Still counts in ones to find how many there are in a collection of equal groups; does not understand vocabulary, for example, 'groups of', 'multiplied by'

Opportunity for: developing mathematical language

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Resources

- Cubes or counters
- Number line
- 2p and 10p coins
- Base 10 apparatus
- Purse

Key vocabulary

|	
array	how much?
arrangement	count
count in twos	altogether
columns of ten	

Teaching activity

Time 15–20 minutes

Explain that this activity will help the child to count in twos and in tens, which will make counting numbers of objects easier.

Take a collection of eight cubes/counters of the same colour. Ask the child to arrange the eight cubes/counters in a way which will make them easy to count. Repeat this several times with collections of eight, asking the child to make a different arrangement each time. Leave each collection as arranged by the child.

? **How many cubes (or counters) are there in each collection? How do you know?**

Ask the child to count each collection in turn.
If this arrangement has not been made,
make it using another eight counters.
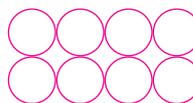
**?** **Which arrangement did you find easiest to count and why?**

> If the child is not comfortable counting in twos, use the 2 × 4 arrangement (see above) to practise counting in twos, adding on column by column. Encourage the child to see the counters as arranged in four groups of two.

Explain that we are going to work more on counting in twos, as this is an easy way to count.

Give the child a purse containing 2p coins. Ask the child to work out how much money they have by counting in twos.

Repeat this several times with different numbers of 2p coins in the purse.

If the child has difficulty counting the amounts made up from the 2p coins, use pairs of coloured counters/cubes to show twos along a number line up to 20.
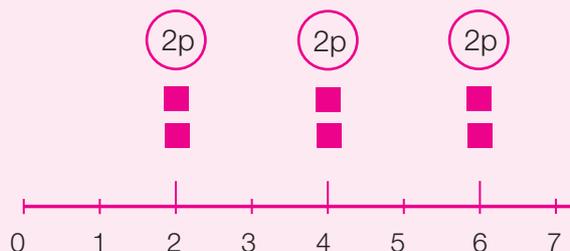
Support the child in counting in twos up to 12, 16, 20.

Place 2p coins above the pairs of counters/cubes, and repeat the activity, emphasising the coins rather than the counters/cubes.

Set up a 10 × 2 array of counters/cubes of the same colour.

? How many cubes are there in each column?

? How many cubes are there altogether?

If the child can tell you that there are ten in each column and twenty altogether, then add another column of ten and ask the child to tell you how many there are now. Keep adding columns of ten, ensuring that the child is still counting in tens.

If the child cannot recognise that the array shows columns of ten, count out twenty unit cubes (Base 10). Show this in two groups of ten. Ask the child to match the 10-stick to the correct number of unit cubes. Now ask the child to match the second group of ten with another 10-stick. Ask the child to show thirty. Continue as necessary.

Give the child a bag of 10p coins. Ask the child to work out how much money they have by counting in tens.

? What did you learn today about making counting easier?

Spotlight 1

Still counts in ones to find how many there are in a collection of equal groups; does not understand vocabulary, for example, 'groups of', 'multiplied by'

Opportunity for: being systematic

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Grab!

Time 15–20 minutes

Resources

- Cubes
- Collection of small objects, e.g. counters

Key vocabulary

count in twos	count
count in tens	altogether
how many?	

Teaching activity

'Today we are going to do some counting in twos and tens so that we can count these counters quickly. Then we are going to check our count to see if we are right.'

Place a large number of small objects in a container and ask the child to grasp two handfuls, one in each hand. (Cubes keep numbers smaller, but also try the activity with tiny items to check how far the child can count.) The aim of the game is to count the objects as quickly and accurately as possible. Direct the child to count one handful in twos or tens, while you count the other in ones. Who can count the handful of objects more quickly?

> If the child cannot manage the above activity, sort the objects into groups of two or ten and then count together.
>
> Repeat with different handfuls, making the quantities smaller if necessary.

? **Do you think it is quicker to count in ones or to count in twos?**

'Let's see if we can put these counters into twos, then tens. Then we will be able to check if the count is right.'

Repeat with smaller objects.

Note at what point the child's counting breaks down, in order to extend it over the next few weeks.

? **Do you think you are getting better at counting? How do you know?**

? **What do you think is the quickest way of counting that we have used?**

'Race your friend to count a handful of small counters.'

Spotlight 2

Still counts in ones to find how many there are in a collection of equal groups; does not understand vocabulary, for example 'groups of', 'multiplied by'

Opportunity for: investigating numbers and predicting

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On the calculator

Time 15–20 minutes

Resources

- Calculator
- Small cubes
- 2p coins and 10p coins
- 100-square

Key vocabulary

count in twos   count

count in tens   predict

Teaching activity

'Today we are going to find out something very special that we can do on the calculator: we can make it count in twos.'

Show the child how to key in a constant function on the calculator. On most simple calculators this is

usually | 2 | + | = | = | = | = | but sometimes there is minor variation.

'Now you press the equals key and look at what is happening.'

? **What do you think will be the next number? And the next?**

> If the child does not follow, go back to zero again and repeat. Then ask the child to key in from the start and say the numbers out loud a few times so that they will be able to do this on their own in class to practise.

'Let's start from zero again and you press equals three times.'

