What happened to the chocolate?

There are 4 challenges to help you work out what happened to YOUR chocolate

Solve all 4challenges,

submit your results and you could win the choc.

Who...took it ... faces and problems

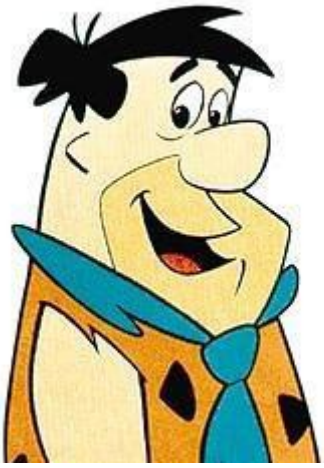
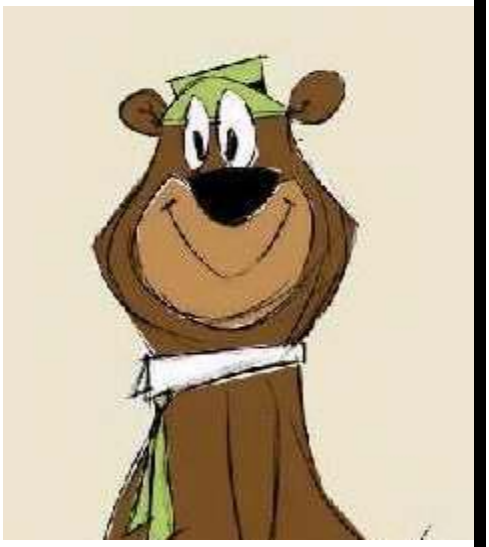
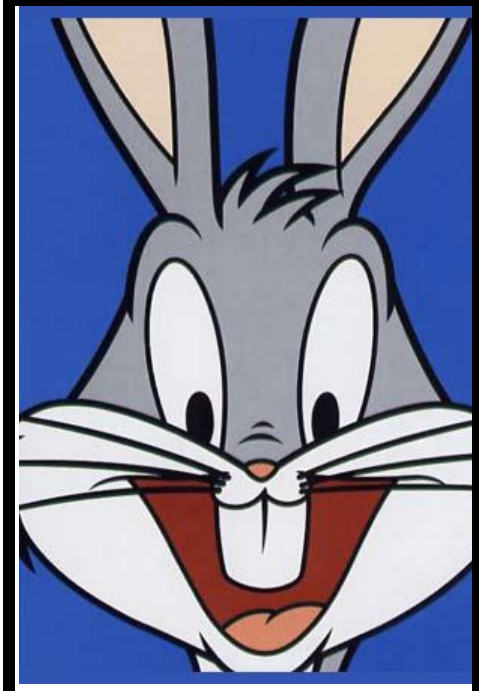
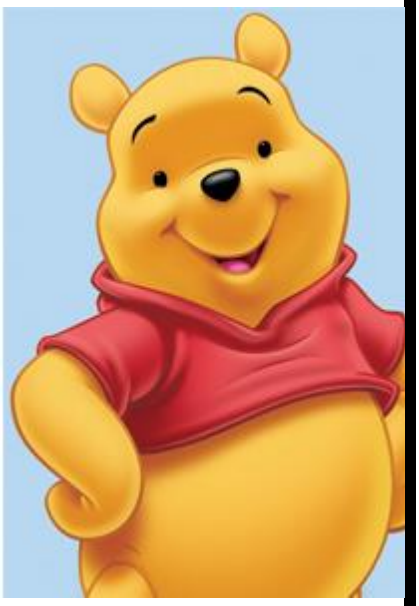
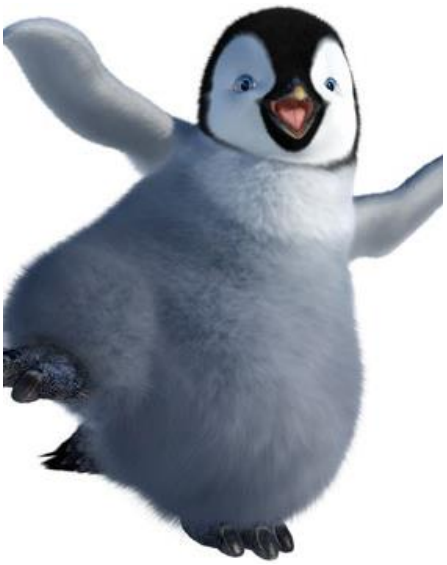
What... type of chocolate...code

Where...it was taken from....equations

Why ...it was taken...mathematical statements

Challenge 1. Faces

Calculate the answers to the problems on the following page and decide which suspect told the truth each time. You can delete that suspect from your enquiries. You will be left with 1 suspect – the guilty one.

