

We have included Intervention Anchor Charts for Multiplication and Division Divisibility Tests concepts.

Each Intervention Anchor Chart contains steps to allow the child to investigate independently. Children investigating an Intervention may be provided with the Intervention Anchor Chart as a guide to follow as they investigate independently.

Children investigating an Intervention may have their progress recorded in the Progress Sheet.

Divisibility Tests, Multiplicative Thinking [page 2 - 9](#)

Progress Sheet [page 10](#)

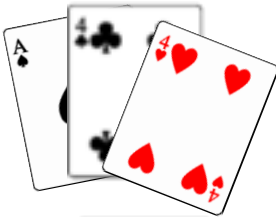
Identify the first 10 multiples of 2.

2 4 6 8 10 12 14 16 18 20

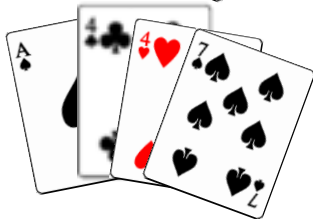
Identify that all even numbers are divisible by 2.

Identify that all odd numbers are not divisible by 2.

Test whether a number is divisible by 2, by identifying if it is odd or even.



144 is divisible by 2 because it is even.



1447 is not divisible by 2 because it is odd.

Reflection: How can we identify if a number is divisible by 2?

Identify the first 10 multiples of 4.

4 8 12 16 20 24 28 32 36 40

Identify that all numbers that are divisible by 4 are even.

Identify that every second even number is divisible by 4.

Identify that 10 is not divisible by 4.

Identify that 100 is divisible by 4. And that if 100 is divisible by 4, then every hundreds number is divisible by 4.

Identify that if every hundreds number is divisible by 4, then we only need to check if the tens and ones number is divisible by 4

Identify that if the tens digit is odd, the ones digit is either 2 or 6.

4 8 12 16 20 24 28 32 36 40

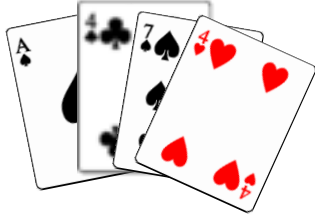
Identify that if the tens digit is even, the ones digit is either 0 or 4 or 8.

4 8 12 16 20 24 28 32 36 40

Test whether a number is divisible by 4, by identifying what the tens and ones numbers are.



144 is divisible by 4 because its tens digit is even and its ones digit is 0 or 4 or 8.



1474 is not divisible by 4 because its tens digit is odd and its ones digit is not 2 or 6.

Reflection: How can we identify if a number is divisible by 4?

Identify the first 20 multiples of 8.

**8 16 24 32 40 48 56 64 72 80 88 96
104 112 120 128 136 144 152 160**

Identify that all numbers that are divisible by 8 are even.

Identify that 10 is not divisible by 8.

Identify that 100 is not divisible by 8.

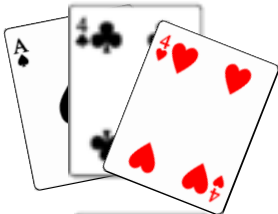
Identify that 1000 is divisible by 8. And that if 1000 is divisible by 8, then every thousands number is divisible by 8.

Identify that if every thousands number is divisible by 8, then we only need to check if the hundreds, tens and ones number is divisible by 8

Identify that if the hundreds number is even, the tens and ones digits are multiples of 8. **8 16 24 32 40 48 56 64 72 80 88 96**

Identify that if the hundreds number is odd, the tens and ones digits are multiples of 8 plus 4 or minus 4. **104 112 120 128 136 144 152 160**

Test whether a number is divisible by 8, by identifying what the hundreds, tens and ones numbers are.



144 is divisible by 8 because its hundreds number is odd and its tens and ones digits are a multiple of 8 plus 4 or minus 4.



1474 is not divisible by 8 because its hundreds number is even and its tens and ones digits are a not a multiple of 8.

Reflection: How can we identify if a number is divisible by 8?

Identify the first 10 multiples of 10.

10 20 30 40 50 60 70 80 90 100

Identify that all numbers that are divisible by 10 are even.

