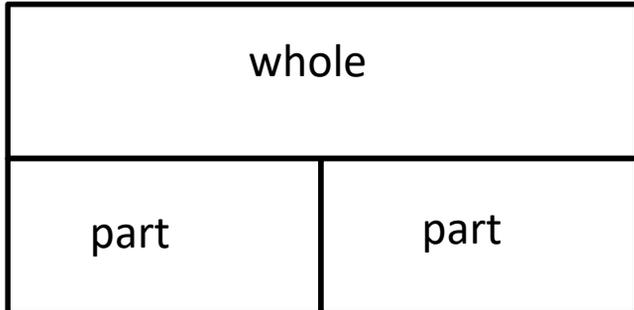


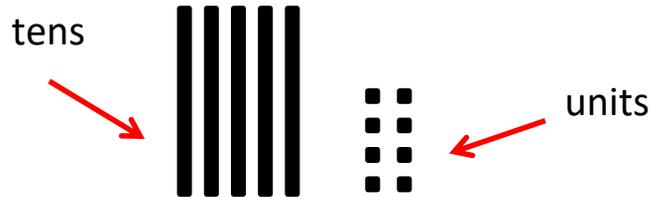
Arithmetic in Year Two

In Year 2 we teach children to use a bar model and Dienes to help them understand and solve addition and subtraction questions.

bar model



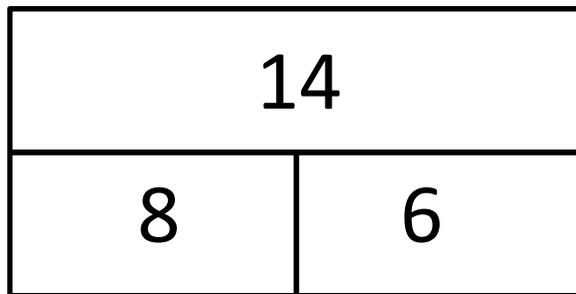
Dienes



These tens and units represent 58.

We also call these thinking blocks.

How a bar model works:



addition

part + part = whole

$$8 + 6 = 14$$

$$6 + 8 = 14$$

subtraction

whole - part = part

$$14 - 8 = 6$$

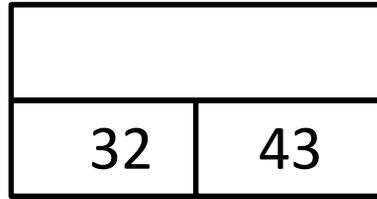
$$14 - 6 = 8$$

How to solve addition questions: **part + part = whole**

We know the parts and we are working out the whole.

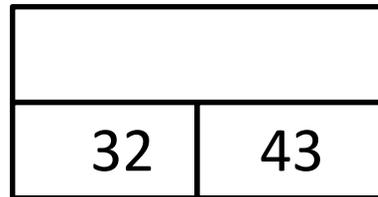
1. Read and write the question carefully and draw a thinking block.

$$32 + 43 =$$



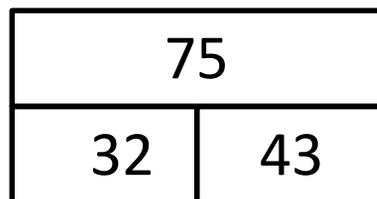
2. Draw Dienes (tens and units) to represent both parts.

$$32 + 43 =$$



3. Count **all** of the units.
If you have less than 10 units, count the tens and units and write the answer.
Fill in the thinking block.

$$32 + 43 = 75$$



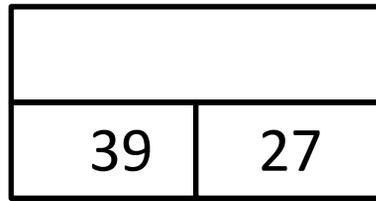
The next page explains what to do if you don't have less than 10 units.

How to solve addition questions: **part + part = whole**

We know the parts and we are working out the whole.