? **What number will show on the screen after three presses?**

? **Find the number pattern on the 100-square and predict the next two numbers.**

> If the child still seems unsure, support the counting with cubes and 2p coins.

Repeat with | 1 | 0 | + | = | = | = | = |

> Support this counting with 10p coins and find the tens pattern on the 100-square.

Encourage the child to show friends in class what they can do and to repeat the activity in class and at home until they can count securely to fifty then a hundred and beyond.

? **What did you enjoy in today's session?**

Spotlight 3

Still counts in ones to find how many there are in a collection of equal groups; does not understand vocabulary, for example, 'groups of', 'multiplied by'

Opportunity for: reasoning with numbers

Tens and twos

Time 10–15 minutes

Resources

- Counting stick
- Square sticky notes
- Number line

Key vocabulary

count in twos

count in tens

multiples of two

multiples of ten

Teaching activity

Write multiples of two on sticky notes and place these on a counting stick, with some out of order.

'We're going to do some counting today in twos and tens on the counting stick, but I think I've got some of the numbers out of order.'

? **Put the numbers in order and count in twos along the counting stick.**

> If the child is finding this too hard, support them to put the sticky notes in order using a number line to help.
>
> Support the child counting in twos to ten, then twenty.

Ask the child to close their eyes while you take away some of the sticky notes.

? **Which number goes in this gap?**

Repeat until the child is more confident, and encourage them to do this back in class and at home. Repeat with sticky notes and multiples of ten.

? **What did you like doing best today?**

? **Do you think you are getting better at counting in twos and tens?**

Spotlight 4

Still counts in ones to find how many there are in a collection of equal groups; does not understand vocabulary, for example, 'groups of', 'multiplied by'

Opportunity for: making connections

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All the fives

Time 10–20 minutes

Resources

- Cubes in 'five trains'
- *Sets of five spots* (Resource sheet 29)
- Calculator
- Number line
- Place value (arrow) cards

Key vocabulary

count in fives   how many altogether?

columns of ten   tally

Teaching activity

'We're going to do some counting in fives using these "five trains" and the calculator.'

? **Can you remember how to make the calculator count in tens? Show me.**

? **Now make the calculator count in fives.**

Show the child how to key in [5] [+] [=] [=] [=] [=]

? **How far can you count in fives? Look at the screen to help you.**

Then ask the child to take a handful of the 'five trains' and to count these in fives.

? **How many lots of five are there? Can you count along the number line to that number in jumps of five?**

**?** **Can you remember how to tally in fives?**

Support the child counting the number of cubes they have altogether in their handful of 'five trains'.
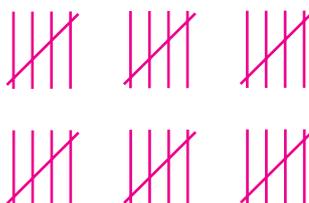
'So we have thirty cubes altogether, and they make six "trains" of five cubes. Now let's put the "five trains" together to make "ten trains".'

? **How many 'ten trains' do you think we can make?**

Support this counting of fives and then tens using Resource sheet 29 (*Sets of five spots*).
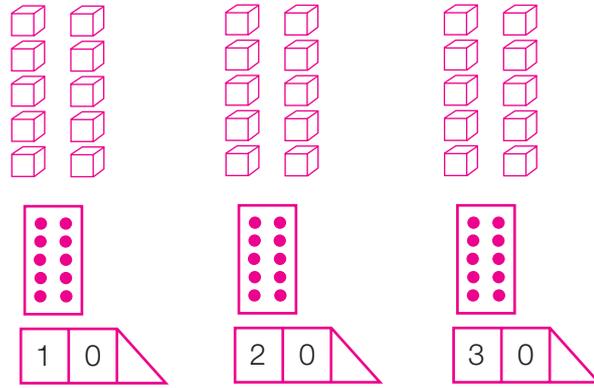
? **What can you tell me about counting in fives and counting in tens?**

Spotlight 5: a learning check

Still counts in ones to find how many there are in a collection of equal groups; does not understand vocabulary, for example, 'groups of', 'multiplied by'

Opportunity for: explaining and discussing

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Race to fifty pence
Time 15–20 minutes

Resources

- 2p and 10p coins (possibly 1p coins)
- Money counting boards (one for each player or pair)
- At least two children
- Dice 1–4 or a spinner marked 1–4 (Resource sheet 13) (possibly 1–6 dice)
- Timer

Check: does the child use key vocabulary?

count in twos	count
count in tens	altogether
how much?	column

Teaching activity

This game can be played as a race, or by pairs cooperating, maybe with a timer to see how long they take.

'Today we are going to play a game called **Race to fifty pence**. It will help you to count in twos and in tens.'

How to play

1. Each pair or player takes turns at spinning the spinner. They then win that number of 2p coins and put those in the 2p column.

   ? **Count these coins in twos. Do you have enough 2p coins to exchange for a 10p coin?**

2. When a player or pair has five 2p coins, they must explain how they are going to exchange that ten pence for a 10p coin and put that in the ten pence column.

3. Play until someone reaches fifty pence.

Variations

- Set the timer and see how much money one pair can collect in five minutes.
- Play with 1p coins and 10p coins and bigger numbers on the dice or spinner, for example a 1–6 dice and race to collect £1.

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;
- count in twos, fives and tens.