

Divisibility Game

Purpose:

The purpose of this activity is to help your child use the divisibility rules.

Link to the Number Framework:

Number Facts, Stage 7

What you need:

Pack of cards. Ace = 1, remove the 10 and the picture cards.

Game boards. You can print these or make your own.

What to do:

Give each player a game board. Shuffle the pack of cards and place them in a face down pile between the players. The aim of the game is to cross off the numbers on the game board using the divisibility rules. Players take turns to take 3 cards and arrange the digits to form a 3 digit number that can be divided by one of the numbers on their game board. If they can do this then they cross off the number on the game board. For example, the cards 2, 4, 5 can be arranged as 524 which is divisible by 2, or as 245 which is divisible by 5. In each turn a player may only cross off one number, in the example the player could cross off either 2 or 5. The divisibility rules are on the game board page. The winner is the first player to cross off all the numbers on their game board.

What to expect your child to do:

Over time expect your child to become quicker at using the divisibility rules and work towards playing the game without the copy of the divisibility rules.

Variation:

Players can cross off more than one number in a turn. If two of the 3 cards are the same a player can choose to swap a card with one from the pack.

He Kupu Māori:

riwhiriwhi (~a)	shuffle
whakawehe (~a)	divide
tau mati-toru	3-digit number
porotiti	counter
taurua	even number
tapeke	total

He Whakawhitinga Kōrero:

- Riwhiriwhia ngā kāri. Whakaputua, ko ngā mata ki raro. (*Shuffle the cards. Pile them face down.*)
- Tangohia kia toru ngā kāri. (*Take 3 cards.*)
- Whakamahia ō kāri hei hanga i tētahi tau mati-toru kia taea te whakawehe ki tētahi o ngā tau i tō papa tākaro. (*Use your cards to make a 3-digit number that can be divided by a number on your game board.*)
- Uhia taua tau ki te porotiti. (*Cover that number with a counter.*)
- Ka taea te whakawehe ki te rua, nā te mea he taurua te mati whakamutunga. (*You can divide it by 2 because the last digit is an even number.*)
- Ka taea te whakawehe ki te toru, nā te mea ka taea te tapeke o ngā mati te whakawehe ki te toru. (*You can divide it by 3 because you can divide the sum of its digits by 3.*)

- Ka taea te whakawehe ki te rima, nā te mea he kore, he rima rānei te mati whakamutunga. (*You can divide it by 5 because the last digit is a 0 or a 5.*)
- Ka taea te whakawehe ki te iwa nā te mea ka taea te tapeke o ōna mati te whakawehe ki te iwa. (*You can divide it by 9 because you can divide the sum of it's digits by 9.*)
- Ka taea te whakawehe ki te tekau, nā te mea he kore te mati whakamutunga. (*You can divide it by 10 because the last digit is a zero.*)
- Kua uhia katoatia ngā tau i taku papa tākaro. Ko au te toa. (*All of the numbers on my game board are covered. I'm the winner.*)

Divisibility Game

Game boards

2	3	5	9	10
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2	3	5	9	10
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2	3	5	9	10
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2	3	5	9	10
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Hints – The divisibility rules. A number is...

divisible by 2 if the last digit is an even number.

divisible by 3 if the sum of the digits is divisible by 3.

divisible by 5 if the last digit is either 0 or 5.

divisible by 9 if the sum of the digits is divisible by 9.

divisible by 10 if the last digit is 0.