



Year 5 Maths Distance Teaching and Learning

Week beginning: 18th May 2020

Lesson 2		
Learning Intention: WALT: solve word problem involving adding and subtracting mentally	Key Vocabulary: add subtract partition more than less than total altogether adjust nearest multiple of method mental	What you will need: Paper Pencil Ruler Ipad/Laptop/internet access Year 5 Week 5 video 2
Starter		
<p>LATER THIS WEEK WE WILL BE DOING LONG MULTIPLICATION SO MAKE SURE YOU ARE USING TIMESTABLE ROCKSTARS AS MUCH AS YOU CAN IN PREPARATION.</p> <p>Please use Timestable Rockstars. Spend at least 10 minutes doing Studio games or a GIG.</p> <p>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.</p> <p>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.</p> <p>https://play.ttrockstars.com/auth/school/student/84789</p> <p>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</p> <p>The password is Welcome1 -This is case sensitive (you need to use a capital W)</p> <p>If you can't go online then please answer all of these multiplications as quickly as you can.</p> <p>7x4= 3x5= 12x2= 8x8= 4x6= 5x7= 11x11= 4x5= 7x3=</p>		



9x4=
7x7=
6x6=
10x8=
12x12=

Main Teaching

Today we will solve word problems involving either addition, subtraction or both. We will solve them in our head. What do we call this?

That's right, mental arithmetic.

Can we write anything down when we are solving it in our heads?

Yes. It is often useful to jot down numbers as we're doing it so we don't have to remember everything in our head.

We can also record the method but this is not essential.

WE WILL NOT BE USING THE COLUMN METHODS TODAY AS ALL THE PROBLEMS SHOULD SOLVABLE MENTALLY TODAY.

Example 1

Jason scores 125 in a test. Sam gets double Jason's score. Kevin get 49 more than Sam. Claire scores 63 less than Kevin. How much did each person score?

Have a go at working these out mentally before reading on. I suggest you focus on Jason and Sam first.

Jason: 125 points

Sam : $125 + 125 =$

Easiest way (partitioning) $100 + 100 + 20 + 20 + 5 + 5 = 200 + 40 + 10 = 250$ points

Kevin: $250 + 49 =$

Easiest way (adjusting) $= (250 + 50) - 1 = 300 - 1 = 299$ points

Claire: $299 - 63 =$

Easiest way (partitioning) $299 - 60 - 3 = 239 - 3 = 236$ points

Example 2

Two classes of children collected house points. One class had 360 house points, the second class 198.

- a) How many house points did both classes have? Have a go at solving this mentally.

$$360 + 198 = \text{Easiest way (adjusting)} = (360 + 200) - 2 \\ = 560 - 2$$

= 558 house altogether

- b) How many more house points did the first class have? (Note: this is a difference type question)

$$\begin{aligned}
 360 - 198 &= \text{Easiest method (adjusting)} = (360 - 200) + 2 \\
 &= 160 + 2 \\
 &= 162 \text{ more house points}
 \end{aligned}$$

Example 3

Let's look at another difference type question. The word difference in Maths is often confusing so it is worth us doing questions with it as often as possible. It is very simple once you get the hang of it.

There are 553 in a school. 200 are boys and the rest are girls. What is the difference in number between the girls and boys?

Remember difference means how much larger one number is than the other. This can always be solved by subtracting the smaller number from the larger. However, we don't have the number of girls yet, so solve that first before working out the difference. Have a go then read on to check.

Number of girls is $553 - 200 = 353$ girls

Difference of girls(353) to boys (200) is; $353 - 200 = 153$

The difference in number between the girls and boys is 153 because there are 153 more girls than boys at the school.

Independent Tasks

Challenge 1

Mentally solve these problems.

1. Twenty children go out to break time. 120 more children join them. How many children are out at break time?
2. 150 pencils are delivered to school. 25 of them are broken. How many unbroken pencils are there?
3. 35 people are on a bus. 22 more people get on. Then 10 children get on. How many people are on the bus?
4. A bus can carry 90 people. At the bus stop there are 45 girls and 46 boys. Will they all be able to get on the bus?
5. On my way to school, I lose 20p. When I get to school, I still have 83p in my pocket. How much money did I have before I made my way to school.
6. Jack gets 13 questions correct. Sarah gets double Jack's score. Kevin get 4 more than Sarah. Harry got half of Kevin's score. How much did each person score?

