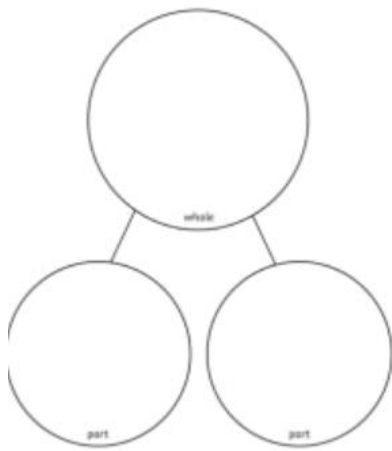


Part-Whole Model

A video explaining the part whole model can be found here: <https://www.ncetm.org.uk/resources/50719>

What is a part whole model?

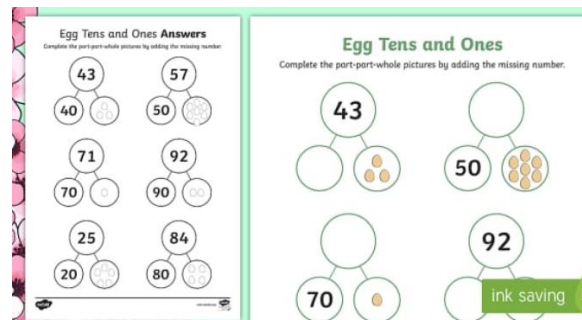
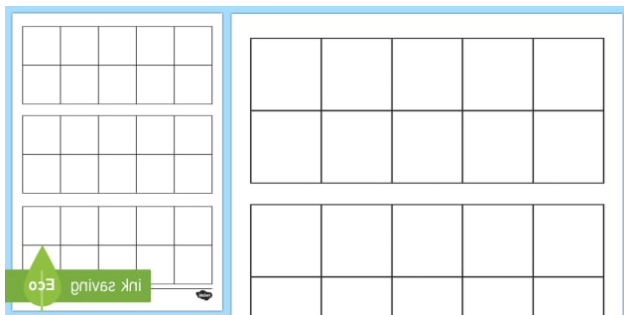


The part-whole model is the concept of how numbers can be split into parts. Children using this model will see the relationship between the whole number and the component parts, this helps learners make the connections between addition and subtraction. The part-whole model also helps pupils to interpret, visualise and solve word problems. Within the part whole model, the parts always stem from the whole:

The concept of part-whole model models are introduced to children within Nursery. It is used in small quantities where children should be able to see how many of something is there without counting, instead, they will subitise.

In Reception and Key Stage One, children will begin to really explore numbers. They are encouraged to think of numbers in different ways. For example, they will begin to see the number seven as 4 and 3 or 5 and 2.

Objects can be used to portray this way of thinking, such as counters or real life objects when using ten frames.



Children will use it tens frames and part whole models to describe addition and subtraction situations. They can interpret and work out the answers to these situations through part-whole models.

How do part-whole models develop learners?

When children have experienced using the part-whole model, it will develop their understanding of number further. They will realise that addition and subtraction are related, addition is commutative, subtraction is not and, finally, that situations can often be presented by addition and subtraction.

Should you wish to register for Twinkl, they have a lot of part whole model activity sheets for children.

<https://www.twinkl.co.uk/resources/learning-aids-and-maths-equipment-support-materials-maths-key-stage-1/part-whole-models-learning-aids-and-maths-equipment-support-materials-maths-key-stage-1/activities-and-games-part-whole-models-learning-aids-and-maths-equipment-support-materials-maths-key-stage-1>

Calculation examples

To help you, this explains where the part and whole is in arrangements of addition and subtraction calculations:

$$2 \text{ (part)} + 8 \text{ (part)} = 10 \text{ (whole)}$$

$$10 \text{ (whole)} = 2 \text{ (part)} + 8 \text{ (part)}$$

$$9 \text{ (whole)} - 3 \text{ (part)} = 6 \text{ (part)}$$

$$6 \text{ (part)} = 9 \text{ (whole)} - 3 \text{ (part)}$$

In missing numbers:

$$2 \text{ (part)} + ? \text{ (part)} = 10 \text{ (whole)} \quad \text{Use subtraction to find the missing number}$$

$$? \text{ (part)} + 2 \text{ (part)} = 10 \text{ (whole)} \quad \text{Use subtraction to find the missing number}$$

$$? \text{ (whole)} - 4 \text{ (part)} = 5 \text{ (part)} \quad \text{Use addition to find the missing number}$$

$$7 \text{ (whole)} - ? \text{ (part)} = 2 \text{ (part)} \quad \text{Use subtraction to find the missing number}$$