TEACHER NOTES

The activity is set up with 8 made-up staffroom raider suspects. The first page can be modified using PowerPoint – which means if you want to be creative then you can change the suspects. Perhaps you could change the photos to teachers from your school – and put in their likes instead. Be warned, however, that not all your teacher colleagues might like being in the suspect list! – You know them best so the decision is up to you. ☺ *(Just keep the suspect numbers in the description because the math clues point to suspect numbers – not teacher names).*

Included in this activity you will find:

Five math clues which your students will need to solve in order to uncover who the staffroom raider is. The clues are:

> **Hidden Message:** Students use their basic facts, mainly multiplication in order to uncover a hidden message left by the raider.
> **Graph:** Students uncover a picture using a given set of coordinates.
> **PEMDAS/BEDMAS –** Activity using a clue from the raider.
> **Run, Teacher Run!** – A basic division clue.
> **Who has the pens?** – A basic algebra activity.

Two early finisher activities are also included. Keep these on hand to give to your students who finish early. One of the extra activities is a student interview – a great way to get to know your new students a bit better.

Also included with this product is Prezi presentation with a video hook to get your students engaged with the activity:

CSI MATH: FIND THE STAFFROOM RAIDER

CRIME SCENE INVESTIGATION

Dear Student, we need your help!

A terrible thing has happened –yesterday the teachers staffroom was raided. The chairs were overturned, and all the teachers' notes were scattered or taken.
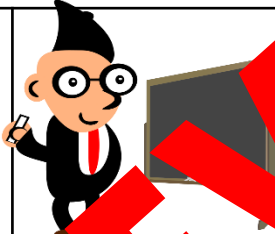
The worst part was that the year's supply of cookies in the staffroom were taken as well!

Now the teachers are all upset. They need their notes back so they know they are teaching you the right things!

We need your help to find out who did this so we can find the teachers' notes… and cookies.

Luckily, the culprit left clues around the school, which we have gathered up and put in the next few pages. These clues are all math related. It is known that the culprit was a teacher because they had a key to the staffroom.

The most likely suspects were gathered up and are shown below. One of these suspects committed the crime. Use the evidence on the following pages to find out which one committed this terrible act.

Suspect 1: Miss Red: Likes – Color Red	**Suspect 2** Mr. Knowledge Likes – Wise minds	**Suspect 3** Mrs. Classy Likes – Clean rooms	**Suspect 4** Sir Proper: Likes – On task students
Suspect 5 Miss Happy: Likes – Happy thoughts	**Suspect 6** Madam Caring: Likes – To care for your hurts	**Suspect 7** Mrs. Sporty: Likes – Sports and keeping fit	**Suspect 8** Mr. Principal: Likes – A well run school!

FIVE CLUES HAVE BEEN FOUND WHICH ARE ON THE FOLLOWING PAGES.

AFTER YOU HAVE SOLVED EACH CLUE COME BACK HERE TO CROSS PEOPLE OFF THE SUSPECT LIST UNTIL YOU HAVE FOUND THE RAIDER.

HIDDEN MESSAGE

A hidden math message was left behind in the staffroom. The person who raided the staffroom must be challenging us and have a love of math!

Solve the problems, then fill in the message spaces with the letters that match the correct answers to read the secret message. This will let you cross off one person from the suspect list.

A	B	C	D	E	F	G
6x4	54+35	7x3	5x5	12 ÷ 4	9x3	4x4
____	____	____	____	____	____	____
H	**I**	**J**	**K**	**L**	**M**	**N**
43-12	4x8	25 ÷ 5	3x3	1_		8X5
____	____	____	____			____
O	**P**	**Q**	**R**	**S**	**T**	**U**
9X7	68-35	8x9		____ ÷ 3	4x2	_X5
____	____	____			____	
V	**W**	**X**	**Y**	**Z**		
8X8	9x9	6X8	_7	168-43		
____	____			____		

___ ___ ___ ___ ___ ___ ___ ' ___ ___ ___ ___ ___ ___
32   27   28 63 15   36 3   3   24 25 32 40 16

___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___
8   31 31   8   31 3   40   81 3   41 41   25 63 40 3

___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ .
28 63 15   9   40   28 63 15 36   12 24 8   31

___ ___ , ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___
32 8   81 24 6   40 8   6   15 6   33 3   21 8

___ ___ ___ .
63 40 3

**CROSS THIS PERSON OFF YOUR SUSPECT LIST**.

Graph for Success

A letter has just been sent to the school. In it was another clue from the raider. This person must be arrogant and think we cannot solve their clues.

The letter says: "It was not suspect number …" followed by a bunch of numbers.

