



## Common Factor Challenge

### Purpose:

You can help your child practice finding common factors of pairs of numbers.

This activity assumes that your child can identify factors of numbers (numbers that divide evenly into a number with no remainder).

### What you need:

- A deck of cards with the face cards and jokers removed (aces count as 1s and 10s count as 0s).
- Pen and paper.

### What to do:

Shuffle the cards and deal out two pairs of cards face up. These represent two 2-digit numbers

Ask your child to name the factors of each. Factors are numbers that divide evenly into a number with no remainder (eg. the factors of 6 are 1, 2, 3, and 6). Factors come in pairs that multiply together to give the number. Every number has at least 1 and itself as factors.

You may want to list the factors of each number on a piece of paper. If either of the numbers have only 1 and themselves as factors, then they are called prime numbers.

Ask your child to identify the common factors of the two numbers - if there are any.

Repeat the steps above with more random pairs of numbers. Encourage your child to quickly identify some common factors without listing all factors, for example:

- All pairs of numbers have 1 as a common factor
- If both numbers are even they have 2 as a common factor
- If both numbers end in either 0 or 5 then they have 5 as a common factor
- If both numbers end in 0 then they have 2 and 5 as common factors

### What to expect your child to do:

- Use and understand terms such as factors, prime numbers, multiples
- Be able to identify factors of numbers

### Variations:

This could be played as a game with a point given for each common factor found for a pair of numbers

### He Kupu Māori

two digit number	tau mati-rua
calculator	tātaitai
factor	tauwehe
divide	whakawehe (-a)
common factor	tauwehe pātahi
prime number	tau toitū

### He Whakawhitinga Kōrero:

- Riwhiriwhia ngā kāri. Whakatakotoria kia rua ngā takirua kāri, ko ngā mata ki runga, hei hanga i ētahi tau mati-rua e rua. (*Shuffle the cards. Place down two pairs of cards, face up, in order to make two two-digit numbers.*)
- E rua ngā tau. He tau mati-rua. (*We've got two numbers. They are two digit numbers.*)
- He aha ngā tauwehe o ia tau? He aha ngā tau ka whakawehe pū ki roto i tēnā tau? (*What are the factors of each number? What numbers divide exactly in to that number?*)
- He aha ngā tauwehe pātahi o ēnei tau e rua? He aha ngā tau ka whakawehe pū ki roto i ngā tau e rua nei? (*What are the common factors of these two numbers? What numbers divide exactly in to both of these numbers?*)
- He taurua ēnei tau, nō reira ko te 2 tētahi tauwehe pātahi. (*These are even numbers, so 2 is a common factor.*)
- Ko te 0 te mati whakamutunga o ēnei tau, nō reira, he tauwehe pātahi te 2, te 5 me te 10. Ka whakawehe pū te 2, te 5 me te 10 ki roto i ēnei tau. (*The last digit of these numbers is zero, so 2, 5 and 10 are common factors. 2, 5 and 10 can be divided exactly in to these numbers.*)