What students should be able to do:

The students should be able to identify multiples and factors and demonstrate an understanding of the relationship between them. They also need to understand the difference between prime and composite numbers and be able to classify them.

Common mistakes students make:

Students confuse factors and multiples.
Many students think that all even numbers are composite and all odd numbers are prime numbers.
Students need to be encouraged to justify their answers by drawing diagrams or writing explanations.

Ideas for extension:

Use square tiles to make the rectangular arrays to show factors, primes and composites.
Use the sieve of Eratosthenes (hundred chart) to discover all the prime numbers from 1 to 100.
Relate factors and multiples by showing any number is both a factor and a multiple of itself.
Relate primes and composites by drawing Venn Diagrams.
Relate the sets of numbers by using a Carroll Diagram.
Draw a graph to show the factors of numbers. Draw a second graph that shows the number of prime numbers from 1 to 100 that end in 1, 2, 3, 5, 7 or 9. Then look for patterns and interpret graphs.
Assessment Notes:

In this assessment task, students will be asked to demonstrate their understanding of multiples, factors, primes and composites. They will use manipulatives to create models of multiples and factors and then draw representations (pictorial and symbolic) of these multiples and factors. Students then provide examples of both a prime and a composite number and explain how to distinguish between the two.

Students should have easy access to manipulatives and grid paper.

Students may show multiples and factors in a variety of ways:
- Tree diagram
- Rectangular area models
- 100-Chart patterns
- Number line
- Blocks
- Skip counting (including with a calculator)