

Even and odd

Number — counting and sequences · 4 source-bound 30-minute lessons.

Unit overview

This unit teaches number — counting and sequences through 4 source-bound read-along lessons. Each lesson moves from concrete objects to a pictorial record and then an abstract record. Learners use the same maths question and evidence requirement across all three reading routes. The final task compares the representations learners made across the unit.

Guiding question

How can stories help us reason about even and odd?

Success criteria

- I can build the maths from each story with objects.
- I can draw or diagram the same maths.
- I can record a result and explain the story evidence.
- I can demonstrate TWM.02 while I work.

Learning objectives

2Nc.05

Recognise what makes numbers even or odd (to 100).

2Nc.04

Count on and back in ones, twos, fives or tens, from any number to 100.

2Nc.06

Recognise, describe and continue number sequences to 100.

TWM.02

Generalising: spot a pattern that holds across many examples.

1

What makes a number even?

Even or Odd? · 2Nc.05

Shared maths question

How does Even or Odd? help us explore what makes a number even??

Evidence required

A concrete model, a pictorial record and a matching abstract record, all checked against the read-along.

Governed source lesson: The Pair Test · Concept · Even and odd by grouping in twos

1

Find the maths in the story

4 min**2Nc.05**

Read-along: Listen with highlighting and pause at the passage used by "The Pair Test".

Teacher: Read the two printed rule sentences. Ask what grouped by twos would look like on a desk, and let learners show with four counters: two pairs, nothing alone. Then five counters: two pairs and one alone. Name the two outcomes with the book's words, even and odd.

Learners: Notice the story evidence and say the maths question in their own words.

2

Model it with objects

5 min

2Nc.05

Read-along: Replay the source passage while building the quantities, shapes or measures it supplies.

Teacher: Work through the sets the book names. Build each in counters and run the pair test. Six jacks, five jacks, four red cars, five blue cars. Four apples, three oranges, eight triangles. Five squares, three purple balls, six happy-face balls. For each set learners say the verdict with its reason: five is odd, one is left alone.

Learners: Build a concrete model and check that each part matches the read-along.

3

Try the concrete task

6 min

2Nc.05

Read-along: Keep the relevant story page visible as the class tests the model.

Teacher: Focus the reason: the test never asks how big the number is, only whether someone is left without a partner. Learners take any odd set from the round. Point at the single leftover counter. Say the book's sentence for it: this number cannot be grouped by twos.

Learners: Change or compare the objects, then explain what stayed the same and what changed.

4

Draw the maths

5 min

2Nc.05

Read-along: Return to the same story evidence before learners make a pictorial record.

Teacher: Model a clear drawing, diagram or mark for the concrete work without adding a quantity the story does not supply.

Learners: Draw the model and label the important parts with maths language.

5

Record and solve

6 min

2Nc.05

Read-along: Use the read-along once more as the evidence check for the abstract record.

Teacher: Learners write the numbers they tested into a two-column chart headed even and odd. Enter each number only after its pair test has been run. Read one column aloud to finish. The chart is collected as the record of the testing.

Learners: Record the result with suitable numbers, words or symbols and link it back to the picture.

6

Reflect and convince

4 min

TWM.02

Read-along: Show the source passage and invite a final evidence-based check.

Teacher: Name the Thinking and Working Mathematically focus: Generalising: spot a pattern that holds across many examples.

Learners: Use the concrete model, drawing and record together to justify the answer.

Solo

Read independently and mark the evidence used by the shared model.

Supported

Read with the audio, pause at the named source passage and use the response frame.

Listening

Listen with highlighting, build the same model and explain it orally.

Assessment check: The learner shows the objective with concrete, pictorial and abstract evidence and explains how the read-along supports the model.

2

Making it even

Ruby Makes It Even · 2Nc.05

Shared maths question

How does Ruby Makes It Even help us explore making it even?

Evidence required

A concrete model, a pictorial record and a matching abstract record, all checked against the read-along.

Governed source lesson: Odd Kid Out · Concept · Deciding whether a group is odd or even by pairing everyone off

1 Find the maths in the story

4 min

2Nc.05

Read-along: Listen with highlighting and pause at the passage used by "Odd Kid Out".

