



Maths

Addition and Subtraction

Need a coherently planned sequence of lessons to complement this resource?

Lesson Breakdown

Below is our suggestion for the most coherent and progressive sequence to teach this area of Planit Maths steps on the White Rose Maths scheme of learning although we have not aimed to mirror the exact order in which they are presented.

Recall and Use Facts (1): Number Facts up to 10

This computer game themed lesson is designed to help children secure their understanding of number facts. Children use a range of methods to investigate and check if they are correct. Differentiated activity sheets and mastery cards to help children.

NC Statement: Recall and use facts to 20 fluently and derive and use related facts up to 100.

Lesson Aim: To recall and use number facts up to 10.

Recall and Use Facts (2): Number Facts up to 20

This lesson teaches children to use familiar number facts to solve and create problems. Children are encouraged to use different representations to support their learning. Differentiated activity sheets and mastery cards to help children develop fluency.

NC Statement: Recall and use facts to 20 fluently and derive and use related facts up to 100.

Lesson Aim: To recall and use number facts up to 20.

Solve Problems (1): Using Different Representations to Solve Problems

Children learn to solve addition and subtraction problems using concrete objects and pictorial representations, including those involving numbers, quantities and measures, applying their increasing knowledge of mental and written methods. This lesson includes Diving into Mastery activity cards with fluency reasoning.

NC Statement: Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures, applying their increasing knowledge of mental and written methods.

Lesson Aim: To solve addition and subtraction problems using objects, pictures and models.

Introduction

In this unit, children will learn to recall and use addition and subtraction facts. They use a variety of different models, images and equipment to build their number sense, enabling them to use facts flexibly. They learn different strategies to help them add and subtract numbers efficiently, explaining their methods with concrete resources or jottings. Methods include: adding a unit to a ten, adding three single-digit numbers and adding and subtracting multiples of ten leading to pairs of two-digit numbers. They find the difference between numbers and reason about when it is quicker to find the difference or take away. They build up their understanding of commutativity and inverse relationships, using these to solve increasingly complex missing number problems. They apply their learning to problem-solving, and are able to ask questions, explain their choices and demonstrate their methods.

Resources

In addition to your standard maths resources, you will need:

- digital cameras

Assessment Statements

By the end of this unit;

children working towards the expected level will be able to:

- recall and use at least four out of six number facts to ten and derive their associated subtraction facts;
- add and subtract two-digit numbers and ones, and two-digit numbers and tens, where no regrouping is required;
- explain their addition and subtraction methods verbally, in pictures or using apparatus;
- understand that two numbers can be added in any order and the answer will be the same.

children working at the expected level will be able to:

- recall number facts to add and within ten and subtraction facts. Use these to derive number and within 20 and 100;
- add and subtract within 100: a two-digit number and ones, a two-digit number and tens, two two-digit numbers;
- add three one digit numbers using efficient methods;
- understand that addition is commutative but subtraction is not, and explain what this means;
- use the inverse relationship between addition and subtraction to solve problems and check their calculations;
- solve addition and subtraction problems in context of quantities and measures, using pictures and mentally.

Addition and Subtraction

Maths | Year 2 | Steps to Progression Overview

The aim of this overview is to support teachers using Planit Maths to show the most coherent and progressive sequence to teach each area of maths. We also want to fully support teachers who use the White Rose Maths scheme of learning to make full use of the resources available within Planit Maths. Whenever possible, lesson packs have been marked to teach the small steps on the White Rose Maths scheme of learning.

Yearly Overview

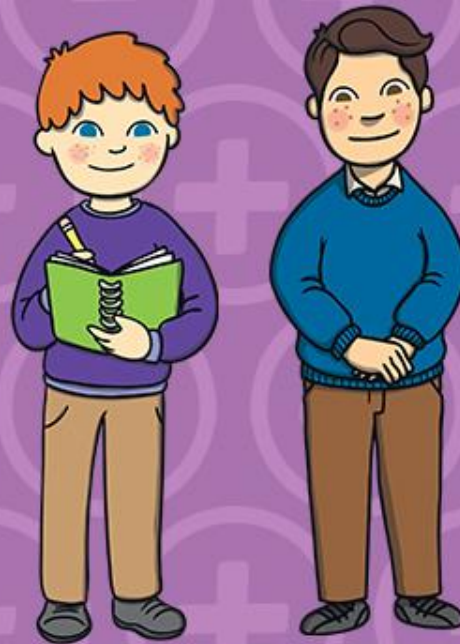
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place Value		Number: Addition and Subtraction					Measurement: Money		Number: Multiplication and Division		
Spring	Number: Multiplication and Division		Statistics		Geometry: Properties of Shape			Number: Fractions		Measurement: Length and Height Consolidation		
Summer	Position and Direction		Problem Solving and Efficient Methods		Measurement: Time		Measurement: Mass, Capacity and Temperature		Investigations			

See our [Addition and Subtraction Steps to Progression](#) document.

