

# HOME LEARNING

Year 8

## Home Learning 3

Focus for this week: Median and Mean

Essential learning:	<ul style="list-style-type: none"><li>• Adding a group of numbers together</li><li>• Understanding that dividing means sharing</li><li>• Knowing that there are 100cm in 1 metre</li></ul>
Practising:	<ul style="list-style-type: none"><li>• Identifying factors and multiples</li><li>• Putting numbers in order of size</li></ul>
Learning about:	<ul style="list-style-type: none"><li>• Find the median of a set of numbers</li><li>• Find the mean of a set of numbers</li></ul>
Extension:	<ul style="list-style-type: none"><li>• Compare data using the mean, mode, median and range. Choose the best average.</li></ul>

### Tasks:

- Choose two objectives (above) to work on this week. Choose one to practise and one to learn.
- Complete at least two worksheets
- Login to MyMaths and complete MyMaths tasks
- Spend 10 minutes a day on Times Table Rock Stars; Numbots OR Sumdog
- Please email a photo of any worksheets or poster you complete to the email address below.  
*This will earn you a golden token.*

### Additional activities:

- Have a go at this puzzle: [https://www.transum.org/Software/SW/Starter\\_of\\_the\\_day/starter\\_June16.ASP](https://www.transum.org/Software/SW/Starter_of_the_day/starter_June16.ASP)
- Practise saying your times tables (e.g. every-time you walk up some stairs)
- Play 'Countdown' (e.g. <https://nrich.maths.org/6499>) on your own or with someone else
- Play this card game:  
<https://static1.squarespace.com/static/54905286e4b050812345644c/t/5ab280ea88251b9e8075aa62/1521647866923/Activity.pdf>
- **More challenge:** Have a go at this problem:  
[https://www.transum.org/Software/SW/Starter\\_of\\_the\\_day/starter\\_November9.ASP](https://www.transum.org/Software/SW/Starter_of_the_day/starter_November9.ASP)
- **More challenge:** Follow this interactive activity, finding the mode, median, mode and range  
[https://www.cimt.org.uk/projects/mepres/book8/bk8i5/bk8\\_5i2.htm](https://www.cimt.org.uk/projects/mepres/book8/bk8i5/bk8_5i2.htm)

If you have queries about this work, please contact me at [acroft@bower-grove.kent.sch.uk](mailto:acroft@bower-grove.kent.sch.uk)

Yr8 Maths w/b 27/4/20: Worksheet 1 Number skills

Task 1: Solve these addition problems:

a)  $2 + 3 + 4 =$  \_\_\_\_\_

b)  $5 + 6 + 7 =$  \_\_\_\_\_

c)  $1 + 2 + 3 =$  \_\_\_\_\_

d)  $4 + 5 + 6 =$  \_\_\_\_\_

e)  $8 + 9 + 10 =$  \_\_\_\_\_

f)  $3 + 4 + 5 =$  \_\_\_\_\_

Task 2: Now divide your answer by 3

a)  $2 + 3 + 4 =$  \_\_\_\_\_  $\div 3 =$  \_\_\_\_\_

b)  $5 + 6 + 7 =$  \_\_\_\_\_  $\div 3 =$  \_\_\_\_\_

c)  $1 + 2 + 3 =$  \_\_\_\_\_  $\div 3 =$  \_\_\_\_\_

d)  $4 + 5 + 6 =$  \_\_\_\_\_  $\div 3 =$  \_\_\_\_\_

e)  $8 + 9 + 10 =$  \_\_\_\_\_  $\div 3 =$  \_\_\_\_\_

f)  $3 + 4 + 5 =$  \_\_\_\_\_  $\div 3 =$  \_\_\_\_\_

g) What do you notice about your answers? \_\_\_\_\_

Task 3:

Tom says: "299 is bigger than 304 because 9 is bigger than 3, 0 and 4"

Alice says "304 is bigger than 299 because the 3 is worth 300 and that is bigger than the two, which is worth 200"

Who do you agree with? Why?

