

Counting on past 20: what comes next?

4 to 6 children with one adult · 15 minutes

Objective: Children verbally count on past 20, joining in a small group to recognise the pattern of the counting system up to 30.

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Resources

- A number track from 17 to 24 with 21 marked
- A number track from 18 to 25 with 20 marked
- A number track from 19 to 26 with 23 marked
- A number track from 21 to 30 with 29 marked
- A number track from 21 to 30 with 30 marked
- A basket of 30 real objects (e.g. conkers, shells or pebbles)
- A puppet or soft toy who 'gets muddled' when counting

Set-up

Lay the five number tracks out in order on the carpet or a low table, close enough for children to point to and step along. Put the basket of 30 objects within reach. Keep the puppet nearby to bring out partway through.

What to do

1. Gather the children around the first number track, from 17 to 24 with 21 marked. Say, 'Let's count along together, starting at 17,' and count on together to 24, touching each number as you say it.
2. Ask a child to count out 17 objects from the basket and line them up beside the track. Say, 'Let's add one more. How many is that now?' Count on together to 18, then 19.
3. Move to the second track, from 18 to 25 with 20 marked. Point to 20 and say, 'This is 20. What comes next?' Add one more object and count on to 21, saying 'twenty-one' clearly.
4. Bring out the puppet. Have it count and get stuck, saying 'twenty-ten' instead of 'twenty-one'. Ask the children to help the puppet count correctly along the track: twenty, twenty-one, twenty-two.
5. Move to the third track, from 19 to 26 with 23 marked. Point to a number on the track and ask the children to count on from there, touching each numeral, until they reach 23.
6. Move to the fourth track, from 21 to 30 with 29 marked. Count on together from 21 to 29, clapping once on each number as it is said.
7. Show the fifth track, from 21 to 30 with 30 marked. Ask, 'What comes after 29?' Count on together to 30 and point out that the word changes to 'thirty'. Celebrate reaching 30 together.

Misconceptions

Child says 'twenty-ten' or 'twenty-eleven' instead of 'twenty-one' or 'twenty-two'.

Model the correct words slowly, pointing along the number track: 'twenty, twenty-one, twenty-two'. Use the puppet to practise this together without singling the child out.

Child says 'twenty-ten' instead of 'thirty' when counting on from 29.

Pause on the track at 29 and 30. Say, 'After 29, the word changes to thirty,' and count on together several times until it becomes familiar.

Child skips a number when counting on quickly, for example going from 21 straight to 23.

Slow the count down and ask the child to touch each number on the track as they say it, so every number gets a tap and a word.

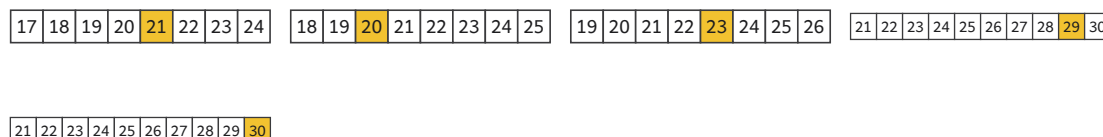
Adapting

- **Support:** Use only the number track from 17 to 24 with 21 marked. Count on in pairs, with the adult saying one number and the child saying the next, touching each numeral together.
- **Challenge:** Ask children to count on from a number the adult chooses without looking at the track, then check against the track. Also try counting back from 30 to 20, using what they know about one less.
- **SEND and EAL:** Use the number tracks as a constant visual support, pointing to each numeral as it is said. Keep the same rhythm and phrasing each time ('twenty, twenty-one, twenty-two') so the pattern becomes familiar through repetition, and pair spoken numbers with the real objects for a visual-concrete link.

Look for

- Child counts on past 20 without an adult prompt
- Child self-corrects after saying 'twenty-ten', replacing it with 'twenty-one'
- Child notices and comments on the pattern (e.g. that the 'twenty' numbers sound similar)
- Child continues counting on confidently from 29 to 30, using the word 'thirty'
- Child points to or touches each number on the track in time with their counting

Picture cards for this session



The pattern of the counting system: a number square to 30

4 to 6 children · 15 minutes

Objective: Children verbally count beyond 20 and start to notice the pattern of the counting system on a number square to 30: the ones words repeat (twenty-one to twenty-nine) and then the tens word changes (thirty).

