

Session 1

To start

Work out the answer to each of these calculations.

Calculation	Answer	Calculation	Answer
$734 \times 6 =$		$342 \times 8 =$	
$143 \times 7 =$		$425 \times 9 =$	

WAGOLL (What A Good One Looks Like) from Mr G to help you!

$$\begin{array}{c} 274 \times 3 \\ \swarrow \quad \downarrow \quad \searrow \\ 200 \quad 70 \quad 4 \end{array}$$

- I know that $2 \times 3 = 6$, then **$200 \times 3 = 600$**
- I know that $7 \times 3 = 21$, then **$70 \times 3 = 210$**
- **$4 \times 3 = 12$**

$$800 + 210 = 810$$

$$810 + 12 = 822$$



Main Task

There are 5 different number scripts for 6 different numbers. Can you group all the numbers from the same script?

Start with the easiest script there and use your logic to deduce the other representations for each number.

900	13	୫୮	୩୩	=+୫
୧୩	୨	୨୫	୫୫	୧୦୦
=	୫+୮	୨	୧୦	-୫
୨୫	୮୩	୧୩	୨	୫୫
୨୫	୫୦	୨	୮+୩	୩୦
୫୮	+୩	100	୫୧	୨୫

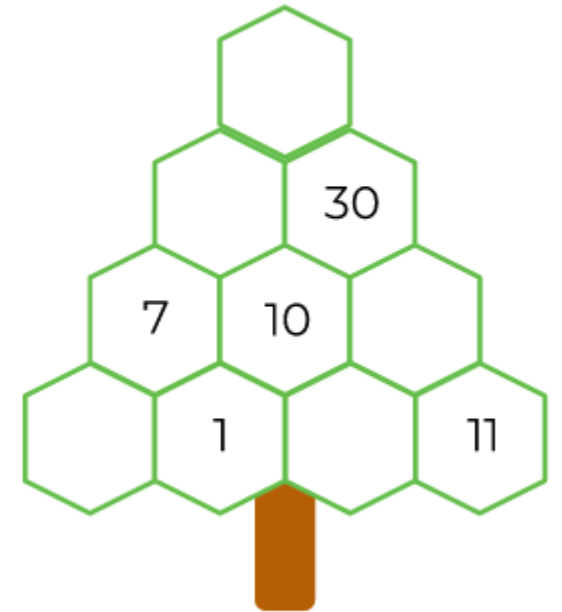
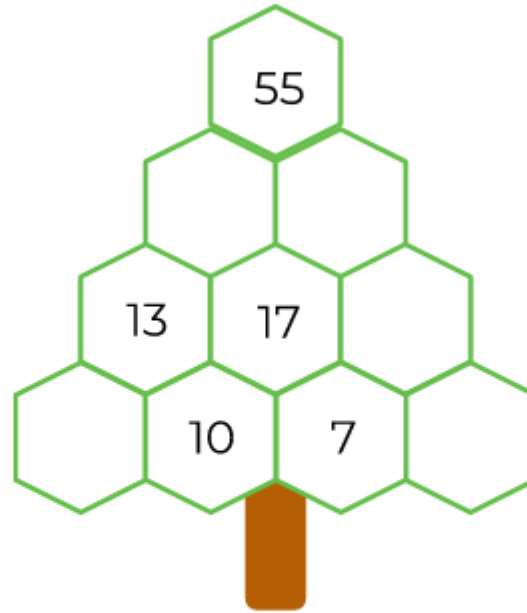
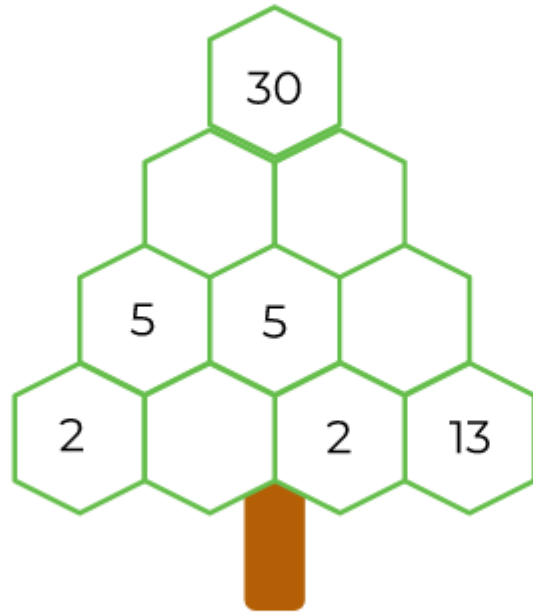
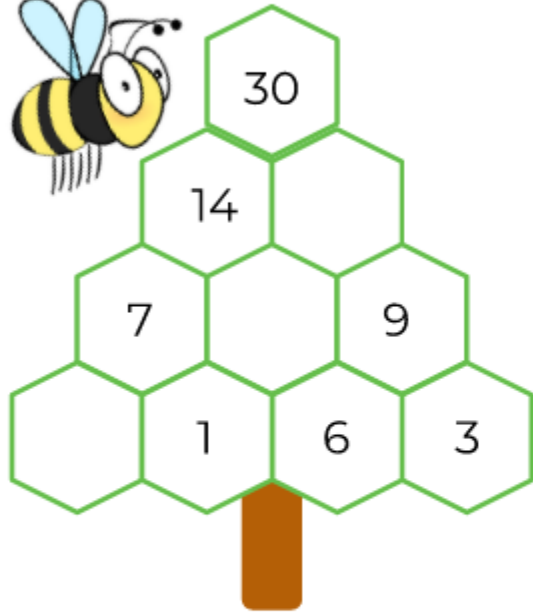


