Does not relate the combining of groups of objects to addition and/or does not interpret the counting of all of the objects as an answer to the question 'How many are there altogether?'

Opportunity for: solving real-life problems

Resources

● Plates and biscuits

● Key vocabulary written on cards

Key vocabulary

how many altogether?

altogether

count

more

two groups

plus

add

adding together

makes

Teaching activity

Time 10–15 minutes

'Today we are going to work on adding two groups together using these biscuits, and we are going to use these words.'

Read the words on the key vocabulary cards to the child.

Arrange the biscuits on two plates and ask the child to tell a story using the key vocabulary, for example:

'Mary put five biscuits on a plate and her mum put three on a plate. There are eight biscuits *altogether*. Mary's three biscuits *plus* her mother's five biscuits make eight *altogether*.'

> If the child finds that hard, repeat with smaller numbers. You could choose just two of the word cards, for example 'how many altogether?' and 'count', and focus just on those at first.

Repeat with different numbers.

? **How many biscuits altogether?**

Start a concept map with the child. It can be helpful to let the child draw what is going on as you add the two sets together. They tell you what their picture is showing. (This can reveal what the child understands.)

You have to count how many altogether.

What I know about adding
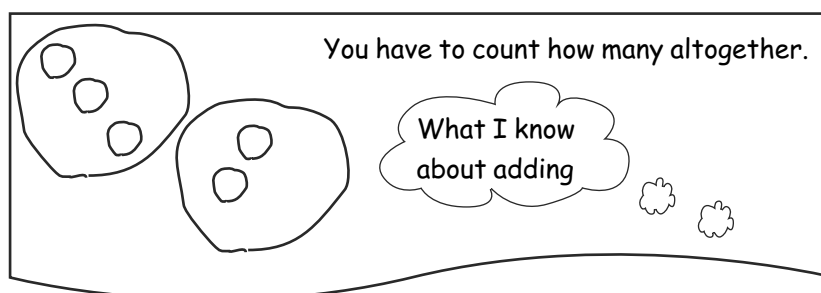
If you have time, play a clapping game where you clap a few claps, then a few more, then ask the child to tell you the total. Extend this to asking the child to do the second lot of claps.

Spotlight 1

Does not relate the combining of groups of objects to addition and/or does not interpret the counting of all of the objects as an answer to the question 'How many are there altogether?'

Opportunity for: communicating mathematical ideas

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How many now?   **Time** 10–15 minutes

Resources   *Key vocabulary*

● Beads   how many altogether?   plus

● Two pieces of card or paper   altogether   add

● Number cards (Resource sheets 1 and 2)   count   adding together

                                           more   makes

                                           two groups

Teaching activity

'Today we are going to do some adding with these beads.'

? **Count seven beads. Are you sure you are right?**

Use this opportunity to check the child's counting skills.

Now split the beads into two groups, or let the child do that, for example three and four beads, then cover each group with a piece of paper.

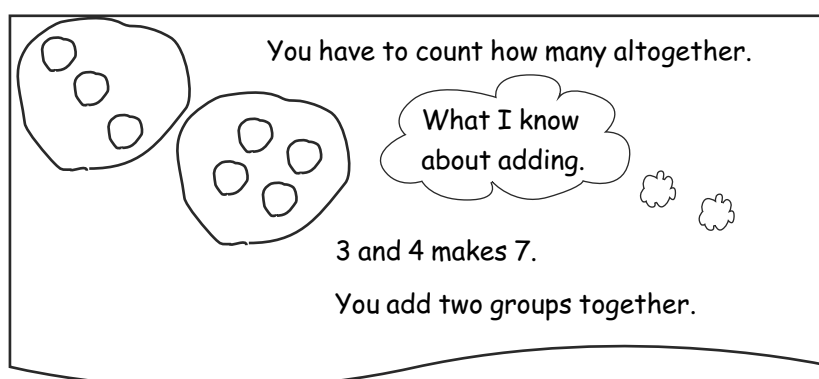**?** **How many beads are there altogether?**

> If the child cannot work out there are still seven, let them look under one piece of paper at a time, first the three, then the four.

? **How can you work out how many altogether?**

Watch carefully what the child does. Clarify that to answer the question 'How many altogether?' they have to add both of the groups.

> If the child still finds this difficult, show the two groups and let the child talk about what they can see, using the key vocabulary words. Then combine the two groups.

Record some of the sentences the child can make on the concept map.

You have to count how many altogether.