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Resources

- one large floor number square 1 to 30, laid out in rows of ten (rug tiles or chalk squares work well)
- a set of beanbags or counters, one per child
- a small basket of number cards 1 to 30 to match onto the floor square
- a puppet or soft toy who 'counts' and sometimes gets stuck

Set-up

Lay the floor number square flat on the carpet or playground so the whole group can walk around it, with row 1 (1 to 10) nearest the children, row 2 (11 to 20) above it, and row 3 (21 to 30) at the top, each row holding ten numbers. Sit or crouch the group at one side so everyone can see all three rows.

What to do

- Gather the group around the floor number square and say: 'Let's count together as we walk along the first two rows, starting at 1.' Walk hand in hand with the group along row 1 and row 2, saying each number aloud up to 20.
- Show picture 2 (10, 20, 30 marked). Point to 10, then 20, then 30 and say: 'These three are at the end of a row. Watch what happens to the word each time a row ends.' Say 'ten, twenty, thirty' slowly.
- Show picture 3 (1, 11, 21 marked). Point to each and say: 'These three are at the start of a row.' Say 'one, eleven, twenty-one' and ask the children to repeat it with you.
- Show picture 4 (5, 15, 25 marked). Point to each and say: 'Same place in each row.' Say 'five, fifteen, twenty-five' together, pausing after 'twenty-' each time.
- Show picture 1 (21 to 29 marked). Walk your finger along the top row from 21 to 29 and say the numbers slowly: 'twenty-one, twenty-two, twenty-three...' Ask the children to join in, clapping once on 'twenty' and once on the ones word each time.
- Bring out the puppet. Have it 'count' along the top row but get stuck saying 'twenty-nine, twenty-ten!' Ask the children to help the puppet by saying what really comes after 29.
- Give each child a beanbag. Call out a number between 21 and 30 and ask them to find and stand on it on the floor square, saying the number aloud as they land.
- Finish by counting all together from 1 to 30, walking along all three rows, pointing to each number as you say it.

Misconceptions

A child says 'twenty-nine, twenty-ten' instead of 'twenty-nine, thirty'.

Use the puppet's mistake to show it is a common slip. Point to 10, 20 and 30 on picture 2 and say 'ten, twenty, thirty' together, then show that after the ones reach nine, the whole tens word changes.

A child says 'twenty-eleven' or 'twenty-twelve' when trying to carry on past 30, confusing the next row's start.

Point to 30 on the square and say clearly 'after thirty, we don't say twenty again.' Keep counting practice within 1 to 30 for this session and praise any correct attempt at the pattern.

A child jumps straight from 20 to 30, missing 21 to 29 completely.

Walk your finger slowly along the top row from 21 to 29 on picture 1, saying each number, and ask the child to touch each square with you before reaching 30.

A child reads the number square top to bottom in a column instead of left to right along the row, losing the counting order.

Trace along the row with your hand while saying the numbers, and use picture 3 to show that 1, 11 and 21 are at the start of three different rows, not next to each other in counting order.

Adapting

- Support:** Focus only on counting from 1 to 20 confidently and recognising 21 as 'one more than 20', using picture 3 to show the matching start-of-row pattern before moving on to 21 to 29.
- Challenge:** Ask the child to count on from any number you point to on the square without starting at 1, and to predict what comes after 29 before you show them picture 1.
- SEND and EAL:** Use consistent pointing and the same short phrases each time ('after 29 comes 30'), pair numerals with the spoken number, and let the child physically step onto each number rather than only listening.

Look for

- Says the numbers 21 to 29 in the correct order without adult support
- Correctly says 30 after 29 without saying 'twenty-ten'
- Points to or steps on the correct number when it is called out
- Notices and comments on the pattern across rows (for example, pointing out 5, 15, 25)
- Self-corrects when they hear or say an incorrect number

Picture cards for this session

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

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21	22	23	24	25	26	27	28	29	30

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

Counting big groups: tens and ones

4 to 5 children · 15 to 20 minutes

Objective: Children count large groups of real objects by filling ten frames, recognising that 2 full ten frames make 20 and 3 full ten frames make 30, and verbally counting on past 20 using the numbers 20, 21, 23, 25, 27 and 30.

Resources: 1 Verbally count beyond 20, recognising the pattern of the counting system.

