# In Your Prime

**ACTIVITY**

These cards show the first four prime numbers:

**2**    **3**    **5**    **7**

If you multiply the first two of these cards, you get a product of 6: 2 x 3 = 6.
Another product using two of the cards is 21: 3 x 7 = 21.

1.  a.  What other numbers are the products of any two of these cards?
    b.  What other products would be possible if a card could be used twice?
        (For example, 3 x 3 = 9.)

2.  What products from three cards can you make using each card one, two, or three times?
    (For example, 5 x 5 x 7 = 175.)

3.  Prime factors are prime numbers that are factors of a number.
    2 x 2 x 3 x 5 is a prime factorisation of 60.
    a.  Is it possible to make 60 in another way by multiplying prime numbers?
        (This does not mean putting 2 x 2 x 3 x 5 in a different order.)
    b.  Why or why not?

4.  Mei Ling and Hine are finding all the factors of 60.  They both have different strategies.

I start with 1 x 60, then 2 x 30, and work into the middle.

**Mei Ling**

I start with the prime factors of 60 and then see how many different ways I can group them to equal 60.

**Hine**

Investigate to see how Mei Ling's and Hine's strategies work.