Twinkl Planit is our award-winning scheme of work with over 4000 resources.



Using the Inverse to Check Calculations



twinkl

Aim

- To use the inverse relationship to check calculations.

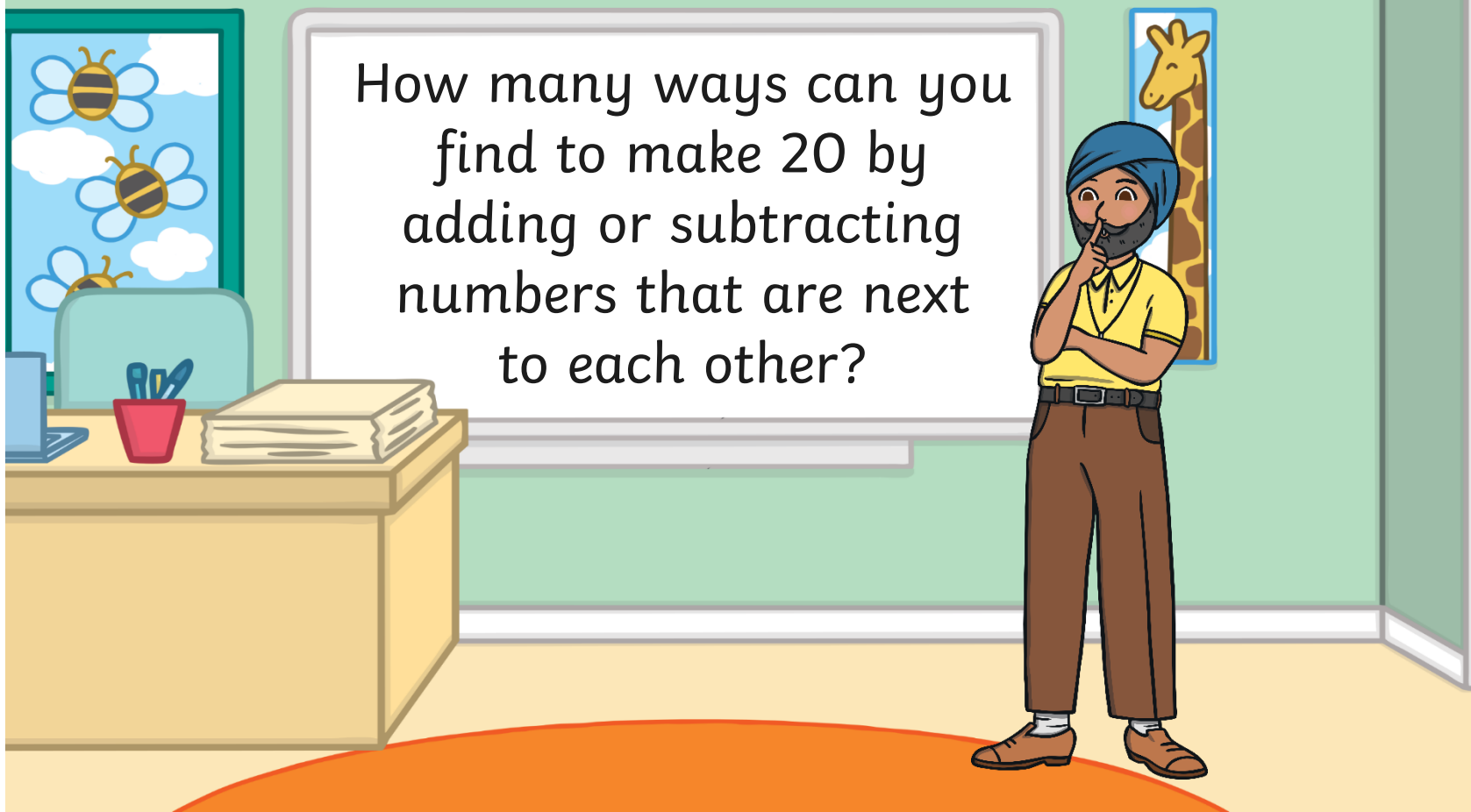
Success Criteria

- I can write an inverse calculation for addition and subtraction.
- I can use addition to check subtraction calculations.
- I can use subtraction to check addition calculations.

