000 miles; it will be the equivalent of over 200 marathons and we will pull our food, water and equipment. We are both Ecologists and will also be carrying out the world's longest wildlife survey ("Mega Transect") and raising money for BirdLife International and Conservacion Patagonica. We want to share the amazing wildlife and wild places we see, hear and smell along the route with you, so come and join us at www.5000mileproject.org.....!", Katharine and David

Click this Link to show your Class a 2 minute film about the project:

<http://www.5000mileproject.org/2012/05/promovideo/>

WORKSHEET GOALS

This worksheet brings to life the importance of some common units of measure (UOMs) and how UOMs relate to each other

Mapping to Syllabus

- KS2 Ma3 Shape, space and measures - Understanding measures

At the end of this worksheet, pupils will

- understand that the same thing can be stated in different UOMs
- think about how important it is to use UOMs is to their own lives
- think about making their own UOMs

NEEDS AND RESOURCES

Required Background

To successfully complete this worksheet, pupils must

- be able to work with numbers up to 4 digits
- be comfortable with multiplication and simple long division
- understand simple decimals

Required Materials

To successfully complete this worksheet, pupils will need

- No additional materials required

Additional Print Resources

- No print resource required

Online Resources

- Not applicable

NOTE: UK spelling of "Kilometres" and "Metres" throughout.

Teacher PART B –Answers

Activity 1

- A) Possible answers could include (but not limited to) miles, kilometres, metres, centimetres, millimetres, feet, inches, yards, degrees, microns etc etc. People sometimes use time as a measure e.g hours, light years. People also use less precise measurements which can relate to distance e.g. "Blocks" in America or South America. If they have excess time, students could think about how these units of measure relate to each other
- B) (b) 5000 divided by 10 = 500 times by 16 equals 8000 Kilometre project
- C)
- 10 divided by 5 = 2 metres
 - 2m = 200cm
 - 5000m divided by 2 = 2500 strides
 - 2500 divided by 125 = 20 minutes
 - Time can be a very accurate means to measure distance if you have a watch and know what your speed is on average. As long as something has been calibrated to a distance you know, and can be a constant, the possibilities are endless – breathes, lampposts if regularly spaced, white lines in the road, heart beats!!

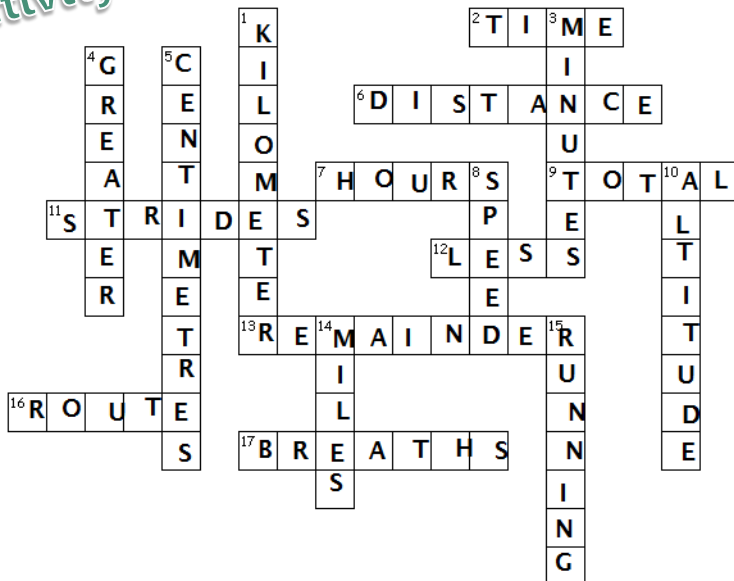
Activity 2

5000miles divided by 25mph = 200hrs

200hrs divided by 24hours to get days = 8 full days plus remainder of 8

8 days and 8 hrs

Activity 3



INFO

David and Katharine will have lots of numbers to consider each day running the 5000mileproject, just like you do in you daily lives. They need to make accurate calculations of things every day like: money in different currencies, weighing their equipment, sizing their photos, calculating the amount of power they'll need for their computers, how many calories they need to eat to run the distance required, and most importantly how far there is left to run....!

Stuff you'll learn

- ✓ What Units of Measure (UOM) are and how can we use them
- ✓ Different units of measure can be used to descibe the same thing
- ✓ How a simple understanding of different measurements can save your life!



Activity 1

A) In this activity we will look at Units of Measure (UOM) and how important it is to understand different values. The same **distances** are measured in many different units of measure. Can you think of five different UOM (clue: one is in the project name!!)?

- 1.
- 2.
- 3.
- 4.
- 5.