Resources

- A tray of at least 30 real small objects (e.g. conkers, pasta shells or buttons)
- 3 large ten frames (trays, egg boxes with 10 holes, or muffin tins with 10 holes)
- A small scoop or basket for moving objects
- Number cards 0 to 30

Set-up

On the carpet or a low table, lay out 3 large ten frames in a row with space between them. Put the tray of objects within easy reach of the whole group. Keep the number cards nearby but out of the way until needed.

Key questions

- How many objects are in one full ten frame?
- If this frame is already full, do we need to count it again, or do we already know it's 10?
- We have 2 full ten frames and 3 more – how many is that altogether?
- What comes after 29? Why isn't it 'twenty-ten'?
- How many more objects would we need to fill the third frame and make 30?

Vocabulary

ten frame, full, more, altogether, count on, tens, ones, twenty, twenty-one, twenty-three, twenty-five, twenty-seven, thirty

What to do

1. Gather the group around the ten frames and say: 'We're going to count a big pile of objects today – watch how we use these ten frames to help us.'
2. Fill the first ten frame together, one object per space, counting aloud with the children: 1, 2, 3 ... 10. Say: 'That frame is full – it holds exactly 10.'
3. Fill the second ten frame the same way, counting 1 to 10 again inside that frame. Then say: 'Now we have 2 full ten frames. How many is that altogether?' Count on together: 11, 12, 13 ... 20, touching each object.
4. Show the number card 20 and say: 'Look – 2 full ten frames is 20. We don't need to count every single one again once we know a frame is full.'
5. Add 1 more object next to the two full frames. Say: 'Now what have we got?' Count on together from 20: '20, 21.' Show the number card 21.
6. Add 2 more objects (so there are 3 loose ones). Count on together: '20, 21, 22, 23.' Show the number card 23.
7. Add 2 more objects (so there are 5 loose ones). Count on together: '20, 21, 22, 23, 24, 25.' Show the number card 25.
8. Add 2 more objects (so there are 7 loose ones). Count on together: '20, 21, 22, 23, 24, 25, 26, 27.' Show the number card 27.
9. Add enough objects to fill the third ten frame completely. Say: 'What happens when this frame is full too?' Count on together past 27 to 30: '28, 29, 30.' Show the number card 30 and say: 'After 29, the next number is 30 – a brand new ten.'
10. Invite each child to take a turn scooping a new handful of objects and filling or emptying a ten frame while the group counts together.

Misconceptions

After counting to 29, the child says 'twenty-ten' or 'twenty-eleven' instead of 30.

Pause and count together slowly from 27: '27, 28, 29 ...' then point to the newly full third ten frame and say: 'This is a whole new ten, so it gets a brand new name – 30, not twenty-ten.'

The child recounts the full ten frames from 1 each time instead of counting on from 20.

Cover the two full frames with a hand and say: 'We already know these are full – that's 20. We don't need to count them again, we can just carry on: 21, 22 ...' then model counting on from 20.

The child misses an object or counts one twice when placing objects into the ten frame, losing one-to-one correspondence.

Slow down and move one object at a time into a space, saying the number as each one lands, and encourage the child to touch each object as they say its number.

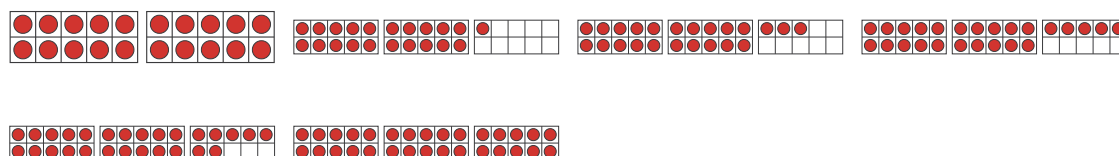
Adapting

- **Support:** Work with fewer objects at a time and fill one ten frame before starting the next, pointing to each space as you count so the child only has to focus on one frame at once.
- **Challenge:** Before counting, ask the child to predict how many objects there will be once a frame is filled, and ask what one more or one less than 20 or 30 would be.
- **SEND and EAL:** Use the real objects and ten frames as the main support rather than relying on spoken number words alone; say each number clearly and pair it with the matching number card; repeat short phrases such as '10 more' and model counting on with gestures.