Teacher: Set the bench strip in front of you and seat three counters, one per rider, filling a bench before starting the next. One bench holds two riders and one rider sits behind them with an empty seat beside her. Say what the book says about that number.

Learners: Notice the story evidence and say the maths question in their own words.

2 Model it with objects

5 min

2Nc.05

Read-along: Replay the source passage while building the quantities, shapes or measures it supplies.

Teacher: Clear the strip and seat four riders, then seven, then ten, refilling from the front bench each time. After each seating answer two questions out loud: how many benches are full, and is anybody sitting with an empty seat beside them. Give the verdict in the book's own frame before moving on.

Learners: Build a concrete model and check that each part matches the read-along.

3

Try the concrete task

6 min

2Nc.05

Read-along: Keep the relevant story page visible as the class tests the model.

Teacher: Look back at the odd seatings, three and seven. Exactly one rider was alone each time, never two. Seat five riders and then nine and check whether that holds, then say why two riders left over could not happen: two riders left over would simply take a bench.

Learners: Change or compare the objects, then explain what stayed the same and what changed.

4

Draw the maths

5 min

2Nc.05

Read-along: Return to the same story evidence before learners make a pictorial record.

Teacher: Model a clear drawing, diagram or mark for the concrete work without adding a quantity the story does not supply.

Learners: Draw the model and label the important parts with maths language.

5

Record and solve

6 min

2Nc.05

Read-along: Use the read-along once more as the evidence check for the abstract record.

Teacher: Write each number you seated into the even column or the odd column, and enter a number only after its seating has been run. Read your odd column aloud to your partner and let them check one entry by rebuilding it.

Learners: Record the result with suitable numbers, words or symbols and link it back to the picture.

6

Reflect and convince

4 min

TWM.02

Read-along: Show the source passage and invite a final evidence-based check.

Teacher: Name the Thinking and Working Mathematically focus: Generalising: spot a pattern that holds across many examples.

Learners: Use the concrete model, drawing and record together to justify the answer.

Solo

Read independently and mark the evidence used by the shared model.

Supported

Read with the audio, pause at the named source passage and use the response frame.

Listening

Listen with highlighting, build the same model and explain it orally.

Assessment check: The learner shows the objective with concrete, pictorial and abstract evidence and explains how the read-along supports the model.

3

Counting the odd numbers

Ocean Counting: Odd Numbers · 2Nc.04

Shared maths question

How does Ocean Counting: Odd Numbers help us explore counting the odd numbers?

Evidence required

A concrete model, a pictorial record and a matching abstract record, all checked against the read-along.

Governed source lesson: Count the Odd Pages by Twos · Fluency · Skip counting by twos from one within 50

1

Find the maths in the story

4 min

2Nc.04

Read-along: Listen with highlighting and pause at the passage used by “Count the Odd Pages by Twos”.

Teacher: Partners lay the odd-number strip flat and put one finger on the 1 card. One partner says 1, 3, 5, 7, 9, sliding the finger to a new card on each number word. The other watches that one card gets one word. They stop the count if two words land on the same card. Swap jobs and run it again.

Learners: Notice the story evidence and say the maths question in their own words.

2

Model it with objects

5 min

2Nc.04

Read-along: Replay the source passage while building the quantities, shapes or measures it supplies.

Teacher: Partners count every card from 1 to 49, one touch per number word, and go back to 1 whenever a number is skipped or said twice. When the strip comes out clean, count it backward from 49 down to 1 the same way. Say the last card you land on out loud so your partner can check it.

Learners: Build a concrete model and check that each part matches the read-along.

3

Try the concrete task

6 min

2Nc.04

Read-along: Keep the relevant story page visible as the class tests the model.

Teacher: One partner lays blank cards over three numbers in the middle of the strip while the other looks away. The counter runs the strip from 1 and says each hidden number out loud when a finger reaches it. Lift the covers to check, then trade jobs and hide three different numbers.

Learners: Change or compare the objects, then explain what stayed the same and what changed.

4

Draw the maths

5 min

2Nc.04

Read-along: Return to the same story evidence before learners make a pictorial record.