The numbers were found to be coordinates.
In the table below the graph are a list of coordinates, use these to find the points and then connect each of the points together to uncover the clue!
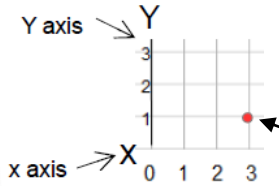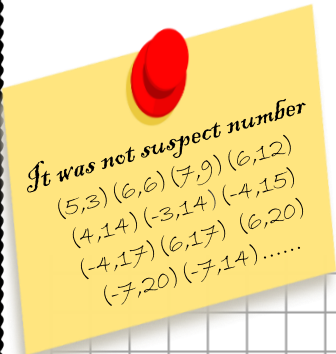
The coordinates look like this, (3,1). The first number is always along the X line (x axis) and the second number is always along the Y line (y axis).

So for (3,1) you would put a dot here. Connect all the dots in the order below the table to make a picture.

It was not suspect number
(5,3) (6,6) (7,9) (6,12)
(4,14) (-3,14) (-4,15)
(-4,17) (6,17) (6,20)
(-7,20) (-7,14) ......

It was not suspect number:

(5,2)	(-3,14)	(-7,20)	(4,6)	(-7,8)
(6,6)	(-4,15)	(-7,14)	(2,4)	(-7,6)
(7,9)	(-4,17)	(-4,11)	(-2,4)	(-6,4)
(6,12)	(6,17)	(4,11)	(-4,6)	(-4,2)
(4,14)	(6,20)	(5,9)	(-5,8)	(5,2)

CALL IN THE NIGHT

Last night a secret phone call came through with a 'tip-off'. The mystery voice left the following message – An equation has been put on the door of the teachers classrooms. Any teacher whose equation has an answer which is over 43 did not commit the crime.

When calculating the answers remember these following tips:

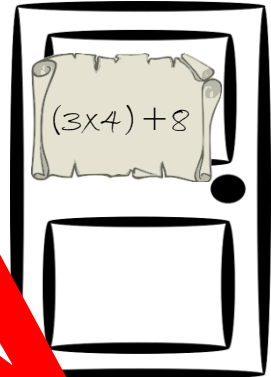1, The *P*arentheses (*Brackets*) always get calculated first

So,   2x2 + (2+3) ⟶ 2x2 + 5 = 9

Add 2+3 first since they are inside the bracket. 2+3 = 5.
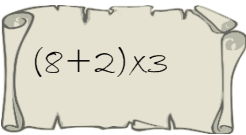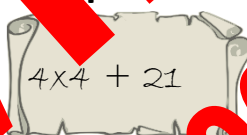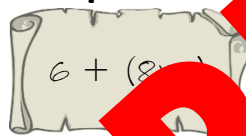
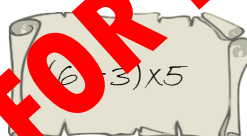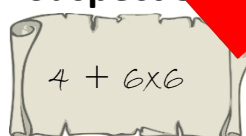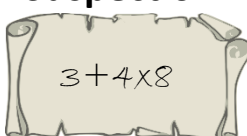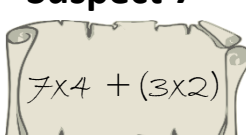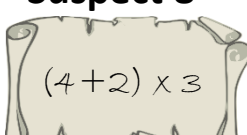2. After brackets have been calculated the multiplication comes next!

So,   4+2x5 ⟶ 4+10 = 14

Always do the multiplication before the addition. 2x5 =10.

(3x4)+8

Any suspect who has a total of more than 43 can be crossed off the list.

Suspect 1	Suspect 2
(8+2)x3 Total _____	4x4 + 21 Total _____

Suspect 3	Suspect 4
6 + (8) Total _____	(6 3)x5 Total _____

Suspect 5	Suspect 6
4 + 6x6 Total _____	3+4x8 Total _____

Suspect 7	Suspect 8
7x4 + (3x2) Total _____	(4+2) x 3 Total _____

Cross off any suspect who has a total of more than 43 off the suspect list.

Run, Teacher – Run!

A shadowy figure was seen in the staffroom on the day of the crime. When the midday bell rang the figure was seen sprinting from the staffroom. 13 seconds later all the teachers were known to be logged into their computers in their classrooms for a compulsory web training course.

This means that the teacher who committed the crime would have been able to sprint from the staffroom to their classroom in under 13 seconds!

All the suspects were forced to run at full speed and have their time recorded. The distance from the staffroom to their classroom was also measured. From this information the time taken can be calculated by dividing the distance run by the speed of the teacher.

e.g. A teacher can run at 10m/sec. The distance is 80m

Time taken = Distance/speed

Time taken = 80/10 = 8 seconds.

Calculate how long it would take each teacher to sprint back to their classroom.

CROSS OFF ANY TEACHER WHO COULD NOT HAVE MADE IT BACK TO THEIR CLASS IN UNDER 13 sec.