Look for

- Children recognise a full ten frame as 10 without recounting each object
- Children count on from 20 rather than starting again from 1
- Children correctly say 30 after 29, without saying 'twenty-ten'
- Children place one object per space with accurate one-to-one correspondence

Picture cards for this session





Counting back and finding missing numbers

Small group of 4 to 6 children · 15 to 20 minutes

Objective: Children count back from a given number to 30 and work out missing numbers on a number square, recognising that after twenty the ones words repeat before the tens word changes.

| [eyfs.ma.patterns.1](#) Verbally count beyond 20, recognising the pattern of the counting system.

Resources

- A number track 1 to 30 with pegs, laid out on the floor
- A small toy or puppet (for example a snail) that hops along the track
- Number square card 1: numbers 1 to 30 in rows of ten, with 21 and 23 hidden
- Number square card 2: numbers 1 to 30 in rows of ten, with 24 and 27 hidden
- Number square card 3: numbers 1 to 30 in rows of ten, with 19, 22 and 28 hidden
- Number square card 4: numbers 1 to 30 in rows of ten, with 26, 29 and 30 hidden
- Leaves or small cloths covering the hidden numbers on each card

Key questions

- What comes after twenty?
- How did you work out which number was hiding?
- What is one less than this number?
- Can you count backwards from thirty to check?
- What do you notice about the numbers after twenty?

Vocabulary

count on, count back, one more, one less, missing number, before, after, pattern, number track, number square

Set-up

Sit the group in a circle on the carpet with the number track 1 to 30 laid out where everyone can reach. Keep number square card 1 ready to bring out first, with cards 2 to 4 nearby to introduce one at a time as the group is ready.

What to do

1. Adult moves the toy along the track counting on together from 1 to 20, pausing at 20 and saying, 'I wonder what comes next?' then counting on together to 30, touching each peg.
2. Adult moves the toy backwards from 30, counting back together and touching each peg, saying the numbers clearly, especially 'twenty-one, twenty, nineteen' across the twenty boundary.
3. Adult invites each child for a turn to hop the toy back a few pegs while the group counts back aloud together.
4. Adult places number square card 1 on the floor and says, 'Two numbers are hiding under the leaves. Let's count along together to work out what they are,' counting from the start of the row with the group.
5. Children say what they think each hidden number is, then lift the leaves to check, counting forward and back from nearby numbers to confirm.
6. Adult brings out card 2 for children ready to continue, repeating the process and asking children to count on from a nearby number rather than always starting at 1.
7. For children ready for more challenge, adult brings out card 3 and then card 4, encouraging children to count back as well as forward to work out the missing numbers.
8. Throughout, adult models the correct number words around the twenty boundary and invites children to echo them back.

Misconceptions

After twenty, children say 'twenty-ten' or 'twenty-eleven' instead of 'twenty-one' and 'twenty-two'.

Model the correct word clearly and slowly, touching the peg as you say it. Count on together several times from 18 to 25, exaggerating 'twenty-one, twenty-two' so children hear the pattern repeating.

When asked to count back, children count forward instead (for example, from 15 they say 16, 17, 18).

Move the toy backwards along the track one peg at a time as you say each number, so the direction is visible. Say the number just before the child does, then invite them to join in with you.

Children guess at the hidden number instead of working it out, skipping straight to the next number they can see.

Cover the gap with a finger and recount the whole row together from the start, touching each number in order, so the missing number is worked out from its position rather than guessed.

Adapting

- **Support:** Use only number square card 1 with a single hidden number at a time. Work on the number track within 20 first, physically moving pegs one by one, before trying the hidden numbers.
- **Challenge:** Use number square card 4. Ask children to predict the hidden number before lifting the leaf, and to count back from 30 without touching the track to check their answer.
- **SEND and EAL:** Use the toy and track for a hands-on, visual way into counting, pairing each number word with a touch or hop. Pre-teach the words 'hide', 'missing' and 'peg' with gestures, and say the twenty- numbers slowly and clearly, repeating them alongside the digit cards.

Look for

- Child counts on past twenty using the correct pattern (twenty-one, twenty-two, and so on)
- Child counts back accurately, touching each number or peg in turn
- Child can say one more or one less than a given number
- Child works out a hidden number from its position in the row rather than guessing
- Child notices and self-corrects an error, such as catching 'twenty-ten' and saying 'twenty-one' instead

Picture cards for this session

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
	22		24	25	26	27	28	29	30

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23		25	26		28	29	30

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18		20
21		23	24	25	26	27		29	30

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25		27	28		