## Lesson 6 - Multiplication \& Division - Even \& Odd Numbers

NC Objective:
Recall and use multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers

Resources needed:
Differentiated Sheets
Teaching Slides
Concrete resources such as numicon, cubes, pictorial images

## Vocabulary:

Odd, even, sets

Building on from Year 1, children should be able to recognise odd and even numbers.
They will use concrete manipulatives to explore odd and even numbers and the structure of these.

## Key Questions:

Can you sort these objects (number pieces, ten frames, cubes, pictures etc) into an odd set and an even set?
What makes these odd/even?
How do you find out if $\qquad$ is an odd or even number?
Can you find all the odd and even numbers on a 100 square? What do you notice?


Children on this sheet use visual models to identify numbers with even groups and numbers with an odd piece. Practice helps children understand the number structure of even and odd numbers and begin to memorise them. Children on this sheet look at a number piece and decide from its structure whether it is odd or even.


Children can use concrete resources to find the number or make up the number to visualise whether it is odd or even. Children on this sheet sort numbers onto an even or odd table. They write sentences to articulate their understanding of why a number is even or odd.


Children on this sheet sort challenging numbers in different forms onto an even or odd table. Children formulate their own equations meeting specific criteria. They write an explanation to articulate their understanding of why a multi-digit number is even or odd.

## Reasoning \& Problem Solving



Look at the number and the number piece. Is it odd or even? Circle the correct word.

odd / even
odd / even

odd / even

odd / even

odd / even

odd / even

odd / even


odd / even

odd / even

odd / even



Circle the word that makes the statement true.

Even numbers can / cannot be shared between 2 equally.
Odd numbers can / cannot be shared between 2 equally.

Look at the number and the number piece. Is it odd or even? Circle the correct word.

odd / even


Circle the word that makes the statement true.

Even numbers can cannot be shared between 2 equally.
Odd numbers can cannot be shared between 2 equally.

Sort the numbers below onto the table.


| Even | Odd |
| :---: | :---: |
|  |  |
|  |  |
|  |  |

Fill in the word that makes the statement true.
$\qquad$ numbers can be shared between 2 equally.
$\qquad$ numbers cannot be shared between 2 equally.

Look at the pieces below. Are they odd or even? Explain your answer.


Sort the numbers below onto the table.


| Even |  |  | Odd |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $4^{4} \quad 18{ }^{10}$ | $\begin{array}{r} 8 \\ 34 \end{array}$ | 30 | $25$ | $5$ $13$ | $11$ $7$ | $17$ <br> 9 | $\begin{aligned} & 21 \\ & 23 \end{aligned}$ |

Fill in the word that makes the statement true.

Even numbers can be shared between 2 equally.
Odd numbers cannot be shared between 2 equally.

Look at the pieces below. Are they odd or even? Explain your answer.

12 is even because there are two groups of six. The pieces match up evenly.



8 is even because there are two equal groups of four. The pieces match up evenly.

Sort the numbers below onto the table.


| Even | Odd |
| :--- | :--- |
|  |  |
|  |  |
|  |  |

Write three number sentences that will total more than 50 , that you could place in the even side.


Write three number sentences that will total less than 50, that you could place in the odd side.


How can you tell if a multi-digit number is even or odd?
$\qquad$
$\qquad$

Sort the numbers below onto the table.


| Even | Odd |
| :---: | :---: |
| four tens and four 5 tens and 18 ones $=44 \quad$ ones $=68$ | $15+18=33$ 99 |
| two tens and four ones $=24$ $79-19=80$ | $63-10=53$ $80+5=85$ |
| 14 ones and $2 \text { tens }=34$ | eighty-one |
| $28+8=36$ <br> 18 ones and 1 $\text { ten }=28$ | 15 ones and 5 $60+17=77$ $\text { tens }=65$ |

Write three number sentences, that will total more than 50, that you could place in the even side.
Answers will vary, with a total that is even and greater than 50.


Write three number sentences, that will total less than 50 , that you could place in the odd side.
Answers will vary, with a total that is odd and less than 50.


How can you tell if a multi-digit number is even or odd?


A multi-digit number is even if the number in the ones place is even. It is odd if the number in the ones place is odd.


Malachi says that when he adds two odd numbers together, his total will be even.


Is he correct? Convince me.

What else can you find out?
Malachi is correct because two odd numbers will always make an even total.
Children can use manipulatives to show this.
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## Answers

Malachi says that when he adds two odd numbers together, his total will be even.


Is he correct?
Convince me.
What else can you find out?
Malachi is correct because two odd numbers will always make an even total.
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## Answers

Malachi says that when he adds two odd numbers together, his total will be even.


Is he correct?
Convince me.
What else can you find out?
Malachi is correct because two odd numbers will always make an even total.
Children can use manipulatives to show this.

Malachi says that when he adds an odd and even number together, his total will be even.


Is he correct?
Convince me.
What else can you find out?
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Malachi says that when he adds an odd and even number together, his total will be even.


## Answers

Malachi says that when he adds an odd and even number together, his total will be even.


Is he correct? Convince me.

What else can you find out?
Malachi is incorrect because an odd number and even number will always make an odd total.
Children can use manipulatives to show this.

## Answers

Malachi says that when he adds an odd and even number together, his total will be even.


Is he correct?
Convince me.

What else can you find out?
Malachi is incorrect because an odd number and even number will always make an odd total.
Children can use manipulatives to show this.
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Even \& Odd Numbers Reasoning \& Problem Solving 2

## Answers

Malachi says that when he adds an odd and even number together, his total will be even.


Is he correct?
Convince me.

What else can you find out?
Malachi is incorrect because an odd number and even number will always make an odd total.
Children can use manipulatives to show this.

Malachi says that when he adds three even numbers together, his total will be odd because three is an odd number.


Is he correct?
Convince me.
What else can you find out?
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Even \& Odd Numbers


Malachi says that when he adds three even numbers together, his total will be odd because three is an odd number.


Is he correct?
Convince me.
What else can you find out?

Malachi says that when he adds three even numbers together, his total will be odd because three is an odd number.


Convince me.

What else can you find out?

Malachi is incorrect because three even numbers will always make an even total. Children can use manipulatives to show this.

## Answers

Malachi says that when he adds three even numbers together, his total will be odd because three is an odd number.


What else can you find out?

Malachi is incorrect because three even numbers will always make an even total. Children can use manipulatives to show this.
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Even \& Odd Numbers Reasoning \& Problem Solving 2
Answers

Malachi says that when he adds three even numbers together, his total will be odd because three is an odd number.


What else can you find out?
Malachi is incorrect because three even numbers will always make an even total. Children can use manipulatives to show this.

Even \& Odd Numbers Reasoning \& Problem Solving 2

## Answers

Malachi says that when he adds three even numbers together, his total will be odd because three is an odd number.


Convince me.

What else can you find out?

Malachi is incorrect because three even numbers will always make an even total. Children can use manipulatives to show this.