Challenge 2 and 3

Challenge 2 Solve the first 5 problems mentally. NO COLUMN METHOD TO BE USED.

Challenge 3: Solve all ten problems mentally. NO COLUMN METHOD TO BE USED.

<p>1. In the library, there are 6054 science books on the top shelf, and 425 science books on the bottom shelf. How many science books are there altogether?</p>	<p>2. There are 1485 picture books in the library. On Monday 233 were taken out. How many picture books are left?</p>
<p>3. Two classes of children collected marbles. One class had 3600 marbles, the second class had 2999.</p> <p>a) How many marbles did both classes have?</p> <p>b) How many more marbles did the first class have?</p>	<p>4. There were 9852 pieces of sports equipment. Sadly, 2320 pieces were ruined in a flood. How many are left?</p>
<p>5. There were 3512 books in a library. 1500 people took out a book. How many books were left in the library?</p>	<p>6. In a lorry, there were 8512 pieces of fruit. 1000 were bananas and 512 were oranges. How many apples were there in the lorry?</p>
<p>7. 18,000 West Ham fans and 18,003 Chelsea fans attended a match.</p> <p>a) How many fans watched the match?</p> <p>b) How many more Chelsea fans were there?</p>	<p>8. A gallery had 10,220 visitors in September. In June they had 25630 visitors. How many more people visited the gallery in June than September?</p>
<p>9. Ed Sheeran played to a crowd of 20362 in London, 10,200 in Paris and 100,000 in New York. How many fans saw Ed Sheeran play?</p> <p>100,000 + 20,362 + 10,200</p>	<p>10. Adele sold 12036 albums on Saturday. She sold 36452 on Sunday. During the week she sold 45320 albums. Did she sell more albums during the week or at the weekend?</p>



Challenge X

Extention

Create one or two step word problems for these calculations –

$$1324 + 9998 =$$

$$2500 + 63,956 =$$

$$4862 - 1546 =$$

$$14659 - 2381 =$$

$$1000 + 3000 - 1500 =$$

$$6342 - 1000 + 342 =$$

Review

One day 503 snakes escape from the zoo. There are only 499 snakes left. The next day there are 1000 snakes back in the zoo. How many are still not back in the zoo?

$$\begin{aligned} 502+499 &= 502 + 500 -1 \\ &= 1003 - 1 \\ &= 1002 \end{aligned}$$

1002 snakes

Mark Scheme – Lesson 1

Starter

$$7 \times 4 = 28$$

$$3 \times 5 = 15$$

$$12 \times 2 = 24$$

$$8 \times 8 = 64$$

$$4 \times 6 = 24$$

$$5 \times 7 = 35$$

$$11 \times 11 = 121$$

$$12 \times 12 = 144$$

$$4 \times 5 = 20$$

$$7 \times 3 = 21$$

$$9 \times 4 = 36$$

$$7 \times 7 = 49$$

$$6 \times 6 = 36$$

$$10 \times 8 = 80$$

Independent Tasks

Challenge 1

Mentally solve these problems.

1. Twenty children go out to break time. 120 more children join them. How many children are out at break time?

$$120 + 20 = 140 \text{ children}$$

2. 150 pencils are delivered to school. 25 of them are broken. How many unbroken pencils are there?

$$150 - 25 = 125 \text{ unbroken pencils}$$

3. 35 people are on a bus. 22 more people get on. Then 10 children get off. How many people are on the bus?

$$35 + 22 - 10 = 57 - 10 = 47 \text{ people on the bus}$$

4. A bus can carry 90 people. At the bus stop there are 45 girls and 46 boys. Will they all be able to get on the bus?

$$45+46= 45+45+1 = 90+1=91$$

$91 > 90$ so they won't all be able to get on the bus.

5. On my way to school, I lose 20p. When I get to school, I still have 83p in my pocket. How much money did I have before I made my way to school.

$$83\text{p} + 200 = 103\text{p} \quad \text{but } 103\text{p is really } \pounds 1.03. \text{ I had } \pounds 1.03 \text{ before I went to school.}$$

6. Jack gets 13 questions correct. Sarah gets double Jack's score. Kevin get 4 more than Sarah. Harry got half of Kevin's score. How much did each person score?

