

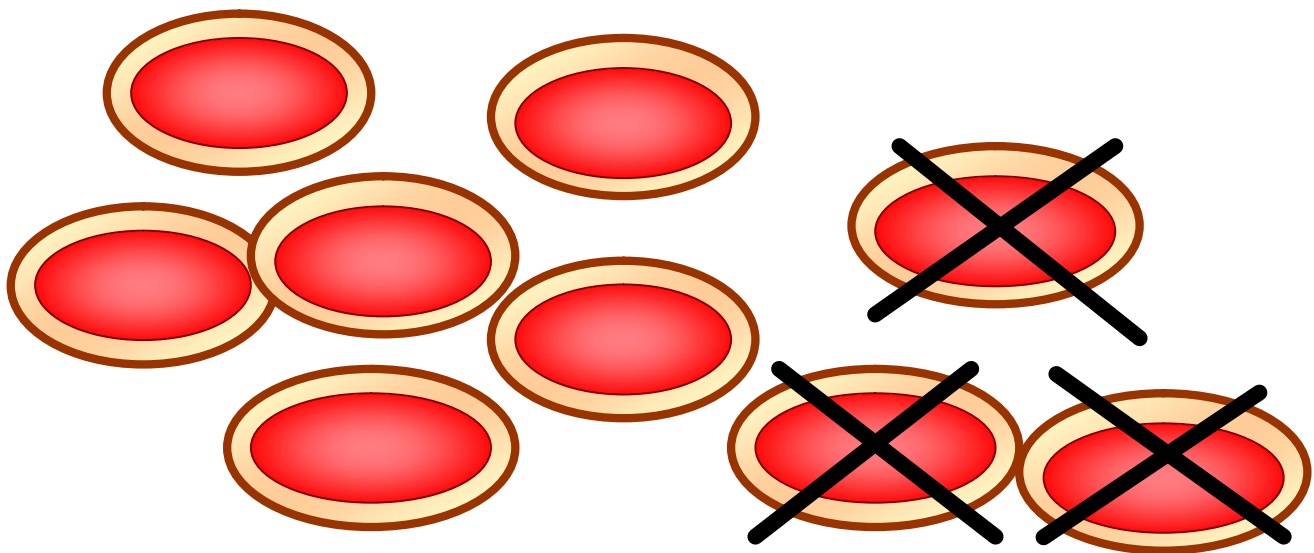
Subtraction

Stage 1. Taking Away using Objects.

Where possible subtraction problems are taught in context.

The Queen of Hearts made 9 jam tarts. She gave 3 to Alice. How many did she have left?

Count out the jam tarts, 1 to 9. Take away 3 and count how many are left: 1, 2, 3, 4, 5, 6.

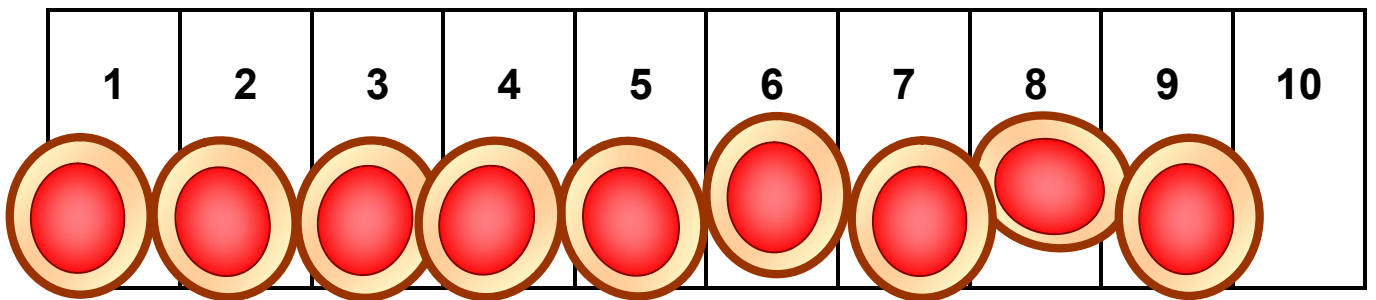


Subtraction

Stage 2. Using Objects on a Structured Number Line.

Still using objects, place them on a number line, then take the objects away (from the right hand side of the number line only – we want to build the idea of counting **back**) – to find our answer.

So, using the same problem where the Queen of Hearts has given 3 of her 9 tarts to Alice:



Count out the objects on the number line.

