Year 5 Maths Distance Teaching and Learning

Week beginning: 8.6.20

Lesson 4		
Learning Intention: WALT: solve word problems involving multiplication and addition	Key Vocabulary: Addition Multiply Groups of Lots of Pounds Unit of measurement: what the answer is being measured in e.g. pounds, cm, chocolates etc.	What you will need: Paper Pencil Ruler Ipad/Laptop/internet access Year 5 S2 Week 1 video 3

Starter

Please use Timestable Rockstars. Spend at least 10 minutes doing Studio games or a GIG.

Remember that the GIG is only available once you have completed enough games (or when you first ever log in) and your score and speed has improved enough.

Here is the website link. If you are viewing this online you should be able to click on the link or copy and paste to the website.

https://play.ttrockstars.com/auth/school/student/84789

Your login is the first 3 letters of you first name and the first 3 letters of your surname e.g. Jack Smith would have the login jacsmi

The password is Welcome1 -This is case sensitive (you need to use a capital W)

If you can't go online then please answer all of these multiplications as quickly as you can.

Multiply 4 and 6=
5x7=
11x11=
4x5x5=
7x3=
9x4=
7x7=
6x6=
10x8=

12x12=

7 groups 4=
Product of 3 and 5=
12x2=
8x8=

Main Teaching

Today we will look at word problems that may require multiple steps. You will need to use either multiplication or addition in this lesson.

What do you think the difference is between a one-step problem and a multi-step problem?

A one step problem only needs you to do one calculation to solve the problem, but a multi-step problem will require you to do 2 or more calculations to get the final answer.

Example of a single step problem:

Jack buys 5 pencils. Each pencil cost £4. How much money did Jack spend?

Here, you only have one step to answer the question, which is 5x4=20. The answer is £20.

Example of multi-step problem:

Jack buys 5 pencils and 3 rulers. Each pencil cost £4. Each ruler cost £2. How much money did Jack spend?

This time we will have to do 3 steps to find the answer.

1) First we work out the cost of the pencils: 5 x 4 = £20

2) Second, we find out the cost of the rulers: 3 x 2 = £6

3) Lastly, we add up the cost of the pencils and rulers: £20+£6=£36

The answer is that Jack spent £36.
We had to do multiple steps to answer the problem.

Let's do one more multi-step problem together.

Remember to read the question carefully and underline/circle/highlight any key information.
Remember to find out what the question is asking you to do before you highlight key information otherwise you might confuse yourself by highlighting things that you don't need to solve the problem.

Example

Try to solve this multi-step problem: First, read the problem carefully and underline or say aloud what it is that it wants you to find out.

I need to buy some new equipment for the class. I need 3 pencils for each child. There are 28 children in my class.

There are 6 classes of 28 pupils in the school. How many pencils will I need to buy for the whole school?

Here is what it wants you to find out:

I need to buy some new equipment for the class. I need 3 pencils for each child. There are 28 children in my class.

There are 6 classes of 28 pupils in the school. How many pencils will I need to buy for the whole school?

It wants to know how many pencils are needed for the whole school.

Now underline the key information we would need in order to solve this.

Here is what you might have underlined/circled/highlighted.

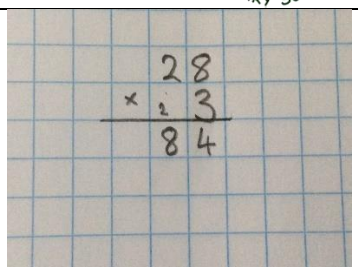
I need to buy some new equipment for the class. I need 3 pencils for each child. There are 28 children in my class.

There are 6 classes of 28 pupils in the school. How many pencils will I need to buy for the whole school?

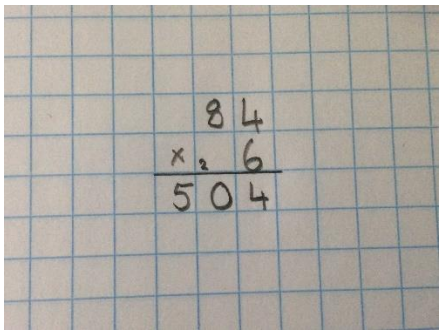
Now we can solve the problem in 2 steps. Do you know what they are?