Speed = 5m/s **Distance** = 40m **Time taken** = distance ÷ speed = 40 ÷ 5 =_____	**Speed** = 8m/s **Distance** = 48m **Time taken** = distance ÷ speed = 48 ÷ 8 =_____	**Speed** = 4m/s **Distance** = 36m **Time taken** = distance ÷ speed =_____	**Speed** = 9m/s **Distance** = 81m =_____
Suspect 1	Suspect 2	Suspect 3	Suspect 4
Speed = 8m/s **Distance** = 88m =_____	**Speed** = 7m/s **Distance** = 63m =_____	**Speed** = 10m/s **Distance** = 160m =_____	**Speed** = 6m/s **Distance** = 66m =_____
Suspect 5	Suspect 6	Suspect 7	Suspect 8

Cross off any teacher who would of taken longer than 13 seconds.

WHO HAS ALL THE PENS?

No more clues have come from the raider – they underestimated your math ability and must now be worried about getting caught. However, we have uncovered a way to still be able to figure out who the raider was.

On the night of the raid 35 pens from the staffroom were taken. Any teacher who has less than 35 pens in their classroom can be crossed off the suspect list – they wouldn't have committed the raid.

Calculate the total number of pens each teacher has.
Cross any teacher who has a total of less than 35 pens off the suspect list.

Green Pen	Red Pen	Blue Pen	Black Pen
3 Pens per Box	4 Pens per Box	5 Pens per Box	6 Pens per Box

Hint: To calculate amount of pens multiply number of boxes by amount of pens that color box has. e.g. Two boxes of green pens = 2 x 3 = 6 pens.

Suspect 1:

5 boxes of green pens = _____ pens

2 boxes of red pens = _____ pens

4 boxes of blue pens = _____ pens

Total number of pens _____

Suspect 2:

3 boxes of red p_____ = _____ pens

3 b___ blue pens = _____ pens

1 box __ ___ ens = _____ pe_s

Total number of pens _____

Suspect 3:

6 boxes of green pens = _____ pens

4 boxes of blue pens = _____ ___s

2 boxes of black pe___ = _____ ___s

Total number of p____ _____

Suspect 4:

1 box of green pen_ = _____ pens

7 boxes of red pen_ = _____ pens

4 boxes of black pens = _____ pens

Total number of pens _____

Suspect 5:

4 boxes o_ ____e ns = _____ pens

6 boxes of b___ pens = _____ pens

Total number of pens _____

Suspect 6:

9 boxes of green pens = _____ pens

2 boxes of blue pens = _____ pens

Total number of pens _____

Suspect 7:

6 boxes of green pens = _____ pens

2 boxes of red pens = _____ pens

1 box of blue pens = _____ pens

2 boxes of black pens = _____ pens

Total number of pens _____

Suspect 8:

4 boxes of green pens = _____ pens

2 boxes of red pens = _____ pens

1 box of blue pens = _____ pens

1 box of black pens = _____ pens

Total number of pens _____

Cross off any teacher who has less than 35 pens off the suspect list.

NEWSPAPER INTERVIEW

Well done – you helped find out who raided the teachers' staffroom. Now the teachers' notes have been found – which means you don't have to copy pages out from the dictionary all year.

Because of your talent in using math to help find the culprit, the newspaper has asked to interview you. First, though they need to find out a bit more information about you for their article.

The three things I like most are:

My favorite

1. _____ Subject_____
2. _____ Color_____
3. _____ Animal_____
                                                          Food_____

If I had one wish it would be _____

Why_____

_____

_____

Write a short paragraph about you – the things you think the newspaper should know (your likes/dislikes/fears/hopes/goals/family etc.

_____

_____

_____

_____

_____

Draw a picture here.

_____

_____

_____

_____

UNLOCK THE SAFE

The staffroom raid mystery has been solved but one problem still remains. The staffroom cookies still haven't been found!

The cookies are thought to be in the safe of the teacher who raided the staffroom – but no one knows the combination to get into the safe. However, the following clues were found in the teacher's notebook.

Solve the puzzles to find the combination for the safe! Put the answers in the correct box."

1. The number of days in June, divide by 5.

2. 56 divided by the number of days in a week

3. The number of letters in the alphabet min~~us 8~~

4. (4x6) –(3x7)

5. Count up the number of stude~~nts in yo~~ ~~class,~~ then add the amount of weeks in the year a~~nd mi~~ ~~s the~~ ~~nt of hours in~~ day. Once you have this answe~~ ~~ultip~~ ~~t 0, a~~nd then add ~~n~~ times this number by 2.

UNLOCK THE SAFE – CREATE YOUR OWN

Now it's time to create clues for your own safe. If there is time and your teacher allows it see if your friends can uncover your secret combination using your clues!

On the following lines write the clues/puzzles giving hints to the combination for your safe!

1. _____

2. _____

3. _____

4. _____

5. _____