SUBJECT- MATHEMATICS

We can't wait to meet you and welcome you to the Aldersley Family

AHS Transition Project- Rising Year 7s

Welcome to the Aldersley High Mathematics Department

At Aldersley High School we have a very hard working and dedicated department. Each member of staff strives to bring out the best mathematician in you, allowing you to achieve your full potential. Please familiarise yourself with our members of staff before your start next year.

Mrs Bradley-Smith
Assistant Vice-Principal
Mathematics

Mrs Treble
Assistant Vice-Principal
Mathematics

Mr Rai
Lead Practitioner

Mrs Duroe
SEN Support
Mathematics
Specialist

Mrs Walker
Raising Standards Leader
for SEN pupils

Miss Keogh
Key Stage 5 Co-ordinator

Mr Sidhu
Key Stage 3 Co-ordinator

Miss Jeffries
Teacher of Mathematics

Mrs Bhabra
Teacher of Mathematics

Mrs Braddock
Teacher of Mathematics

Mrs Farah
Teacher of Mathematics

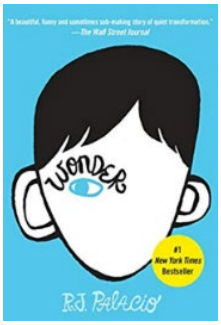
Miss Kaur
Teacher of Mathematics

Mr Hedges
School Development
Lead

Lesson 1

Title: Code reading

Are you able to complete read and interpret codes?



Wonder is a book about ‘’heart and about truth’’. Auggie Pullman is a young man who helps us see the beauty all around us. Throughout this novel Auggie has to face a number of adverse situations. Adversity is a situation that you will have to face from time to time in life and maths will challenge you all the same by having to decode and find the solution of a given situation. Codes can be compared to a message that wants to be realised, just like Auggie, who wants to be ‘’the stand out boy’’.

Revisiting Phase:

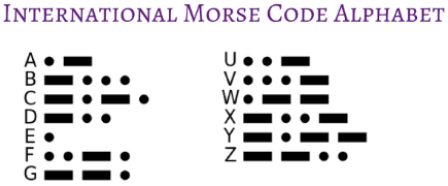
Nearly 2000 years ago, Julius Caesar was busy taking over the world, invading countries to increase the size of the Roman Empire. He needed a way of communicating his battle plans and tactics to everyone on his side without the enemy finding out. So Caesar would write messages to his generals in code. Instead of writing the letter 'A', he would write the letter that comes three places further on in the alphabet, the letter 'D'. Instead of a 'B', he would write an 'E', instead of a 'C', he would write an 'F' and so on. When he got to the end of the alphabet, however, he would have to go right back to the beginning, so instead of an 'X', he would write an 'A', instead of a 'Y', he'd write a 'B' and instead of 'Z', he'd write a 'C'.

When Caesar's generals came to decipher the messages, they knew that all they had to do was go back three places in the alphabet. Have a go at trying to work out these messages which could have been sent by Caesar or his generals:

hqhpb dssurdfklqj
wkluwb ghdg
uhwuhdw wr iruhvw

Knowledge Phase

A code is a system of words, letters, figures or symbols used to represent others and mainly for the purposes of secrecy. Codes have been used for many thousands of years and was used by the ancient Egyptians. Julius Caesar used to use codes for military purposes, the Caesar shift, this code took ancient codebreakers 800 years to crack it and a further 800 years to come up with something better!



THE SMALL QUESTION

Are you able to interpret different codes to find out the solution of the question?

"I stood in front of the class, and everybody looked down when I walked back to my desk. I resisted spinning the potential combination to the lock when I sat down even though everyone else was doing it, because she had specifically told us not to. I was already pretty good at opening locks, anyway, because I've used them on my bike." - Wonder, page 39.