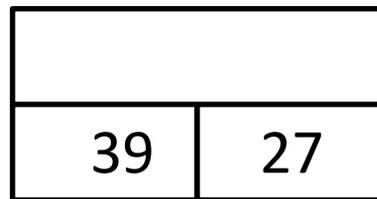
1. Read and write the question carefully and draw a thinking block.

$$39 + 27 =$$



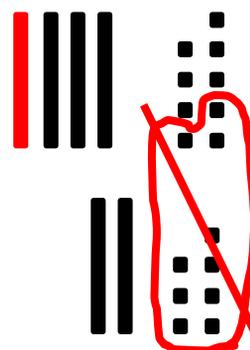
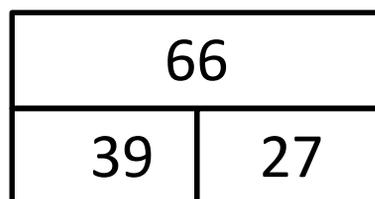
2. Draw Dienes (tens and units) to represent both parts.

$$39 + 27 =$$



3. Count **all** of the units. **If you have more than 9 units**, circle 10 units and **exchange** them for 1 ten. Count the tens and units, write the answer and fill in the thinking block.

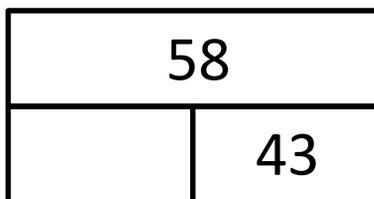
$$39 + 27 = 66$$



How to solve subtraction questions: **whole – part = part**
We know the whole and one of the parts. We are working out the other part.

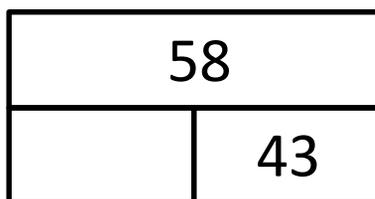
1. Read and write the question carefully and draw a thinking block.

$$58 - 43 =$$



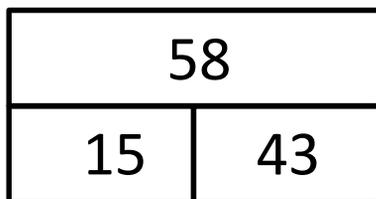
2. Draw Dienes (tens and units) to represent the whole. Write **T** and **U**, for tens and units, above the part to remember what is being subtracted.

$$58 - 43 =$$



3. Subtract the tens and units by crossing them out. Count the tens and units that are left. Write the answer and fill in the thinking block.

$$58 - 43 = 15$$

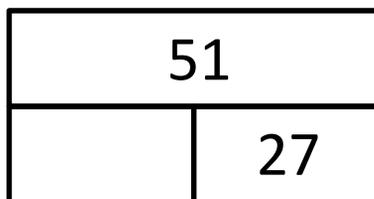


The next page explains what to do if you don't have enough units to subtract.

How to solve subtraction questions: **whole – part = part**
 We know the whole and one of the parts. We are working out the other part.

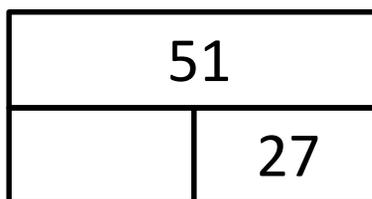
1. Read and write the question carefully and draw a thinking block.

$$51 - 27 =$$



2. Draw Dienes (tens and units) to represent the whole. Write **T** and **U**, for tens and units, above the part to remember what is being subtracted.

$$51 - 27 =$$



3. Subtract the tens by crossing them out. **When you don't have enough units to subtract** cross out 1 ten and **exchange** it for 10 units. Then subtract the units. Count the tens and units that are left, write the answer and fill in the thinking block.

$$51 - 27 = 24$$