Identify that 10 is divisible by 10. And that if 10 is divisible by 10, then every tens number is divisible by 10.

Identify that if every ten number is divisible by 10, then we only need to check if the ones number is divisible by 10.

Identify that ones digit is always 0.

Test whether a number is divisible by 10, by identifying what the ones number is.



144 is not divisible by 10 because its ones number is not 0.



1470 is divisible by 10 because its ones number is 0.

Reflection: How can we identify if a number is divisible by 10?

Identify the first 10 multiples of 5.

5 10 15 20 25 30 35 40 45 50

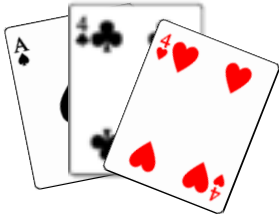
Identify that numbers that are divisible by 5 are both odd and even.

Identify that 10 is divisible by 5. And that if 10 is divisible by 5, then every tens number is divisible by 10.

Identify that if every ten number is divisible by 10, then we only need to check if the ones number is divisible by 10.

Identify that ones digit is always 0 or 5.

Test whether a number is divisible by 50, by identifying what the ones number is.



144 is not divisible by 5 because its ones number is not 0 or 5.



1470 is divisible by 5 because its ones number is 0.

Reflection: How can we identify if a number is divisible by 5?

Identify that 10 is not divisible by 3, but 9 is, and 9 is 1 less than 10.

Identify that 100 is not divisible by 3, but 99 is, and 99 is 1 less than 100.

Identify that 1000 is not divisible by 3, but 999 is, and 999 is 1 less than 1000.

Identify that 1 less than every place value is divisible by 3.

So:

- in 100, 99 is divisible by 3, and there is 1 remaining; in 200, 99 + 99 are divisible by 3, and there is 1 + 1 remaining
- in 10, 9 is divisible by 3, and there is 1 remaining; in 20, 9 + 9 are divisible by 3, and there is 1 + 1 remaining

So $258 = 200 + 50 + 8$

$200 = 99 + 99 + 2$ remaining

$50 = 9 + 9 + 9 + 9 + 9 + 5$ remaining

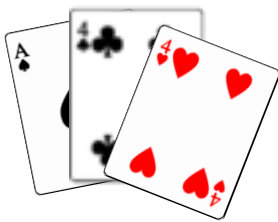
$8 = 8$ remaining

If the sum of the remainders is divisible by 3, then the number will be divisible by 3.

$2 + 5 + 8 = 15$ and because 15 is divisible by 3, 258 is divisible by 3.

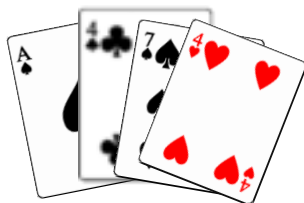
The remainders are the digits in the number because for every place value, there is 1 remainder.

Test whether a number is divisible by 3, by identifying if the sum of the digits is divisible by 3.



144 is divisible by 3 because in 100 there is 1 remaining, in 40 there are 4 remaining, and in 4 there are 4 remaining. $1 + 4 + 4 = 9$.

Because the sum of the remainders (9) is divisible by 3, 144 is divisible by 3.



1474 is not divisible by 3 because in 1000 there is 1 remaining, in 400 there are 4 remaining, in 70 there are 7 remaining, and in 4 there are 4 remaining. $1 + 4 + 7 + 4 = 16$.

Because the sum of the remainders (16) is not divisible by 3, 1474 is not divisible by 3.

Reflection: How can we identify if a number is divisible by 3?

Identify that 10 is not divisible by 9, but 9 is, and 9 is 1 less than 10.

Identify that 100 is not divisible by 9, but 99 is, and 99 is 1 less than 100.

Identify that 1000 is not divisible by 9, but 999 is, and 999 is 1 less than 1000.

Identify that 1 less than every place value is divisible by 9.