Is this what you were thinking?

1. **Find the number of pencils for one class: 3 x 28 =**

I used the short multiplication to solve this 

2. Multiply the number of pencils for one class by the number of classes in the school: 84 x 6 = 504

I used short multiplication to solve this 

THE ANSWER IS 504 pencils are needed.

Here is a quick one to try. It only needs one step but you need to be careful with how you write the answer.

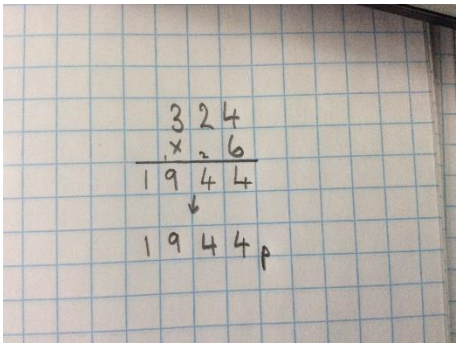
Maddy buys 6 cakes. Each cake costs £3.24. How much does she spend?. Give the answer in pounds.

Try to solve this then read on to see the two ways it could have been done.

Method 1 : Convert the £3.24 into pennies first.

£3.24 is the same as 324p (you just remove the decimal)

SO then we do 324 x 6 using short multiplication.

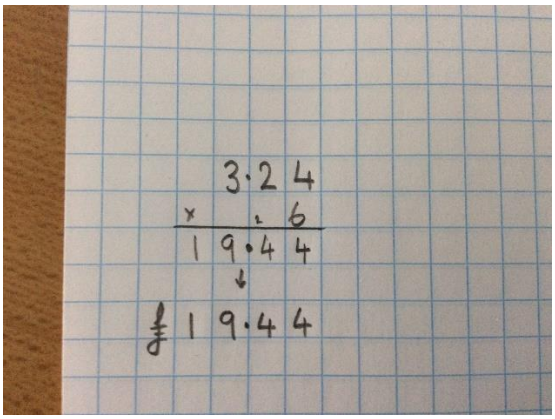


Our answer is in pennies but it needs to be in £ so we put a decimal point before the last 2 digits. Really this means we are dividing it by 100.

So 1944p is actually £19.44

<u>Method 2 :</u> We keep the £3.24 as it is an multiply it using short division.

So this time we just work out 3.24 x 6.



Our answer is already in £ so nothing else needs to be done. This method is only for those that are comfortable multiplying with decimals.

Now have a go at the challenges. They are a mix of one-step and multi-step problems. Good luck.

Independent Tasks

Challenge 1

<u>1 step problems</u>

1. If a group of 10 children wanted to go to the zoo, and the zoo was 43p a ticket. How much it cost them all together?

2. I want to buy all my friends a bar of chocolate and the chocolate is 23p each. How much would it cost me to buy them for 15 of my friends? Write your answer in £ not pence.

3. If a school receptionist can type 23 words in one minutes, how many words can she type in 45 minutes?

4. I went on a shopping spree. I bought 5 dresses at £12 each. How much did I spend together?

5. If Mylo eats 7 biscuits every day, how many will he eat in a year (365 days)?
   How many will he eat in 3 years?

6. Our class needs some new whiteboard pens. I order 7 boxes. How many pens will we have if there are 26 pens in each box?

7. I need to buy 100 stickers at £6 each. How will they cost me in total?

8. Helen runs 7.6 miles every day, how many miles will she have ran after 10 days?

Challenge 2

Multi-step problems

1. I went on a shopping spree. I bought 4 tops that cost £27 each and 3 skirts that cost £32 each. How much did I spend in total?

2. I need to buy some new equipment for the class. I need 4 pencils for each child. There are 26 children in my class.
   There are 6 classes of 26 pupils in the school. How many pencils will I need to buy for the whole school?

