

Diving into Mastery – Diving

Adult Guidance with Question Prompts



Missing Number Problems

Children will use number lines and practical equipment such as base ten to identify numbers missing from addition and subtraction calculations.

Is the calculation an addition or a subtraction?

How do we use a number line to add/subtract?

Why are those numbers circled?

How will that help us to find the missing number?

What is the missing number? Prove it.

What can you tell me about the part-whole model?

What is the whole? What are the parts?

How will you identify the missing part?

What equipment could you use to help you?

What is the missing part? Prove it.

Can you complete the calculations?

What do you notice? Can you explain why this has happened?

Stem Sentences

- First, there were... Then, there were... Now, there are...
- ___ is the whole and the parts are ___ and ___.
- The missing part must be ___ because...



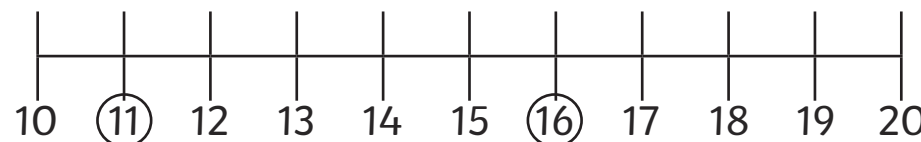
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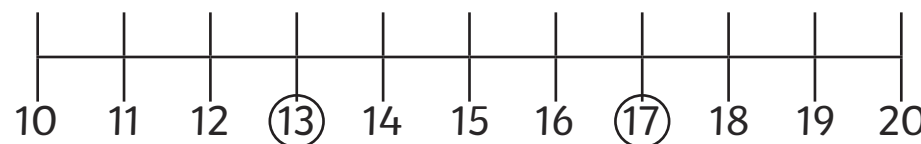
Missing Number Problems



Use the number lines to identify the missing numbers.



$$11 + \underline{\quad} = 16$$

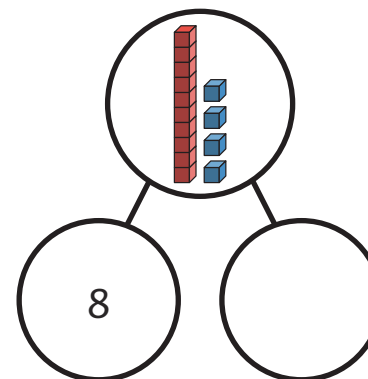


$$17 - \underline{\quad} = 13$$

Find the missing part to complete the calculations.

$$8 + \underline{\quad} = 14$$

$$14 - \underline{\quad} = 8$$



Diving into Mastery – Deeper

Adult Guidance with Question Prompts



Missing Number Problems

Provide practical equipment such as base ten or counters for children to refer to when explaining their reasoning.

What do you already know? What do you need to find out?

Can you write the two statements as missing number problems?

What equipment could you use to find the missing numbers?

How will you find the missing numbers?

What are the missing numbers? Prove it.

Is the answer true or false? Explain why.

Do you agree with Seren? Why?

What mistake has she made?

How could you find the correct answer?

What is the missing number? How do you know?

Stem Sentences

- First, there were... Then, there were... Now, there are...
- The missing part must be ___ because...
- I can prove this by...



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Missing Number Problems



Both these children are thinking of the same number. True or false?

Matt



If I subtract 4 from my number, I have 9 left.

Selma



If I add 5 to my number, I will have 18 altogether.

Use equipment to prove it.

Seren is solving this missing number problem.

$$\underline{\hspace{2cm}} + 6 = 13$$

Seren



The missing number is 19.

Do you agree? Explain why.



Diving into Mastery – Deepest

Adult Guidance with Question Prompts



Missing Number Problems

Provide a range of practical equipment such as number lines, base ten or counters to support children in finding the missing numbers. Children should choose their preferred equipment.

What can you tell me about this representation?

What do you already know? What do you need to find out?

What is the whole? What are the parts?

How will you find the missing number?

Do you need to add or subtract? How do you know?

What equipment could help you?

What is the missing number? Prove it.

Can you write a calculation to show what you have found out?

How could you check your answers?

Can you write your own missing number problem for a friend to solve?

Stem Sentences

- First, there were... Then, there were... Now, there are...
- The missing part must be ___ because...
- I can find the missing number by...



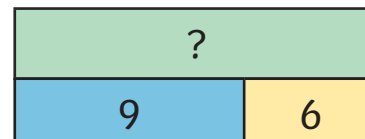
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Missing Number Problems



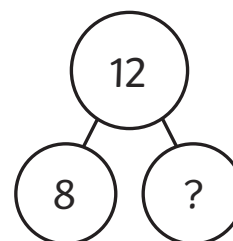
Match each problem to the correct missing number.



4

$$\underline{\hspace{2cm}} + 3 = 19$$

6



15

$$18 - \underline{\hspace{2cm}} = 12$$

16

Can you think of your own missing number problem?