Session 2



To Start

Complete the number trees. The number at the top is the sum of the two numbers below it.



Session 2

Moving on

Use your logic skills and powers of deduction to complete this hundred square in Roman Numerals. The top left corner is 1, the bottom right is 100

Remember
5 = V in
Roman
Numerals



	II								X
		XIII			XVI	XVII			
XXI	XXII			XXV					XXX
			XXXIV		XXXVI	XXXVII		XXXIX	
XLI							XLVIII		L
LI					LVI				
	LXII	LXIII		LXV		LXVII	LXVIII		
			LXXIV					LXXIX	LXXX
LXXXI	LXXXII						LXXXVIII		
			XCIV	XCIV			XCVIII	XCIX	C



Session 2

Main task

Can you work out the missing terms in each of the number sequences? If it helps, write them in the script you are familiar with first instead of Roman numerals.

a) II, IV, VI, _____, _____,

e) V, _____, XXV, XXXV, _____, _____,

b) LV, LIV, LIII, _____, _____,

f) LXXI, LXXIII, LXXV, _____, _____,

c) _____, XIV, XVI, XVIII, _____

g) VI, IX, XII, _____, _____,

d) XC, LXXX, _____, _____, L, XL

h) _____, _____, XCVI, XCIV, XCII



Session 2

Challenge

Here is another sequence. One of the terms have already been included for you, what could the rest of the sequence be? Invent your own



First thing's first, make sure you know what number this is.



Session 3

To Start

Times tables speed challenge

	4	8	3	2	5	6	9	10	7
4									
7									
8									
10									
11									
9									
6									
12									
5									

Session 3

Main Task

Can you work out the rule for each of these sequences and fill in the missing terms.

a) 86, 92, 98, ____, ____,

b) 7.7, 7.5, 7.3, ____, ____,

c) -2, -4 ____, -8, ____,

d) ____, 3002, 2502, 2002, ____,

e) 0.9, ____, ____, 0.3, 0.1

f) -6, ____, -2, 0, ____, ____,

g) 374, 365, ____, ____, 338

h) 3, 1, ____, ____, -5

i) ____, ____, 18, ____, 24



Session 3

Main Task

You can see different coloured numbers. They form 5 different sequences. Can you arrange them into increasing sequences.

36	- 6	5.2	69	76
3	5.4	12	62	- 8
6	41	46	- 2	5.6
15	5	0	48	66
56	55	4.8	- 4	9



Session 4

Moving On

What is the rule for each of the sequences? It could be add, subtract, multiply or divide.

Term 1	Term 2	Term 3	Term 4	Term 5	Rule
3	6	12	24	48	
640	320	160	80	40	
0.4	0.8	1.6	3.2	6.4	
20	10	0	-10	-20	
3770	4270	4770	5270	5770	



Session 4

Main Task

You will be creating and exploring your own number sequences.

1. Choose a STARTING NUMBER (Eg: 7).
2. Decide which OPERATION to do first [$+$, $-$, \times or \div] (eg \times).
3. Decide what NUMBER to use with the operation you picked in step 2 (Eg 3).
4. Decide on a different OPERATION (Eg $-$).
5. Decide what NUMBER to use with this operation (Eg 3).
6. Repeat with your last answer as the new starting numbers.

RECORD THE FIRST 10 TERMS IN YOUR SEQUENCE.

$$(7 \times 3) - 3 = 18$$

$$(18 \times 3) - 3 = 51$$

$$(51 \times 3) - 3 = 150$$



Session 4

Main Task

Write out the sequence and then make as many statements as you can about the numbers in the sequence.