Teacher: Model a clear drawing, diagram or mark for the concrete work without adding a quantity the story does not supply.

Learners: Draw the model and label the important parts with maths language.

5

Record and solve

6 min

2Nc.04

Read-along: Use the read-along once more as the evidence check for the abstract record.

Teacher: The teacher names a page the class just heard, such as the moon snails or the Black Seabass. Partners put a finger on that number and count on by twos to 49 without sliding back to 1. Then count on from the same number again with the strip turned face down.

Learners: Record the result with suitable numbers, words or symbols and link it back to the picture.

6

Reflect and convince

4 min

TWM.02

Read-along: Show the source passage and invite a final evidence-based check.

Teacher: Name the Thinking and Working Mathematically focus: Generalising: spot a pattern that holds across many examples.

Learners: Use the concrete model, drawing and record together to justify the answer.

Solo

Read independently and mark the evidence used by the shared model.

Supported

Read with the audio, pause at the named source passage and use the response frame.

Listening

Listen with highlighting, build the same model and explain it orally.

Assessment check: The learner shows the objective with concrete, pictorial and abstract evidence and explains how the read-along supports the model.

4

The even-number sequence

Underwater Counting: Even Numbers · 2Nc.06

Shared maths question

How does Underwater Counting: Even Numbers help us explore the even-number sequence?

Evidence required

A concrete model, a pictorial record and a matching abstract record, all checked against the read-along.

Governed source lesson: Sixteen, Counted Two at a Time · Fluency · Counting a set of objects by twos to a stated even number

1

Find the maths in the story

4 min

2Nc.06

Read-along: Listen with highlighting and pause at the passage used by "Sixteen, Counted Two at a Time".

Teacher: Each pair counts out counters to match the number the book prints for one page, pushing them into a line on the mat as they count. Start with the 16 parrotfish, then clear the mat and build the 20 trumpet fish. Say the number you built at the end of each build.

Learners: Notice the story evidence and say the maths question in their own words.

2

Model it with objects

5 min

2Nc.06

Read-along: Replay the source passage while building the quantities, shapes or measures it supplies.

Teacher: Slide the counters into groups of two, leaving a gap between each group. Count the groups aloud by twos, touching one group per number word, and stop on the number the book printed. The rule is one touch, one number, and nothing left over.

Learners: Build a concrete model and check that each part matches the read-along.

3

Try the concrete task

6 min

2Nc.06

Read-along: Keep the relevant story page visible as the class tests the model.

Teacher: Listen for how the book moves from one page to the next and put a counter on the counting strip for each number it says. Follow the strip from 46 to 48 to 50 and say the two numbers the book skipped. Point to where 47 and 49 sit and say why the book stepped over them.

Learners: Change or compare the objects, then explain what stayed the same and what changed.

4

Draw the maths

5 min

2Nc.06

Read-along: Return to the same story evidence before learners make a pictorial record.

Teacher: Model a clear drawing, diagram or mark for the concrete work without adding a quantity the story does not supply.

Learners: Draw the model and label the important parts with maths language.

5

Record and solve

6 min

2Nc.06

Read-along: Use the read-along once more as the evidence check for the abstract record.

Teacher: Each child tells a partner what they built and how they counted it, in one sentence naming the number of groups and the number of counters. The partner rebuilds it from the sentence alone, without looking at the first mat, and the two mats are set side by side to check.

Learners: Record the result with suitable numbers, words or symbols and link it back to the picture.

6

Reflect and convince

4 min

TWM.02

Read-along: Show the source passage and invite a final evidence-based check.

Teacher: Name the Thinking and Working Mathematically focus: Generalising: spot a pattern that holds across many examples.

Learners: Use the concrete model, drawing and record together to justify the answer.

Solo

Read independently and mark the evidence used by the shared model.

Supported

Read with the audio, pause at the named source passage and use the response frame.

Listening

Listen with highlighting, build the same model and explain it orally.

Assessment check: The learner shows the objective with concrete, pictorial and abstract evidence and explains how the read-along supports the model.

End-of-unit task

Choose one model from each read-along. Put the models in a useful order, compare them, and explain how the concrete, pictorial and abstract records show the unit's maths.