So:

- in 100, 99 is divisible by 9, and there is 1 remaining; in 200, 99 + 99 are divisible by 9, and there is 1 + 1 remaining
- in 10, 9 is divisible by 9, and there is 1 remaining; in 20, 9 + 9 are divisible by 9, and there is 1 + 1 remaining

So $258 = 200 + 50 + 8$

$$200 = 99 + 99 + \boxed{2} \text{ remaining}$$

$$50 = 9 + 9 + 9 + 9 + 9 + \boxed{5} \text{ remaining}$$

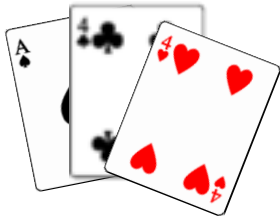
$$8 = \boxed{8} \text{ remaining}$$

If the sum of the remainders is divisible by 9, then the number will be divisible by 9.

$2 + 5 + 8 = 15$ and because 15 is not divisible by 9, 258 is not divisible by 9.

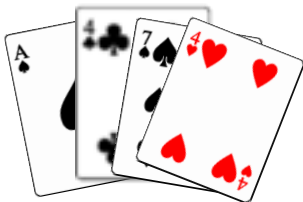
The remainders are the digits in the number because for every place value, there is 1 remainder.

Test whether a number is divisible by 9, by identifying if the sum of the digits is divisible by 9.



144 is divisible by 9 because in 100 there is 1 remaining, in 40 there are 4 remaining, and in 4 there are 4 remaining. $1 + 4 + 4 = 9$.

Because the sum of the remainders (9) is divisible by 9, 144 is divisible by 9.



1474 is not divisible by 9 because in 1000 there is 1 remaining, in 400 there are 4 remaining, in 70 there are 7 remaining, and in 4 there are 4 remaining. $1 + 4 + 7 + 4 = 16$.

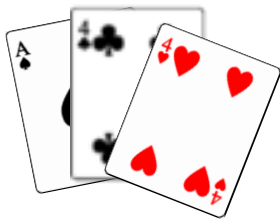
Because the sum of the remainders (16) is not divisible by 9, 1474 is not divisible by 9.

Reflection: How can we identify if a number is divisible by 9?

Identify that 6 is the product of 2 and 3.

So if a number is divisible by both 2 and 3, it will also be divisible by 6.

Test whether a number is divisible by 6, by identifying if the sum of the digits is divisible by 9.

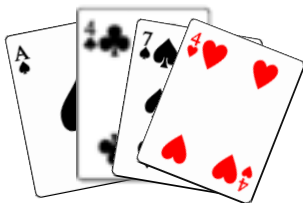


144 is divisible by 2 because 144 is even.

144 is divisible by 3 because in 100 there is 1 remaining, in 40 there are 4 remaining, and in 4 there are 4 remaining. $1 + 4 + 4 = 9$.

Because the sum of the remainders (9) is divisible by 3, 144 is divisible by 3.

So because 144 is divisible by both 2 and 3, 144 is also divisible by 6.



1474 is divisible by 2 because 1474 is even.

1474 is not divisible by 3 because in 1000 there is 1 remaining, in 400 there are 4 remaining, in 70 there are 7 remaining, and in 4 there are 4 remaining. $1 + 4 + 7 + 4 = 16$.

Because the sum of the remainders (16) is not divisible by 3, 1474 is not divisible by 3.

So because 1474 is not divisible by both 2 and 3, 1474 is also not divisible by 6.

Reflection: How can we identify if a number is divisible by 6?

Progress Sheet

Child's Details (Name and Intervention Concept):
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Each day, record the child's progress. This record, along with the child's recordings and explanations, can be used as: **ASSESSMENT OF LEARNING (SUMMATIVE)** – at any point in time the child's demonstrated level of understanding may be recorded for tracking and reporting purposes.

ASSESSMENT FOR LEARNING (FORMATIVE) – the teacher may use the child's demonstrated levels of understanding over time to plan, implement and evaluate further teaching and learning. Recording daily will allow the teacher to identify irregular learning progress, where the child demonstrates understanding in one lesson but not in subsequent lessons. This record can accompany an IEP, and a referral for further support for the child.

ASSESSMENT AS LEARNING (FORMATIVE) – the child may be shown this record to allow them to identify their learning progress. The teacher will use their teacher professional judgment to decide whether this is appropriate.

Date									
Number size Investigated									
Independent or with support?									

Date									
Number size Investigated									
Independent or with support?									

Date									
Number size Investigated									
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