Term 1	
Term 2	
Term 3	
Term 4	
Term 5	
Term 6	
Term 7	
Term 8	
Term 9	
Term 10	

What I notice about my sequence.



Session 4

Challenge

Can you write 4 of your own sequences containing these numbers?

-3 and 1



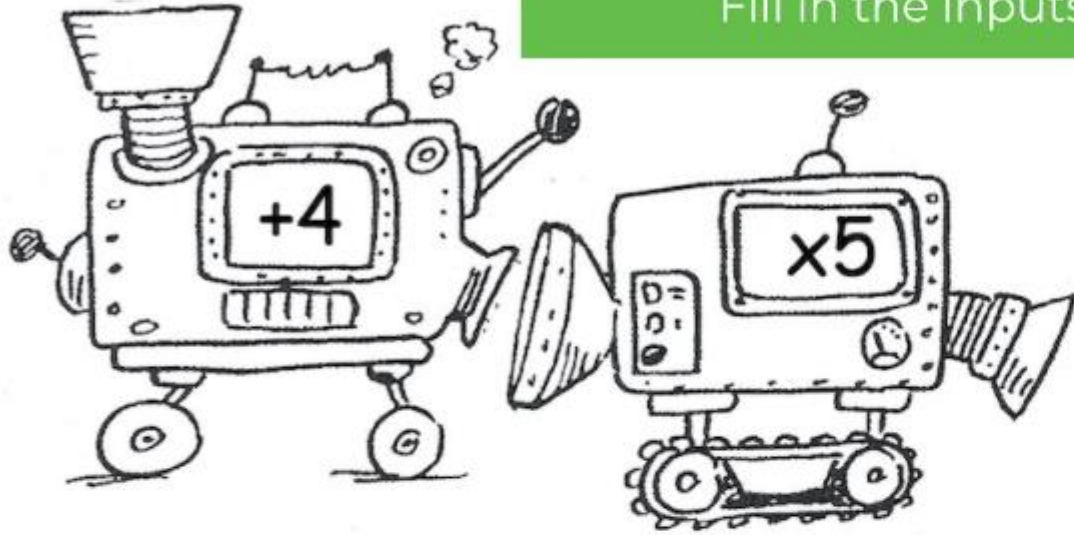
3.4 and 2.9



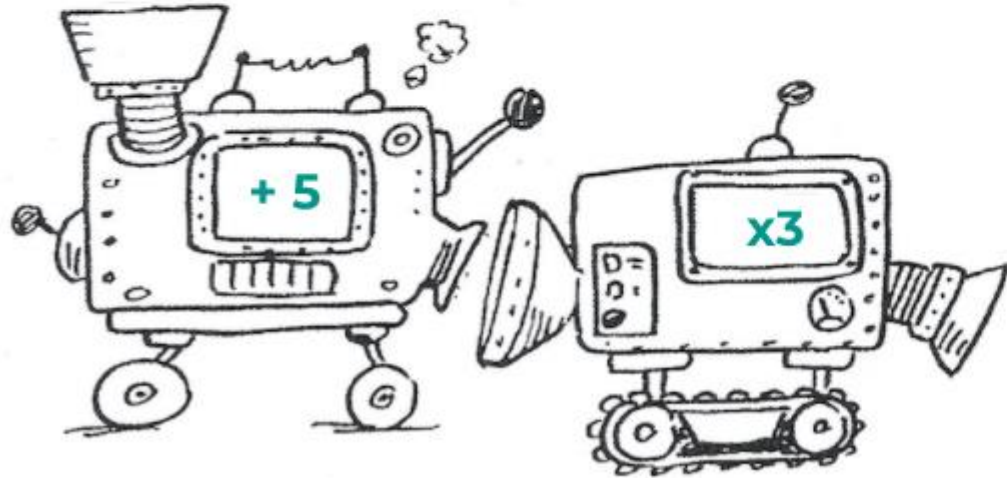
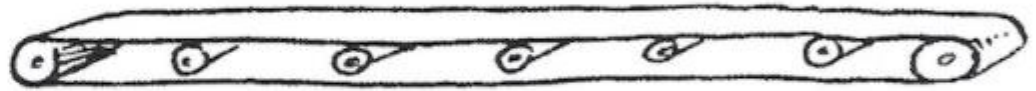
Session 5

Challenge

Fill in the inputs/outputs from these function machines.



in	4	12	9	20	11	7
out						



in						
out	45	48	42	36	33	27