Remember It



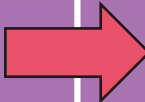
How many ways can you find to make 20 by adding or subtracting numbers that are next to each other?



Remember It



$$20 - 0 = 20$$

20		0	4	14	10
4		3	12	16	9
19		1	1	2	8
8		0	15	3	14
10		2	13	9	17

Remember It






$$20 - 0 = 20$$

$$2 + 18 = 20$$

$$19 + 1 = 20$$

There may be other solutions. Did you find any more?

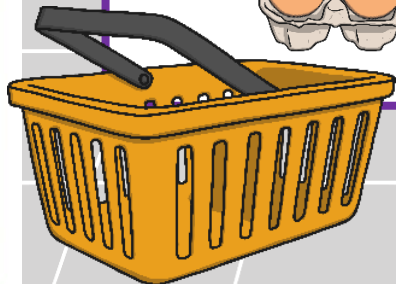
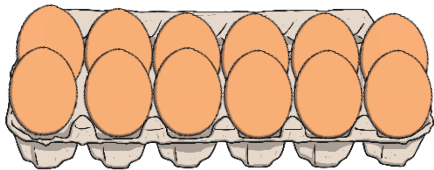
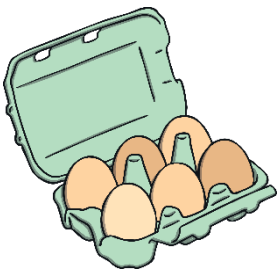
20		0	12	14	11
4		3	4	16	9
19		1	1	2	8
8		18	15	1	14
12		2	13	19	17

Ingrid Inverses

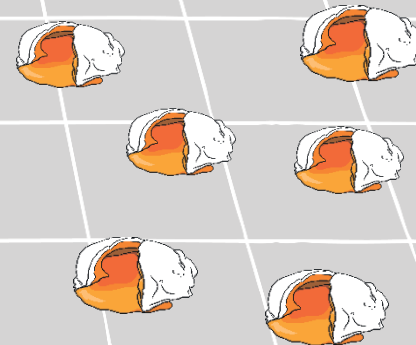
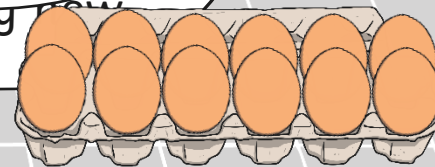


Ingrid's Basket



Oh no! I've
broken 6 eggs!
 $18 - 6 = 12$.
I'm back to
where I started!

baking



What does 'inverse' mean?

Ingrid Inverses



$$12 + 6 = 18$$

$$18 - 6 = 12$$

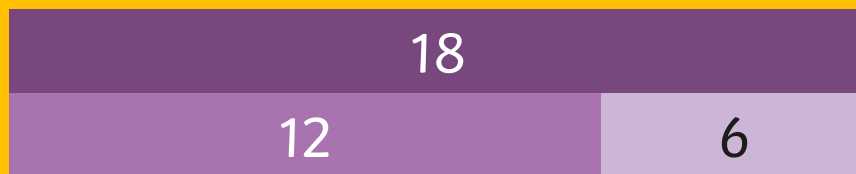
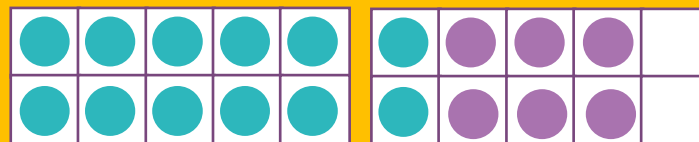
What do you notice?

What's the same? What's different?



If I subtract the amount I added, I get back to where I started.

+ and **-** are inverses.



Ingrid Inverses



Ingrid, I've bought you a pack of cards!



Great! There are 7 in a pack.
 $13 + 7 = 20$.
I'm back to where I started!



Ingrid Inverses



$$20 - 7 = 13$$

$$13 + 7 = 20$$

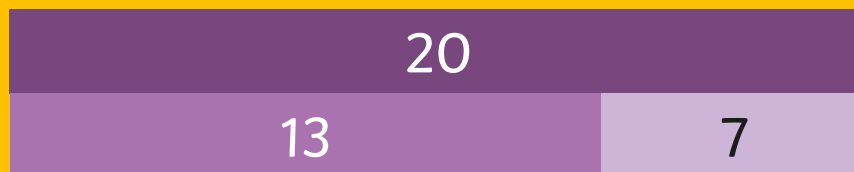
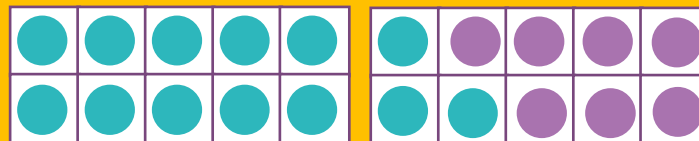
What do you notice?