B) If the 5000 mile project was to be measured in Kilometres and the name be something like the **???? kilometreproject** instead, what would the project name have to be:



CHOOSE ONE

- a. 4000 Kilometre Project
- b. 8000 Kilometre Project
- c. 20000 Kilometre Project

CLUE: a mile is approximately 1600 metres. A Kilometre is 1000 metres, so a mile is 1.6 kilometres. When working with decimals e.g. 1.6 (rather than whole numbers) you could try dividing the number by 10 and and times by 16

- C) David and Katharine have lost their way! Can you help them??! Because it is often cloudy in the wild lands of Chile, a country in the South of South America, their GPS watch, which relies on solar power batteries, has got a flat battery! Oh No!



They know where they are now and a friendly local has told them how far the next camping site is. It is 5 kilometres (5000 metres). How will they know when they get to the right place? You have to help them because if they can't find flat ground to camp on they may have to sit out the entire night in dangerous freezing temperatures!!!

Luckily they have a measuring tape and they have measured their stride (how far each step is from the next when they run), by counting how many steps they take over a 10 metre distance. When they are running really fast they take 5. (You can do the same at home. All you have to do is measure a distance of 10 metres and run it, counting your strides).



- How far is each of their strides in metres?

- Their measuring tape only has centimetres – how far is that in centimetres?

- How many strides do they need to take to get to their camping ground?

- If they do 125 strides per minute how long will it take?

- How else could you estimate how far you have run?

Activity 2

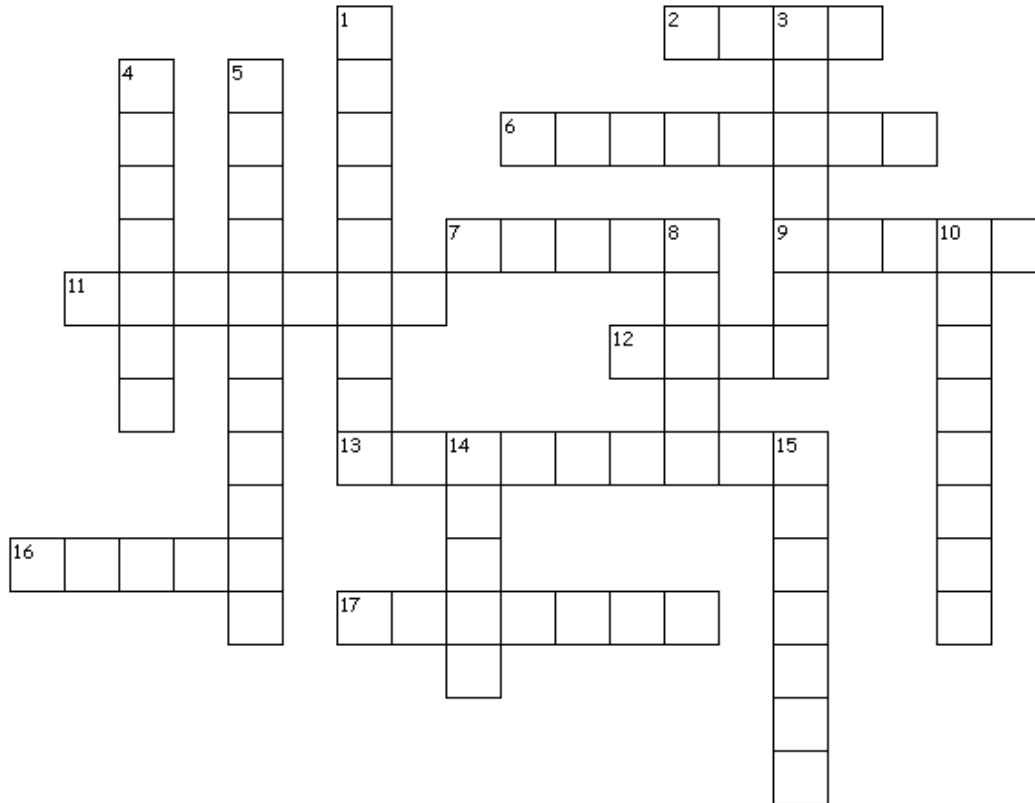
Usain Bolt is the fastest man on the planet at the moment and will be competing in the London Olympics 2012. He can run at **25 miles per hour** (mph).

How many days (and hours) would it take him to run the 5000 mile project if he didn't stop to eat or sleep? (show your workings)



Activity 3

Find the answers to the following questions and put them into the Crossword, it is NOT going to be easy!!!



Across

2. T____ can be measured in seconds, minutes and hours
6. Metres are just one measure of d_____
7. To get 10 miles at 5mph takes 2 _____
9. Another word for the sum of something
11. You take more b_____ when running faster!
12. 10000m is l_____ than 8 miles
13. If you run 2hrs at 10mph of a marathon distance, 6 miles is the r_____
16. A r___ with twists and turns is longer than a straight line between a and b

17. Runners take more b_____ when they are working hard

Down

1. 1000 metres equals one _____
3. Sixty _____ equals one hour
4. A mile is g_____ than a Km
5. One metre equals 100 _____
8. S_____ can be measured in mph
10. Alt_____ is normally stated in metres above sea level
14. 16000m equals 10 _____
15. R_____ is a great way to cover distance using just your legs!!