Today for your maths lesson, as its Friday, I am giving you a variety of fun investigations to carry out. In the top left-hand corner of each investigation you will see which year groups that investigation is aimed at. However, you may choose any of the investigations to complete and you may want to complete more than one investigation.

Remember, the maths lessons aim to be approximately 45 minutes long so do as much as you can in the time and send me a picture of what you have managed to do. Don't worry if you don't complete the investigation.

# Monster Mayhem



1) How many monster eyes are there altogether?
2) Subtract the number of red feet from the number of black eyes.
3) Multiply the number of green monsters by the number of pink monsters. Now, subtract the number of yellow monsters.

4) Multiply the number of wings by the number of ears.
5) Add the number of monsters with no feet to the number of monsters with hands. Multiply by the total number of blue monsters.
6) Add the number of monsters with 3 eyes, to the number of forked tails. Now, multiply your answer by the number of red eyes.

7) How many feet can you see? Subtract the number of monsters with 3 eyes. Divide your answer by the number of pink monsters.

# Year 4/5/6

**(HINT: Each row/column adds up to the total in orange)**

# Number conundrums

Can you solve these number conundrums?

|  | ▲ | ■ (magenta) | ● | ▬ (green) | ★ | |
|---|---|---|---|---|---|---|
| ▲ | 78 | 19 | 7 | 9 | 24 | **137** |
| ■ (magenta) | 18 | 4 | 36 | 48 | 6 | **?** |
| ● | 5 | 21 | 56 | 3 | 17 | **102** |
| ▬ (green) | 13 | 32 | 20 | 72 | 27 | **?** |
| ★ | 45 | 28 | 12 | 15 | 54 | **?** |
| | **159** | **?** | **?** | **?** | **128** | |

1) Which rows have the highest and lowest totals?

2) How much less is the ▬ (green) column total than the ★ row total?

3) Which three numbers in the ▲ row can be added to make a multiple of 10?

4) How many multiples of 6 can you find?

5) Which two numbers total 88?

6) Find all the multiples of 9 in the grid.

7) How many prime numbers can you find? How do you know they are prime?

8) Multiply square ( ■ , ★ ) by ( ★ , ● )

9) What is the average of the numbers in squares ( ★ , ▲ ) and ( ● , ▬ (green) )

10) Using all 4 operations and the numbers in the grid, how many ways can you make 100?

# Hit the target

How close can you get to the target number?
You can only use a number once. You may use + - or ÷ to help you!

| Target: | Target: | Target: |
|---|---|---|
| **440** | **637** | **1745** |
| Using any of: | Using any of: | Using any of: |
| 100, 25, 3, 5, 4 | 50, 4, 6, 10, 2, 3 | 9, 50, 7, 2, 5, 6, 10 |
| +  -  x  ÷ | +  -  x  ÷ | +  -  x  ÷ |

# Odds and Evens..

Always? Sometimes? Never?

Are these statements:
a) Always true?
b) Sometimes true?
c) Never true?

Test each rule at least 5 times.

## Odd + Odd = Even

1) Try 2 digit + 2 digit
2) Try 3 digit + 3 digit
3) Try 4 digit + 1 digit
4) Try 4 digit + 3 digit
5) Try whole numbers with more than 4 digits
6) Try any odd numbers to see if you can break the rule!

What other odd and even patterns can you test?
Does the rule always work for decimal odd and evens?

## Odd x Odd = Even

1) Try 1 digit x 1 digit
2) Try 2 digit x 2 digit
3) Try 3 digit x 1 digit
4) Try 3 digit x 2 digit
5) Try 4 digit x 1 digit
6) Try whole numbers with more than 3 digits
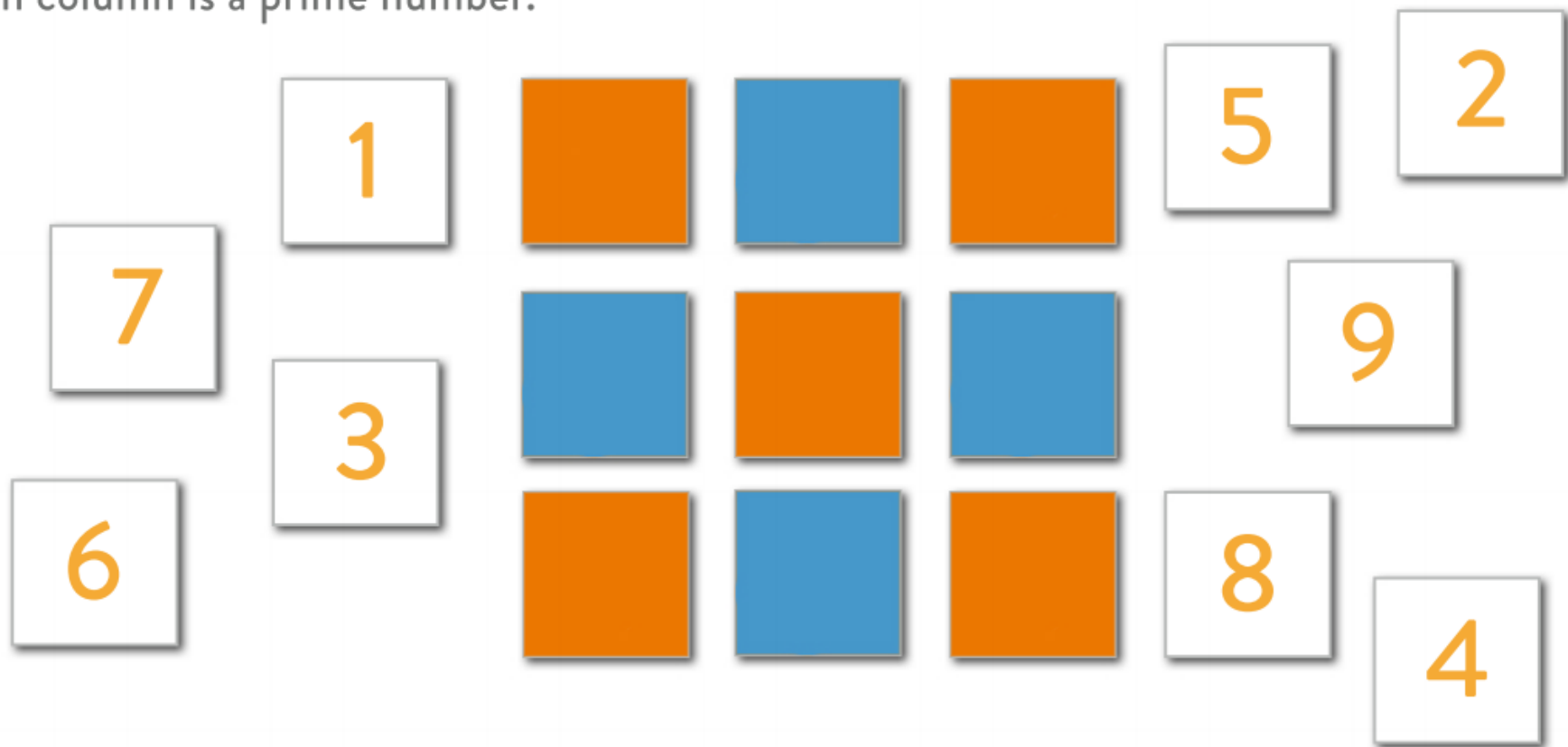7) Try other combinations to try and break the rule.

# Prime puzzlers

Place the numbers into the grid so that the sum of the three numbers in each row and each column is a prime number.



"Square numbers can be made by adding two prime numbers together."
Is the answer to this statement always, sometimes, or never?