Even or Odd Picnic to 20

Teacher		**Class**	Grade 2
Subject	Math	**Topic**	Even and odd numbers
Date		**Room**	
Lesson length	60 minutes	**Country**	United States

Students learn to tell even and odd to 20 by pairing and counting by 2s. They deal counters onto two plates and write evens as equal addends.

Curriculum links

- Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends [2].
- Decide if a number (up to 50) is even or odd using objects and explain why (for example, by dividing collections of objects into two equal groups or pairing objects) [1].

Learning objectives

- Students will decide if groups to 20 are even or odd by pairing or counting by 2s.
- Students will make two equal groups to test even and odd to 20.
- Students will write even numbers to 20 as sums of two equal addends.

Success criteria

- I can pair objects to 20 and say even or odd.
- I can count by 2s to check for a leftover.
- I can write an even number as two equal addends.

What students already know

Show 4 counters. Ask: Can we make pairs with none left over? Ask students to show pairs with fingers and say even or odd.

Key words

even number	a count where everything finds a partner with none left over [2]
odd number	a count where pairs are made and one thing has no partner [2]
pair	two things that go together [2]
equal addends	two same parts put together with plus, like 6 = 3 + 3 [1]
leftover	one extra thing with no partner or group [1]

Materials

- paper plates (2 per pair)
- counters (at least 20 per pair)
- number cards 1-20
- pencils
- ten-frames
- Slides 1-6 and 8-11

Before the lesson

- Print Worksheet Task B to decide even or odd by pairing and write the equal addends for each pair and number cards 1-20 for Slide 8.
- Set out 2 paper plates, 20 counters, pencils, and ten-frames for each pair.

- Video clip 1 (0:00–4:11) on Slide 5
- Worksheet Task B copies to decide even or odd by pairing and write the equal addends
- Test Slides 1-6 and 8-11 and Video clip 1 (0:00–4:11) on Slide 5.
- Make a clear floor and board space for modeling dealing counters.

Lesson outline

0–10 min **Starter** 10 min · Whole class

Hook interest in fair sharing and recall what two same groups look like.

YOU DO

1. Show Slide 1 and give the hook for the picnic.
2. Show Slide 2 and read its exact question: You have 9 pencils. Can you and your partner get the same number?
3. Deal 9 counters one-by-one onto two paper plates while the class whisper-counts.
4. Ask pairs to decide if the plates match and to name any leftover.

STUDENTS DO

1. Think about the 9 pencils question with a partner.
2. Watch the dealing and count along quietly.
3. Hold up one finger for the leftover and say odd together.

Say: Can you set out snacks so both plates have exactly the same? Watch my two plates. I will deal one snack at a time to each plate. We will see if both plates match or if one snack has no partner.

Worked example: 9 pencils: deal to Plate A and Plate B. Plate A gets 4, Plate B gets 4, and 1 is left with no partner. Two same groups of 4 plus 1 extra means 9 is odd.

Ask: Can you and your partner get the same number from 9 pencils? (No, 4 and 4 with 1 left over, so 9 is odd.) · How do the two plates show it is not fair? (Both have 4, but one counter is left with no partner.)

Check understanding: Ask for thumbs up for odd and thumbs sideways if unsure; if many are unsure, repeat quickly with 6 counters to show no leftover.

Support: Model first with 6 counters to show no leftover, then repeat with 9. **Stretch:** Ask students to predict if 10 pencils will leave a leftover before you deal.

Use: Slides 1-2

10–25 min **Teaching** 15 min · Whole class

Model pairing, counting by 2s, and two equal groups to name even and odd.

YOU DO

1. Show Slides 3-4 and point to No leftover = even and One leftover = odd.
2. Make 14 counters into pairs on the board and count together by 2s: 2, 4, 6, 8, 10, 12, 14.
3. Show Slide 5 and play Video clip 1 (0:00–4:11) to watch pairs show even or odd.
4. Split the 14 into two same groups of 7 and write 14 = 7 + 7, linking to 6 = 3 + 3 in two equal groups.

STUDENTS DO

1. Count aloud by 2s to 20 and clap on each 2.
2. Show two hands for even and one finger for the leftover that makes it odd.
3. Copy 14 = 7 + 7 in the air with a finger.

Say: An even number of objects can be put into pairs or into two equal groups without any leftovers [2]. An odd number of objects cannot be put into pairs without a leftover [2]. We can check by making pairs, by counting by 2s, or by making two same groups.

Worked example: 14 counters: make pairs — 2, 4, 6, 8, 10, 12, 14 with none left over, so 14 is even [2]. Put 7 on each plate. Two same groups of 7 gives 14 = 7 + 7.

Ask: Why is 14 even? (All counters find partners with none left over; two groups of 7 match.) · Why is 9 odd? (After pairing, one is left over with no partner.) · What equation shows 6 as two same parts? (6 = 3 + 3.)

Check understanding: Hold up number cards 8 and 9; students show two hands for even or one finger for odd. Reteach pairing if mixed.

Support: Point to a 1–20 chart while counting by 2s together so students see and hear each 2. **Stretch:** Ask students to name the next even number after 14 and predict its equal-addend equation.