\_\_\_\_\_

Task 4: Put the following sets of numbers in order of size:

a) 921 351 198 742 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

b) 742 193 138 173 712 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Extension: -12 -15 0 -31 2 4 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Email completed worksheets to me at [acroft@bower-grove.kent.sch.uk](mailto:acroft@bower-grove.kent.sch.uk) . Each good attempt earns a golden token.

## Yr8 Maths w/b 27/4/20: Worksheet 2 Averages 1: Finding the Median

We use averages to describe roughly what a set of numbers is like. For example the average height for women is 159.5cm and 171cm for men. These numbers give us an idea about what height people might be, even though everyone is not the same height.

**Task 1:** Look at the statements below. Each one is either 'could be true' or it is 'definitely false'. Think and/or talk about each one and circle your answer.

- |    |   |               |                  |
|----|---|---------------|------------------|
| a) | The average height for a giraffe is 27cm tall                 | could be true | definitely false |
| b) | The average height of a male lion is 1.2 metres               | could be true | definitely false |
| c) | The average height of a Labrador is 60cm                      | could be true | definitely false |
| d) | There is an average of 48 smarties in a tube of smarties      | could be true | definitely false |
| e) | The average age for a professional footballer is 94 years old | could be true | definitely false |

### Task 2: Finding the median (odd set of numbers)

We find the median by putting a set of numbers in order of size and then finding the middle number. We can use our answer as an average for the set of numbers.

For example: Sam finds the costs of five bags of crisps in her local shop. Find the median cost of crisps in the shop.

78p    41p    55p    59p    41p

**Step 1:** Put the numbers in order:    41p, 41p, 55p, 59p, 78p

**Step 2:** Find the middle number:    41p, 41p, 55p, 59p, 78p

**Step 3:** Answer the question:    The average cost of a bag of crisps in the shop was 55p

Now find the median of these sets of numbers:

a)    12, 19, 14                      Workings out:                      Answer:

b)    21, 31, 7                          Workings out:                          Answer:

c)    4, 93, 91, 16, 52                  Workings out:                          Answer:

d)    3, 1, 1, 1, 2, 10, 5                  Workings out:                          Answer:

**Extension:** -4, -6, -10, 0, 1                  Workings out:                          Answer:

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## Yr8 Maths w/b 27/4/20: Worksheet 4 Averages 3: Finding the Mean

The mean is another way of describing the average of a set of data. To find the data you add the numbers together and then divide the answer by the number of numbers. It is important to do these one step at a time.

**EXAMPLE 1:** Find the mean cost of the crisp packets in the shop: 78p 41p 55p 59p 41p

**Step 1:** Add up the numbers:  $78 + 41 + 55 + 59 + 41 = 274$

**Step 2:** There are five numbers, so divide by 5.  $274 \div 5 = 54.8$

**Step 3:** Answer the questions: *The mean cost of crisps in the shop is 54.8p*

**EXAMPLE 2:** Find the mean height of plants in the garden centre: 12cm, 13cm, 15cm, 17cm, 19cm, 20cm, 23cm

**Step 1:** Add up the numbers:  $12+13+15+17+19+20+23 = 119$

**Step 2:** There are seven numbers, so divide by 7.  $119 \div 7 = 17$

**Step 3:** Answer the questions: *The mean plant height is 17p*

**Task 1:** Find the mean of the following numbers

a) 4 5 6

Mean = \_\_\_\_\_

b) 14 15 19

Mean = \_\_\_\_\_

c) 3 9 7 13

Mean = \_\_\_\_\_

d) 20 21 34 43 52

Mean = \_\_\_\_\_

**Task 2:** Find the median and the mean for each of these.

a) 10p 12p 11p

Median = \_\_\_\_\_ Mean = \_\_\_\_\_

b) 14cm 15cm 5cm 6cm 6cm 9cm 15cm

Median = \_\_\_\_\_ Mean = \_\_\_\_\_

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