I do \ WAGOLL

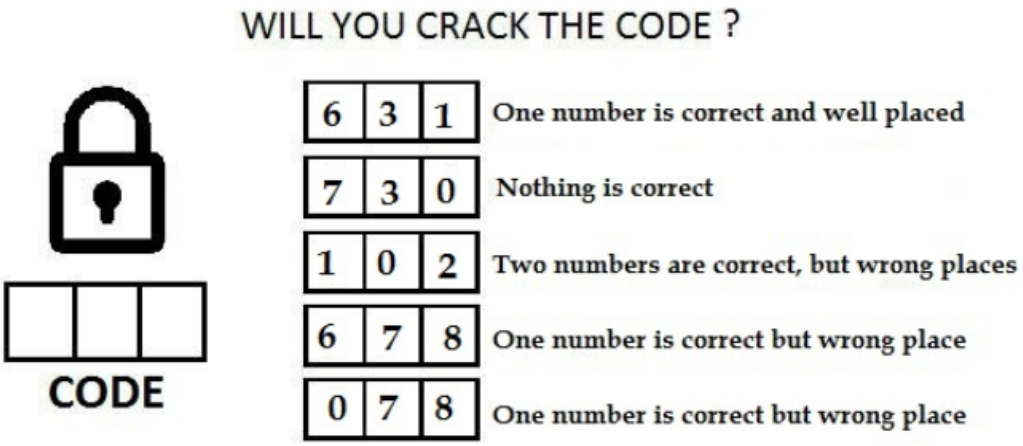
Complete the equations. Write the answer below each equation. Match the answer numbers to the letters using the chart below. Write the letters under the matching numbers. Figure out the secret message.

5 + 4	11 + 1	10 + 5	14 + 8	2 + 3	7 + 6	1 + 0	10 + 10	4 + 4
9								
1								

16 - 2	25 - 4	15 - 2	4 - 2	9 - 4	20 - 2	22 - 3	21 - 3	22 - 1	15 - 3	11 - 6
14										
N										

A 1	B 2	C 3	D 4	E 5	F 6	G 7	H 8	I 9	J 10	K 11	L 12	M 13	N 14	O 15	P 16	Q 17	R 18	S 19	T 20	U 21	V 22	W 23	X 24	Y 25	Z 26

We do



Consolidation and Application Phases:

Here is the alphabet:

a b c d e f g h i j k l m n o p q r s t u v w x y z

I have made a code that means we move 3 places to the left to discover what the code stands for. But what will happen to

a b c ?

They pick up the letters left over at the end of the alphabet so that they become

x y z

You can think of the letters as if they were arranged on a wheel like this:

So can you work out what these codes stand for?

sdw - d - fdnh,

wkh - zhvw - zlqg - eorzv,

brx - duh - zrunlqj – kdug

Extension:

Can you make some codes of your own?

Extension task

1 10 100 1000 10000 100000 1000000

Pharaoh Baines spilt a Nile milkshake on the sheet and lost his symbols! It is your job to work out the ancient Egyptian symbols that are missing (be careful as some questions are NOT multiplication). **Write out the whole calculation including the missing Egyptian symbol.** The first one survived and is done for you:

1. 10 x  = 1000
2. 33 x ? = 3300
3. 70 x ? = 490
4. 1000 x ? = 78,000
5. 47 x ? = 4700
6. 20 x ? = 140
7. 100 ÷ ? = 10
8. 200 ÷ ? = 2
9. 77 ÷ ? = 7
10. 63 ÷ ? = 9
11. 3090 ÷ ? = 309
12. 840 ÷ ? = 210

Pharaoh Baines wants you to record your answers for the following questions in BOTH English and ancient Egyptian symbols.

13. Jack and Sophie bought 58 Sphinx souvenirs each. How many did they have altogether?
14. There is room in a pyramid for 45 coffins on each of the 10 floors, How many coffins are there if the pyramid is full?
15. It takes 100 bricks to build one wall of a pyramid – how many bricks will Pharaoh Bennett need to build TWO pyramids?
16. 20 pupils at Giza Primary School eat school dinners. On average, each pupil is given 7 chips. How many chips do the dinner ladies need to cook?
17. Pharaoh Baines bought 10 benches to go around <u>both</u> pyramids he built. Each bench cost £100 each. How much did Pharaoh Baines have to pay in total for his benches?