Take away the 3 tarts and count how many we have left.

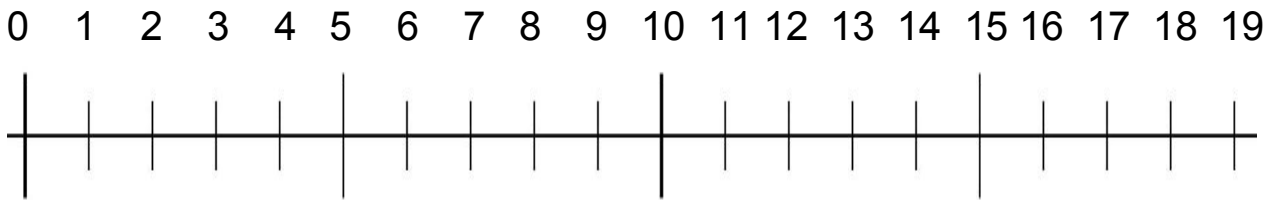
Begin to count back from 9 as each jam tart is taken.

Subtraction

Stage 3. Counting Back on a Number Line.

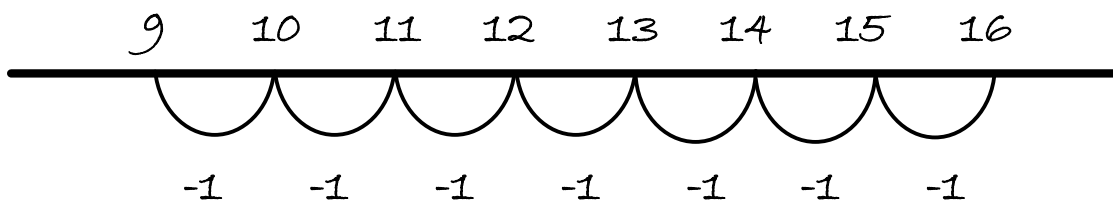
Next, they will move to using a structured number line, without necessarily placing objects on it, but drawing the jumps counting back in ones.

e.g. The Queen of Hearts has 16 jam tarts, but the King takes 7. How many are left?

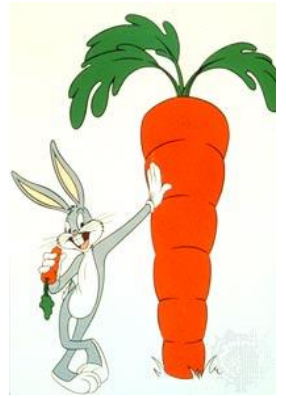


$$16 - 7 = 9 \text{ jam tarts left}$$

As children progress they may be able to use unstructured number lines that they draw themselves for the same sort of calculations:



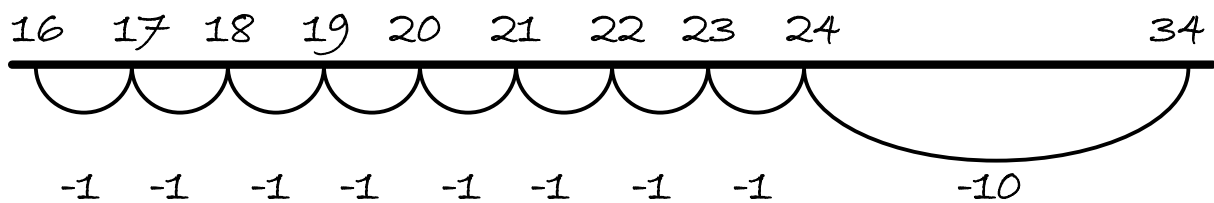
Subtraction



Stage 4. Counting back on a number line in tens and ones.

If Bugs Bunny has 34 carrots, but he eats 18 for lunch, how many will he have left?

Children may well still be drawing a number line and counting back in 18 steps of 1, but by then we would be encouraging children to partition the 18, which would be 10 and 8, and to count back 1 ten and 8 ones.



$$34 - 18 = 16 \text{ carrots left}$$

Stage 5. Counting On using a number line:

Only when children are ready can they begin counting on to solve subtraction problems. (They must be confident at adding tens from any number and counting on in ones). We start the children off by giving them calculations which are easier to solve by counting on rather than by counting back.

e.g. If Lucy has £35 in her account and Daniel has £28, how much more has Lucy saved?