What's the same? What's different?



If I subtract the amount I added, I get back to where I started.

$+$ and $-$ are inverses.



Charley Cheat and Honest Hamish



This is Charley Cheat.
Charley cheats at everything!
He likes to give incorrect answers
and pretend that they are true
but we are on to him!
We can check an inverse to
see if he's cheated!



Honest Hamish never
cheats. He always
answers honestly.

**Check using the inverse to
see who you're dealing with!**

Whose Work?



Who is in the van?
Charley Cheat or
Honest Hamish?



You gave me £10.
Your ice cream was
£3 so you need £6
change. $10 - 3 = 6$

Whose Work?



We had 7 points,
then we gained 11
more. Now, we
have 18 points.

?

Who do you think is
speaking? Charley Cheat
or Honest Hamish?



Whose Work?



Who does this work belong to:
Charley Cheat or Honest Hamish?

$$5 + 15 = 19$$

Don't answer until you're sure!



Charley
Cheat!

I could tell it was
Charley
Cheat because
 $19 - 5 = 14$ not 15.



**Can you write a correct
inverse sentence?**

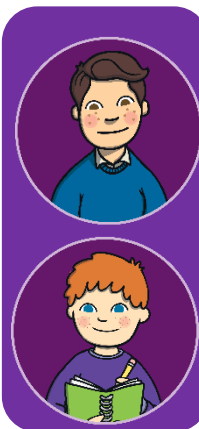
Whose Work?



Who does this work belong to:
Charley Cheat or Honest Hamish?

$$20 - 6 = 4$$

Don't answer until you're sure!



**Can you write a correct
inverse sentence?**



Charley
Cheat!



$6 + 4 = 10,$
not 20!

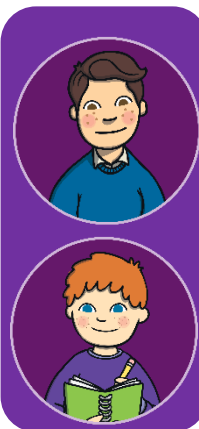
Whose Work?



Who does this work belong to:
Charley Cheat or Honest Hamish?

$$18 - 7 = 11$$

Don't answer until you're sure!



Click here
when you're
sure whose
work it is.



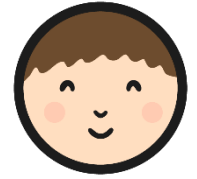
Honest
Hamish!

$7 + 11 = 18$
Well done, Hamish!



**Can you write a correct
inverse sentence?**

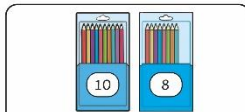
Charley Cheat or Honest Hamish?



Charley Cheat

To use the inverse relationship to check calculations.

Write an inverse calculation to find out whether you are dealing with Charley Cheat or Honest Hamish! Use equipment to prove your thinking.



$10 + 8 = 16$
16 pencils in total.
 $16 - \underline{\quad} = \underline{\quad}$

Honest Hamish Charley Cheat



I had 12 points and then I got 4 more points. I now have a total of 15 points.
 $15 - \underline{\quad} = \underline{\quad}$

Honest Hamish Charley Cheat



$20p - 15p = 5p$
You need 5p change.
 $5p + \underline{\quad} = \underline{\quad}$

Honest Hamish Charley Cheat



We had 16 points but we lost 4 points for talking. We now have 6 points.
 $6 + \underline{\quad} = \underline{\quad}$

Honest Hamish Charley Cheat

at

ugh the maze?
ulations!
route.



20 $7 - 4 = 4$

14 $13 + 5 = 15$

6 $19 - 2 = 17$

19 $14 + 2 = 16$

Finish

at

ugh the maze?
ulations!
route.



$20p - 9p = 10p$
need 10p change.

Honest Hamish Charley Cheat



points but we lost 6 talking. We now have 8

Honest Hamish Charley Cheat

at

ugh the maze?
ulations!
route.



14 $15 - 6 = 8$

16 $3 + 9 = 10$

4 $13 - 5 = 5$

19 $4 + 8 = 12$

Finish

at

ugh the maze?
ulations!
route.



will have 10p left.

