



# Number Bonds & Fact Families

## LEARNING GOAL

Recognise related addition and subtraction facts through part-whole relationships.

**Study -> Practise -> Talk -> Make -> Reflect**

Designed for short adult-supported sessions and independent return practice.

**Purpose**

Recognise related addition and subtraction facts through part-whole relationships.

**Suggested rhythm**

Use 10-15 minutes. Model one example, let the child try, ask how they know, then stop while attention is still positive.

**Feedback**

Praise the strategy, careful observation or explanation. If an answer is wrong, ask the child to show their thinking before correcting it.

**Transfer**

Use the hands-on task before or after the printable page so the skill connects to real objects, talk and movement.

**Safety & independence**

Adult supervision is expected for cutting, small objects, outdoor exploration, water, torches or elastic bands. Adapt materials to the child.

Say the words, use them in conversation, then return to them during the activities.

### Whole

Use it in your own sentence or explanation.

### Part

Use it in your own sentence or explanation.

### Bond

Use it in your own sentence or explanation.

### Fact Family

Use it in your own sentence or explanation.

### Inverse

Use it in your own sentence or explanation.

### Talk prompt

Which of these words feels newest? Explain what you think it means and give an example connected to part-whole relationships.

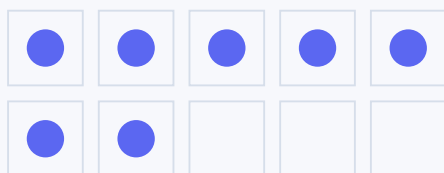
1

If 8 and 5 are parts of 13, then  $8+5=13$ ,  $5+8=13$ ,  $13-8=5$  and  $13-5=8$ .

2

The numbers stay related even when the operation changes.

## SHOW IT ANOTHER WAY



Use counters, drawings, words and symbols. Strong maths moves between representations.

Adult: model the first item. Child: explain what you notice or how you know.

1 Make the fact family for 6, 7 and 13.

2 Complete:  $9 + \underline{\quad} = 15$ .

3 If  $16 - 9 = 7$ , write a related addition fact.

4 Draw a part-whole model for 18.

Work carefully. Draw, mark, build or write when that helps your thinking.

1 Make the fact family for 6, 7 and 13.

2 Complete:  $9 + \underline{\quad} = 15$ .

3 If  $16 - 9 = 7$ , write a related addition fact.

4 Draw a part-whole model for 18.

5 Can three numbers make a correct fact family if one is not the sum of the other two? Explain.

### SHOW YOUR THINKING

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## Use the idea in a new way

## MATHEMATICS

Work carefully. Draw, mark, build or write when that helps your thinking.

1 If  $16-9=7$ , write a related addition fact.

2 Draw a part-whole model for 18.

3 Can three numbers make a correct fact family if one is not the sum of the other two? Explain.

4 Create your own fact family with a whole between 10 and 20.

5 Make the fact family for 6, 7 and 13.

### SHOW YOUR THINKING

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**Talk 1** Can three numbers make a correct fact family if one is not the sum of the other two? Explain.

**Talk 2** Create your own fact family with a whole between 10 and 20.

**Talk 3** What strategy, clue or observation helped you most with part-whole relationships?

**Talk 4** What mistake might someone make here? How could you help them notice it?

*A complete explanation is more valuable than a fast one-word answer.*



### DO SOMETHING REAL

Hide some counters under a cup. Show the total and visible part. Work out the hidden part, then reveal it to check.

### RECORD WHAT HAPPENED

**What I did**

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**What I noticed**

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**What I would try next**

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### CREATE CHALLENGE

Design a fact-family house with one whole in the roof and two parts in the windows.

Use this space to draw, label, plan or draft.

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## Independent challenge

## MATHEMATICS

Try without help first. Then explain or check your work with a grown-up.

1 Can three numbers make a correct fact family if one is not the sum of the other two? Explain.

2 Create your own fact family with a whole between 10 and 20.

3 Create one new example that would help another Grade 1 learner practise part-whole relationships.

### MY CHECK

☐ I tried a strategy   ☐ I checked it   ☐ I can explain one idea

### ANSWER / REVIEW NOTES

- No, for this addition/subtraction fact-family structure the whole must equal the sum of the two parts.

### LEARNER REFLECTION

One thing I understand better now:

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One thing I want to practise again:

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One real-life example I can think of:

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*Review status: original BrightPencil draft. Educational and rights review required before public publication.*