3. For an experiment, I need to buy 100 bags of marbles. The marbles cost £3.78 each. How much will the marbles cost me?

4. Jenna runs 8.91 miles every day. How many miles will she have ran in 10 days?

5. If I ate 18 biscuits every day for 12 days, how many biscuits will I have eaten?

6. If we need 28 books per lesson, in a week we have 12 lessons. How many books will we use? How many books will we use in a term that is 7 weeks long?

7. If it takes 3 hours to travel from Hull to London on the train, how many hours would you travelling for if you travelled there AND back 4 times?

8. If I watch 4 hours of TV on a week day (Monday – Friday) and 7 hours of TV on a weekend (Saturday and Sunday), how many hours of TV will I watch in a month (4 weeks)?

Challenge 3

1. If I need 5 pencils for each child in the class of 28 pupils, how many pencils will I have? How many pencils will I need for 16 classes of 28 pupils?

2. Helen ran 15.67 miles every day, how many miles did she run after 100 days?

3. My sister and I go on a shopping spree. She buys 3 pairs of shoes at £26 each and 2 tops at £12 each. I spend 4 times as much. How much did I spend?

4. In a concert car park there are 4 buses which can hold 76 passenger. 6 more buses turn up. How many people are at the concert?

5. A group of 14 children go on a school trip. The trip costs £14 each. They also need £7 spending money each. How much will the 14 children need in total?

6. 1 lady bird has 24 spots, how many spots do 327 lady birds have?

7. Books cost £6.36 each, bookmarks cost £1.27 each and notepaper cost £2.34 each. How much would it cost for 10 of each altogether?

Challenge X

1. Tickets to the disco are £3.67 each. Snacks are £1.47 each. Drinks are £2.23 each. If each child buys a ticket, a snack and a drink, how much will the school raise is 100 children go to the disco?

   How much will the raise if 200 children go to the disco? What is the quickest method to calculate this answer?

Review

Can you think of a word problem that would require you to do these 3 steps to solve it?

1. 4 x 3 = 12
2. 10 x 2 = 20
3. 20 + 12 = 32

The answer is £32

Mark Scheme – Lesson 1

Starter

Multiply 4 and 6=24
5x7=35
11x11=121
4x5x5=100
7x3=21
9x4=36
7x7=42
6x6=36
10x8=80
12x12=144

7 groups 4= 28
Product of 3 and 5= 15
12x2=24
8x8=64

Independent Tasks

Challenge 1

1.430p or £4.30
2. £3.45
3. 1035 words
4. £60
5. 2555 biscuits in a year
   7665 biscuits in 3 years
6. 182 pens
7. £600
8. 76 miles

Challenge 2

1. £204
2. 624 children
3. £378
4. 89.1 miles
5. 216 biscuits
6. 336 books a week
   2352 books a term
7. 3 hours x 8 = 24 hours
8. 4x5 = 20
   7x2= 14
   20+14=34 hours of TV each week

   34 hours x 4 = 136 hours of TV in a month

Challenge 3

1. 2240 pencils
2. 1567 miles
3. 3x26=28
   2x12=24
   78+24 = £102 my sister spent

   102 x 4 = £408 I spent
4. 6+4= 10 buses
   10x 76 = 760 people
5. 14+21 =£21 per child
   £21 x 14 = £294
6. 327 x 24 = 7840 spots
7. 6.36 x 10 = £63.60 1.27 x 10 = £12.70 2.34 x 10 = 23.40
   63.60 + 12.70 + 23.40 = £99.70 it would cost for ten of each altogether.

Challenge X

3.67+1.47+2.23 = £7.37 for each child

£7.37 x 100 = £737 for 100 children.

The easiest way to work out the amount made by 200 children would be to double the answer we just got. So 737 x 2 or 737 +737

This would give you the answer 1474
Review
Can you think of a word problem that would require you to do these 3 steps to solve it? 4. 4 x 3 = 12 5. 10 x 2 = 20 6. 20 + 12 = 32 The answer is £32 An example of a problem you might have come up with would be. My friend buys 4 chocolates for £3 each. She then buys 10 magazines for £2 each. How much did she spend altogether?