		
Suspect 1. Homer Simpson	Suspect 2. Fred Flinstone	Suspect 3. Yogi Bear
		
Suspect 4. Bugs Bunny	Suspect 5. Winnie the Pooh	Suspect 6. Mumble

Faces Problems

Problem 1

The sequence 190, 175, 160, 145, ... has the rule

Suspect 1 said n – 15	Suspect 2 said 15n + 205
Suspect 3 said 205 – 15n	Suspect 4 said 190 – 15n

Problem 2

The median of a set of numbers is 25. The list of numbers could be.

Suspect 2 said 23,25,24	Suspect 3 said 25,25,26,28
Suspect 5 said 21,24,26,38	Suspect 6 said 21,23,23,25,28

Problem 3

I'm thinking of a number.
If I halve it, then add 6, then double the answer I get 35. What was my number

Suspect 2 said It was 38	Suspect 3 said It was 11.5
Suspect 4 said It was 23	Suspect 6 said It was 9.5

Problem 4

The perimeter of a rectangle is 32cm.The length is 3 times longer than the width. What is the area of the rectangle

Suspect 1 said It is 48 cm^2	Suspect 4 said It is 60 cm^2
Suspect 5 said It is 64 cm^2	Suspect 6 said It is 63 cm^2

Problem 5

Jack receives £60 for his birthday. He saves a third of it, spends three quarters of what's left on some music and buys a take-away with the rest. How much did the take-away cost ?

Suspect 2 said It cost £5	Suspect 3 said It cost £20
Suspect 5 said It cost £15	Suspect 6 said It cost £ 10

Challenge 2. The chocolate

Decode the following to work out what type of chocolate was taken

a	b	c	d	e
200 ÷ 10	19 x 3	45 + 65	36 x 4	350 ÷ 70
f	g	h	i	j
420 ÷ 7	56 x 4	360 - 280	95 x 2	Half of 66
k	l	m	n	o
3 x 50	600 ÷ 20	4 x 2 x 2	90 x 4	65 x 4
p	q	r	s	t
24 x 5	12 x12 x 2	450 + 350	18 x 3	100 - 36
u	v	w	x	Y or z
90 ÷ 3	15 x 5	48 ÷ 12	48 ÷ 4	45 x 4

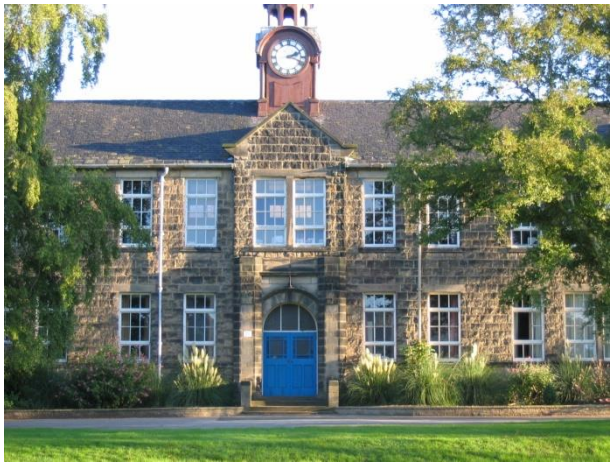
Now write the letters into this above their number to reveal the message..

190	64	190	54	20	57	190	224	57	260
12	260	60	110	5	30	5	57	800	20
64	190	260	360	54	110	80	260	110	260
30	20	64	5	54	16	16	16	16	16

Challenge 3.

The place

The chocolate was taken from one of the following rooms at PHGS.



Ms 1	Ma 7	Hi 2
Sc 10	En 6	LC 4

Solve the following equations. The number which is NOT an answer is the room where the crime was committed

$3x + 21 = 39$
$12y - 3 = 21$
$4(2a + 3) = 20$
$4c - 2 = 3c + 5$
$6d = 24$

Challenge 4.

Decide which of these mathematical statements are true. If true, you can cross off the matching number in the reasons table.

Statement 1	361 is a square number
Statement 2	25 is the square root of 655
Statement 3	3375 is a cube number
Statement 4	42 is the square root of 1764
Statement 5	16 is the cube root of 4096

I took it to share with my maths class	1
I just love chocolate, I was going to eat it all myself	2
I wanted to give my favourite teacher a special present	3
I'm sorry, I had a mad moment – that's what chocolate does to me.	4
I wanted to give it to a charity	5

Our accusation is.....

Who took it?	
What was taken?	
Where it was taken from?	
Why it was taken?	