Use: Slides 3-5, Video clip 1 (0:00–4:11)

25–45 min **Main activity** 20 min · Pairs

Test numbers to 20 by making two equal groups and writing evens as equal addends.

YOU DO

1. Demonstrate Two Plates Picnic with 10 counters: deal one-by-one onto two plates.
2. Write the match as 10 = 5 + 5 and say even means no leftover.
3. Show Slide 8 and give out plates, counters, number cards 1-20, and Worksheet Task B to decide even or odd by pairing and write the equal addends with pencils.
4. Circulate, ask pairs to explain pairs and equations, and prompt recording.

STUDENTS DO

1. In pairs, pick a number card, count out counters, and deal onto two plates.
2. Make pairs or count by 2s following Slide 8 to sort as even or odd, and complete Worksheet Task B to decide even or odd by pairing and write the equal addends.
3. Write evens as equal addends, like 10 = 5 + 5.

Say: Pick a number card to 20 and count out that many snacks. Deal one snack at a time onto the two plates. If both plates match with none left, write it as two same parts added together.

Worked example: 10 counters: Plate A gets 5, Plate B gets 5, none left over, so 10 is even. Write 10 = 5 + 5 in two equal groups. 11 counters: 5 and 5 with 1 extra, so 11 is odd.

Ask: How do your plates show even or odd? (Even has two same groups with none left; odd has two same groups plus 1 leftover.) · What equation matches your even plates? (For example, 8 = 4 + 4; 10 = 5 + 5; 14 = 7 + 7.)

Check understanding: Check Task B lines to decide even or odd by pairing and write the equal addends and plates for 3 pairs; if equations do not match groups, model one more number together.

Support: Use ten-frames to line up the two groups for easy comparing. **Stretch:** Students show where the extra counter goes when the number is odd.

Use: Worksheet Task B to decide even or odd by pairing and write the equal addends, Slide 6 and Slide 8

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45–60 min **Plenary** 15 min · Whole class

Agree key words and check even or odd to 20 with explanations.

YOU DO

1. Show Slide 9 and rehearse even number, odd number, pair, and equal addends meanings.
2. Invite pairs to finish: It is odd because two equal groups leave one leftover.
3. Show Slide 10 and take a vote on easiest check: Make pairs, Count by 2s, or Make two equal groups.
4. Show Slide 11 and guide the exit: Is 12 even or odd? Show pairs or 6 + 6.

STUDENTS DO

1. Join in the key-words chant and sentence finish with a partner.
2. Vote for easiest check and explain why in one sentence.
3. Write exit ticket for 12 with pairs drawn or 6 + 6.

Say: Tell your partner which check helped you most. For the exit, test 12 by pairs or by two same groups. If both groups match, write the two same parts added together.

Worked example: 12 counters: pairs 2, 4, 6, 8, 10, 12 with none left over, so 12 is even. Two plates get 6 and 6. Write 12 = 6 + 6.

Ask: Is 12 even or odd? How do you know? (Even, all find partners with none left; 12 = 6 + 6.) · When is a number odd? (When pairing leaves one leftover with no partner.)

Check understanding: Collect exit tickets for Is 12 even or odd? Show pairs or 6 + 6; pull a small group tomorrow if equations or leftovers are wrong.

Support: Give word cards for pair, equal groups, and leftover to use in the explanation sentence. **Stretch:** Ask students to explain what happens to odd or even if two more counters are added.

Use: Slides 9-11

Common mistakes

Mistake	How to spot it	How to fix it
Saying an odd number can be split into two equal groups with nothing left.	Writes 9 = 4 + 4 and calls 9 even.	Deal 9 onto plates to see 4 and 4 plus 1 extra; odd numbers need two equal addends plus 1 [1].
Miscounting when counting by 2s and stopping early.	Counts 2, 4, 6 for 14 and says leftover.	Touch each pair while saying 2, 4, 6, 8, 10, 12, 14; even has no leftover after full count [2].
Writing unequal addends for an even number.	Writes 10 = 6 + 4 and says it shows doubles.	Check plates match exactly; even as a sum of two equal addends needs two same parts, like 10 = 5 + 5 [2].

Support

- Start with only 6, 8, or 10 objects, then build up to 20.
- Use ten-frames to line up the two groups for easy comparing.
- Give word cards for pair, equal groups, and leftover to use in explanations.

Stretch

- Write how many pairs were made, like 14 has 7 pairs.
- Show where the extra counter goes when the number is odd.
- Name the next even number and predict its equal-addend equation.

For the LSE or teaching assistant

Stay with the picnic pairs using ten-frames; prompt touching each pair during counting by 2s and checking that plates match before writing the equation.

Check for understanding

Question	Answer
Is 12 even or odd? Show pairs or 6 + 6.	Even; pairs cover all with none left; 12 = 6 + 6.
Is 15 even or odd? How do pairs show it?	Odd; pairs leave one leftover with no partner.
Write an even number to 20 as two equal addends.	For example, 8 = 4 + 4 or 10 = 5 + 5.

Homework

Count a group up to 20 at home, draw its pairs, and label even or odd with the equation if even.

Sources

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