Honest Hamish Charley Cheat



3 points in the 1st game, and 6 in the 3rd, so we points altogether.

Honest Hamish Charley Cheat

at

ugh the maze?
ulations!
route.



$14 - 6 = 20$

$7 + 12 = 18$

$20 - 16 = 5$

$12 + 6 = 18$

$14 - 3 = 11$

Diving into Mastery

Dive in by completing your own activity!



Using the Inverse to Check Calculations



Check these calculations. Who have they been written by? The first one has been done for you.

Calculation	Inverse	Charley Cheat	Honest Hamish
$16 + 4 = 10$	$10 - 4 = 6$	✓	
$16 - 13 = 3$			
$12 - 11 = 1$			
$6 + 12 = 19$			
$15 - 7 = 8$			
$3 + 15 = 17$			



Use equipment to prove you are correct.



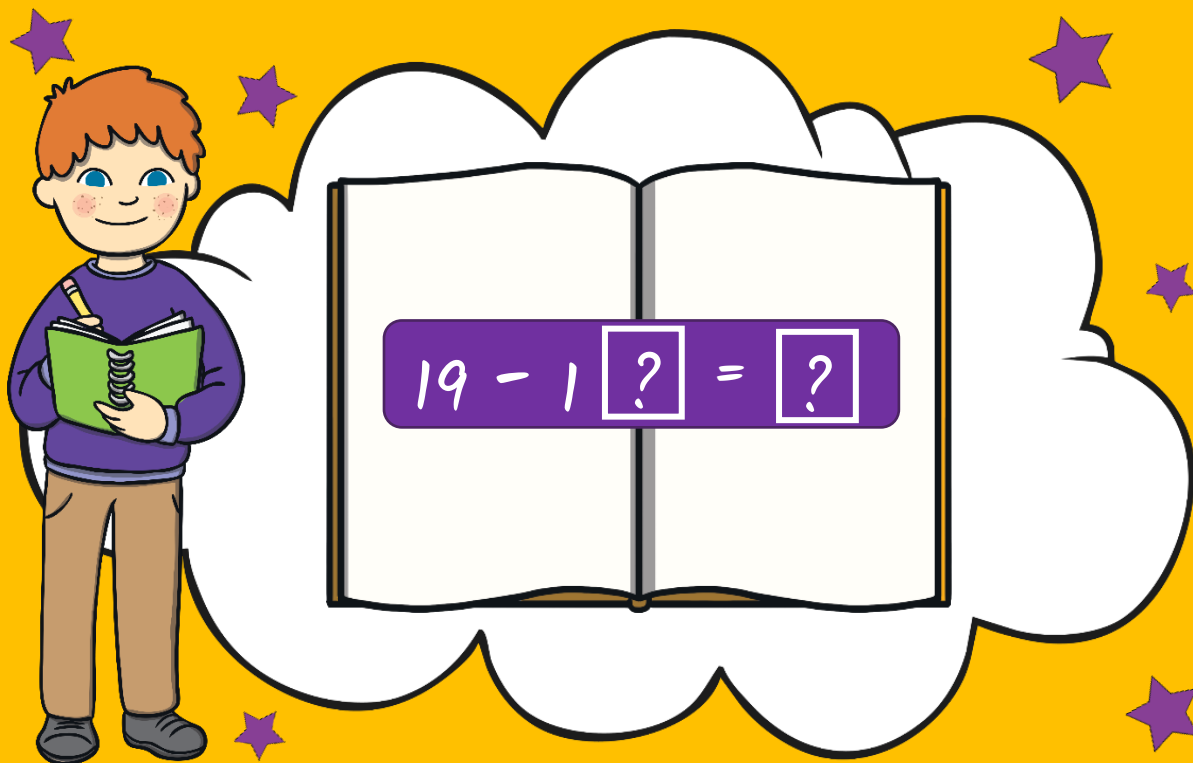
Whose Work Again?



This work belongs to Honest Hamish.

Which numbers could you use to fill in the blank spaces?

Can you find all the different ways to solve this?



$$19 - 10 = 9$$

$$19 - 11 = 8$$

$$19 - 12 = 7$$

$$19 - 13 = 6$$

$$19 - 14 = 5$$

$$19 - 15 = 4$$

$$19 - 16 = 3$$

$$19 - 17 = 2$$

$$19 - 18 = 1$$

Aim



- To use the inverse relationship to check calculations.

Success Criteria

- I can write an inverse calculation for addition and subtraction.
- I can use addition to check subtraction calculations.
- I can use subtraction to check addition calculations.