What I know about adding.

3 and 4 makes 7.

You add two groups together.

If you have time, do some clapping again.

Spotlight 2

Does not relate the combining of groups of objects to addition and/or does not interpret the counting of all of the objects as an answer to the question 'How many are there altogether?'

Opportunity for: exploring mathematical ideas

Pennies in purses

Time 5–15 minutes

Resources

- Some 1p coins
- Two purses
- Vocabulary words on cards
- Number line or number track

Key vocabulary

how many altogether?	add
altogether	adding together
count	makes
more	tally
two groups	count on
plus	

Teaching activity

Put an amount of money in each purse and ask the child to count the coins. Then, keeping the two amounts separate, ask the child to count how much money there is altogether.

Put all the money into one purse and ask the child:

? **How much money is there altogether?**

> If the child is unsure, empty the purse and count the money.

You could record a number sentence using the vocabulary words.

> 5 pennies and 4 more pennies makes 9 pennies altogether.

> If the child does not seem to understand the process of adding the two groups, you might want the child to make a tally for each set of coins to reinforce the counting.

? **How many tally marks altogether?**

> If the child counts from one each time, you might need to do more work on counting (see *1 YR +/−*).

Repeat with different amounts of money.

? **What could we add to our concept map today?**

Spotlight 3

Does not relate the combining of groups of objects to addition and/or does not interpret the counting of all of the objects as an answer to the question 'How many are there altogether?'

Opportunity for: reasoning about numbers

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Calculator adding

Time 10–15 minutes

Resources

- Calculator
- Number cards and symbol cards (Resource sheets 1, 2 and 8)
- Counters or cubes
- Vocabulary on card

Key vocabulary

how many altogether?	plus
altogether	add
count	adding together
more	makes
two groups	count on

Teaching activity

'Today we are going to use a calculator to do some adding.'

'Show me if you can put a number sentence into the calculator.'

Watch the child very carefully to see what they do, especially whether they can identify the $\boxed{+}$ and $\boxed{=}$ keys.

> If the child seems unfamiliar with a calculator, you will need to give them a while to play with it and explore what the keys do. They need to know about the cancel key and to be able to see that they can key in numbers, revealing them on the display.

? **Can you read what it says on the display now?**

Using the key vocabulary words, help the child to construct a number sentence with cards, with cubes and with words.

$$\boxed{2} \quad \boxed{+} \quad \boxed{5} \quad \boxed{=} \quad \boxed{7}$$

> 2 plus 5 more makes 7 altogether.
> If you add 2 and 5 together that makes 7.
> 2 add 5 makes 7.
> 2 more than 5 is 7.
> To add 2 and 5 you count how many altogether.

> If the child is not yet using the vocabulary words fluently, you will need to repeat their use over the next few weeks. You could do that in short three-minute sessions with a calculator at registration time, asking the child to key in an addition number sentence each day and recording it with cubes or with cards. Emphasise that the two groups of cubes need to be pushed together and then counted so that you can find out how many altogether.

? **What did you learn today?**

Give all children time to explore what a calculator can do. They need to be able to use all four operation keys and be familiar with what those keys do.

Challenge some to create addition calculations with huge numbers, for example they might key in 23 456 + 34 567.

? **The answer to one of my addition calculations is 98 765. What could my numbers have been to give that answer?** (*If you don't say which two numbers, some children might make the answer with three or more numbers, for example you could make it with*

[1] [+] [1] [+] [1] [+] …, *keying in* [1] *98 765 times!*)

Spotlight 4

Does not relate the combining of groups of objects to addition and/or does not interpret the counting of all of the objects as an answer to the question 'How many are there altogether?'

Opportunity for: developing mental images

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Adding stories

Time 10 minutes

Resources

- Cubes or other small items
- Hoops or bits of paper
- Dice

Key vocabulary

how many altogether?	plus
count	add
more	adding together
two groups	makes

Teaching activity

'Today we are going to create some stories which include adding.'

You could choose a context to suit the child. For example, you could use a sports context: three goals scored in the first half and another four scored in the second half.

'There are three puppies in the basket and two want to climb in.'

