Biscuit decorations.

Andrew decorated 20 biscuits to take to a party.

He lined them up and put icing on every second biscuit.

Then he put a cherry on every third biscuit.

Then he put a chocolate button on every fourth biscuit.

So there was nothing on the first biscuit.

How many other biscuits had no decoration? Did any biscuits get all three decorations?

Grouping goodies.

Pat has no more than 20 sweets in a bag.

She counts her sweets in groups of two. She has one left over.

Then she counts her sweets in groups of five. She has 2 left over.

How many sweets could Pat have? Is there another answer?

What's in a name?

Jim and Jan were having a chat about their names.

Jim said his name began with J and Jan said hers did too.

Jim said his name had three letters and Jan said hers did too.

Jim said his name had one vowel and Jan said hers did too.

Jim said his was 1 9 4

Jan said hers was 1 1 5

Can you see why?

What about your name? Can you write down the numbers for the people in your family?

1	2	3	4	5	6	7	8	9
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	

Pairs of numbers.

$$1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad 10$$

If you have ten counters numbered 1 to 10, how many can you put into pairs that add to 1

Can you use them all?
Say how you got your answer.

Now put the counters into pairs to make 12.

- Can you use them all?
- Say how you got your answer.

Now put the counters into pairs to make 13.

- Can you use them all?
- Say how you got your answer.

Now put the counters into pairs to make 11.

- Can you use them all?
- Say how you got your answer.

Make these cards to make calculations with their answers,

$$2 \quad 4 \quad 6 \quad 8 \quad + \quad - \quad =$$

Like this one:

$$2 + 6 = 8$$

In each calculation you must only use a card once, but of course you can re-use them in your next calculation if you want to.

Can you find a way to use all the cards in one calculation?

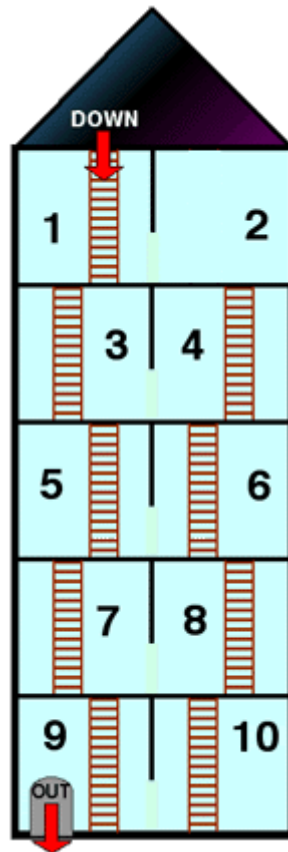Can you find all the possible ways to use the cards?

The tall tower.

A Wicked Magician has put you in the top of a tall tower!

You can get out by climbing down the ladders. As you come down you collect useful spells.

You can go down the ladders and through the doorways into an adjoining room, but you cannot go into the same room twice, nor climb up the ladders.

The numbers in the rooms show how many spells there are in each one.

Which way should you go to collect the most spells?

And which way to collect as few as possible?

Can you find a route that collects exactly 35 spells?