Jack: 13 points

Sarah: $13 + 13 = 26$ points

Kevin: $26 + 4 = 30$ points

Harry: half of $30 = 30 \div 2 = 15$ points

Challenge 2 and 3

These solutions sometimes show the mental method I have used but you did not need to record the method just the answer. The method is just there if you got the wrong answer

3. In the library, there are 6054 science books on the top shelf, and 425 science books on the bottom shelf. How many science books are there altogether?

$$6052 + 425 = 6477 \text{ books}$$

4. There are 1485 picture books in the library. On Monday 233 were taken out. How many picture books are left?

$$1485 - 233 = 1252 \text{ picture books}$$

<p>3. Two classes of children collected marbles. One class had 3600 marbles, the second class had 2999.</p> <p>a) How many marbles did both classes have? b) How many more marbles did the first class have?</p> <p>a. $3600+2999 = (3600+3000) - 1$ $= 6600-1$ $=6599$ marbles altogether</p> <p>b. $3600 - 2999 = (3600 - 3000) + 1$ $= 600$ $= 601$ more marbles</p>	<p>4. There were 9852 pieces of sports equipment. Sadly, 2320 pieces were ruined in a flood. How many are left?</p> <p>$9852 - 2320 =$</p> <p>$9852 - 2000 - 300 - 20$</p> <p>$9852 - 2000=7852$ $7852-300=7552$ $7552-20=7532$ pieces of sports equipment left</p>
<p>5. There were 3512 books in a library. 1500 people took out a book. How many books were left in the library?</p> <p>$3512 - 1500 = 3512 - 1000 - 500$ $= 2512 - 500$ $=2012$ books left</p>	<p>6. In a lorry, there were 8512 pieces of fruit. 1000 were bananas and 512 were oranges. How many apples were there in the lorry?</p> <p>$8512 - (1000 + 512) =$ $8512 - 1512 = 7000$ apples in the lorry. or $8512 - 1000 - 512 =$ $7512 - 512 = 7000$</p>
<p>7. 18,000 West Ham fans and 18,003 Chelsea fans attended a match.</p> <p>a) How many fans watched the match? $18,000+18,003= 18,000 + 18,000 + 3$ $= 36,000 + 3$ $= 36,003$ fans watched the match</p> <p>b) How many more Chelsea fans were there?</p> <p>$18,003 - 18,000 = 3$ more Chelsea fans</p>	<p>8. A gallery had 10,220 visitors in September. In June they had 25630 visitors. How many more people visited the gallery in June than September?</p> <p>$25,630 - 10,220 = 25,630 - 10,000 - 200 - 20$ $= 15,630 - 200 - 20$ $= 15,430 - 20$ $=15,410$</p>
<p>9. Ed Sheeran played to a crowd of 20362 in London, 10,200 in Paris and 100,000 in New York. How many fans saw Ed Sheeran play?</p> <p>$100,000 + 20,362 + 10,200$</p> <p>Best to do in 2 parts Part 1 $20,362 + 10,200=20,362 + 10,000 + 200$ $=30,562 + 200$ $=30,762$</p> Part 2 $100,000 + 30,762=130,762$ fans saw Ed Sheeran play.	<p>10. Adele sold 12036 albums on Saturday. She sold 36452 on Sunday. During the week she sold 45320 albums. Did she sell more albums during the week or at the weekend?</p> <p>$12,036 + 36,452 = 36,000 + 12,000 + 452 + 36$ $= 48,000 + 488$ $= 48,488$</p> <p>$48,488 > 45,320$ so she sold more records at the weekend.</p>

Challenge X

There are many possible questions you may have come up with here is an example for the first one.

$$1324 + 9998 =$$

My highest score in the computer game I'm playing is 9998. Annoyingly, my friend's highest score is 1324 points higher than mine. What is my friend's highest score?

Review

Spot the mistake.



One day 503 snakes escape from the zoo. There are only 499 snakes left. The next day there are 1000 snakes back in the zoo. How many are still not back in the zoo?

$$\begin{aligned}502+499 &= 502 + 500 -1 \\ &= 1003 - 1 \\ &= 1002\end{aligned}$$

1002 snakes

I forgot to subtract the total number of snakes from the snakes that are in the zoo.

$$1002 - 1000 = 2$$

There are 2 snakes still to find.