MULTIPLES, FACTORS AND PRIMES

MTH 305-a
I have investigated strategies for identifying common multiples and common factors, explaining my ideas to others, and can apply my understanding to solve related problems.

MTH 305-b
I can apply my understanding of factors to investigate and identify when a number is prime.

Pupils should be able to:

- Know the meaning of the word multiple
- Find multiples of a given amount
- Understand the meaning of *factor.*
- Express a number as a product of factors

  eg   12 = 2 × 6 or 3 × 4 or 1 × 12
- Understand the meaning of *prime*
- List the primes up to 19 from memory.
- Express a number as a product of prime factors eg 12 = 2 × 2 × 3.
- Solve related problems using the above knowledge

PUPILS SHOULD COMPLETE THE FOLLOWING EXERCISE AND ASSESS THEIR PROGRESS BY TICKING ONE OF THE OPTIONS FOR EACH TOPIC IN THE TABLE BELOW

	DEVELOPING	CONSOLIDATING	SECURE
MULTIPLES (QUESTIONS 1 – 3)			
FACTORS (QUESTIONS 4 – 7)			
PRIMES (QUESTIONS 8 – 10)			
PROBLEM SOLVING (QUESTIONS 11 – 12)			

mymaths lessons: library/number/counting and place value/multiples
                library/number/counting and place value/factors and primes

1.   List the first 5 multiples of: a) 4   b) 5   c) 8   d) 13

2.   Which of the following numbers are multiples of both 4 and 6?

        5, 8 , 12 , 18 , 20 , 24 , 30 , 36

3.   What is the lowest common multiple of: a) 3 and 5   b) 3 and 6   c) 8 and 12

4.   Write a sentence using the following words to explain the definition of a
      factor.
                    DIVIDES   WHOLE NUMBER   REMAINDER

5.   List (in pairs) the factors of: a) 20   b) 48   c) 72   d) 17

6.   Which of the following numbers are factors of both 40 and 84?

                    1, 2, 3, 4, 5, 8, 10, 21

7.   What is the highest common factor of: a) 12 and 16   b) 24 and 60   c) 7 and 56

8.   Why is 51 not a prime number?

9.   Which of the following are prime?   16, 5, 27, 31, 9, 1, 2, 54, 121

10.   Express 54 as a product of prime numbers

11.   Boxes that are 12 inches tall are being stacked next to boxes that are 18
      inches tall. What is the shortest height at which the two stacks will be the
      same height?

12.   At a display booth at an amusement park, every visitor gets a gift bag. Some
      of the bags have items in them as shown in this table.

      How often will a bag contain all three items?   **Items in the Gift Bags**

Items	Bags
Hat	Every 2nd visitor
T-shirt	Every 7th visitor
Backpack	Every 10th visitor