? **How many altogether? Show me how you know that.**

> If the child needs more practice, you could use two hoops or bits of paper to show the two groups, then combine the groups.
>
>
>
> **?** **What could you do to find out how many altogether?**
>
> 'Four biscuits and four more biscuits makes eight altogether.'
>
> If the child needs more help, you might want to let them throw a dice twice and count out the right number of cubes. You could record the number sentences with them, for example 6 + 3 = 9.
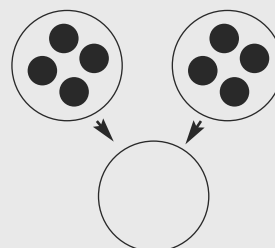
? **If I have three buns on one plate and eight on the other, what could I do to find out how many I have altogether?**

'Let's make a list of all the words we can think of that we use when we say an addition number sentence.'

'Some kittens are black and some are tabby. Altogether there are eleven kittens.'

? **How many black kittens and how many tabby kittens could there be?**

Spotlight 5: a learning check

Does not relate the combining of groups of objects to addition and/or does not interpret the counting of all of the objects as an answer to the question 'How many are there altogether?'

Opportunity for: explaining and discussing

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Tiddlywinks **Time** 5–15 minutes

Resources

- Two children
- Tiddlywinks game
- Two targets
- One-minute timer
- Vocabulary cards
- Number cards and symbol cards
  (Resource sheets 1, 2 and 8)

Check: does the child use key vocabulary?

how many altogether?	add
count	adding together
more	makes
two groups	count on
plus	

Teaching activity

'This game, **Tiddlywinks**, will help you with your adding.'

How to play

1. Each player has a target.
2. Set the timer to ring after one minute.
3. Each player tries to get as many of their counters onto the target as they can in one minute.
4. After one minute, the players combine their groups of counters and find out how many altogether.
5. They work together to make an addition number sentence with the cards, for example 8 + 4 = 12.

Variations

- Play the game on the floor using two hoops and beanbags.
- Play the game by tossing a dice to get the two numbers.

Learning outcomes

By the end of this set of activities, children should be able to:

● tackle related learning tasks with increased motivation and confidence;

● use and understand connected mathematical vocabulary;

● know that to add two numbers you combine the two groups and count all the objects;

● use a calculator to key in an addition number sentence, recognising the $+$ and $=$ keys.

Altogether makes

Time 10–15 minutes

Does not relate the combining of groups of objects to addition and/or does not interpret the counting of all the objects as an answer to the question 'How many are there altogether?'

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Resources

● Blank loop track (Resource sheet 21)

● Dice, number cards or spinners (Resource sheet 13)

● Cubes

● Counters

● Stopwatch

● Rewards

● At least two children

Check: does the child use key vocabulary?

add	add both numbers
plus	makes
how many altogether?	equals

Teaching activity

'Today we are going to play a game, **Altogether makes**, to help you to be able to add two numbers really well.'

Prepare the blank loop track (Resource sheet 21) perhaps with some stickers or some decoration related to the child's interests or a class theme.

Select dice, spinners or cards to practise with numbers appropriate for the child, for example two copies of the hexagon spinner from Resource sheet 13 could be filled with numbers from 1 to 6.

Children can cooperate in pairs to play, or they can compete.

How to play

1. Each player or pair puts their counter on the starting position. Timing can be started using the stopwatch if appropriate.

2. Players take turns to spin two numbers and add them together. The player makes the two numbers they have spun from cubes, counts the total, then moves their counter the number of spaces represented by the total.

3. Then the other player or pair spins two numbers and moves their counter.

4. Every time a player passes the start they win a reward or score three points. Scores can be recorded as tally marks.
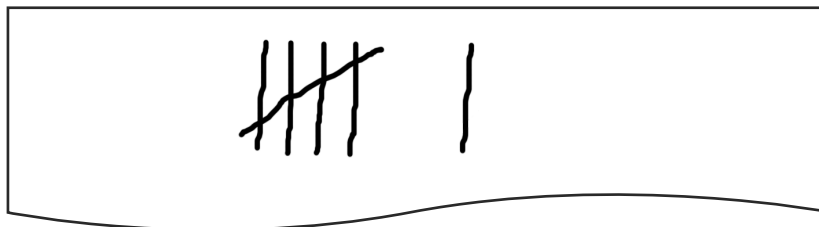
5. Keep going round until it is time to stop. Look at the stopwatch to find out how long the game took. Next time the children should try to go faster, winning more points in the time.

Variations

- Play with another spinner or dice so that three numbers are added together.
- Play without winning points but race to be first to get round the track three times.
- Play with just numbers 1, 2, 3 and 4 using the round spinner.
- If children need help with recognising the + and = signs, they could use a calculator to enter their numbers.