Basic Mathematics and Numbers-vocabulary

Level: Key stage 3

Dimension: Number and Algebra
Module: Number and Number Systems
Unit: Directed Numbers and the Number Line

Student ability: Average

Content Objectives:

After completing the activity, students should have consolidated their knowledge of numbers and arithmetic.

Language Objectives:

After completing the activity, students should be able to

- understand, spell and pronounce the English terms related to numbers (*e.g.*, *natural/counting numbers, integers, prime number, zero, positive numbers, negative numbers, even numbers, odd numbers, fraction, denominator, and numerator*) and the English terms related to calculations (e.g., *plus/add, sum, minus/subtract, difference, times/multiply, product, divided by, quotient, dividend, divisor and remainder*);

- use these English terms to complete a fill-in-the-blank exercise for consolidating the understanding of the key concepts related to numbers (e.g., The numbers, -3, -2, 0, 1, 2, 4 and 501, are <u>integers</u> or <u>whole</u> numbers. The number 0.3 can be expressed as $\frac{3}{10}$, which is a <u>fraction</u>. The number 3 is the <u>numerator</u>, whereas 10 is the <u>denominator</u> in $\frac{3}{10}$); and

- follow English instructions on solving problems concerning this topic and work on related problems written in English.

Prerequisite knowledge:

Students should have learned about arithmetic and numbers in key stage 2 through the medium of Chinese.

Time: 1 lesson (40 minutes)

Procedure:

1.   The teacher should go through the vocabulary lists with the students before asking the students to work on the worksheet.

2.   The teacher should pronounce the vocabulary items clearly and slowly (for the first time) to help students to master the pronunciation and therefore remember them better.

3.   The teacher should then discuss the worksheet answers with the students.

Explanatory Notes for Teachers:

This extended learning activity covers the topic of numbers in the Form One Mathematics Curriculum and previous foundation knowledge of Arithmetic at key stage 2 level.

1.   The activity is divided into two sections, one on number and the other on calculation.

2.   This activity may help teachers to diagnose students' understanding of arithmetic and numbers.

3.   It is suggested that teachers should teach the vocabulary list, as students who come from different primary schools may not have learned the vocabulary before or may have forgotten what they have learned in primary schools.

Vocabulary List for this chapter:

Title: Basic Mathematics and Numbers

(i) Numbers:

Natural / counting numbers	自然數	1, 2, 3, 4, 5,…
Integers / whole numbers	整數	-2, -1, 0, 1, 2, 3, 4,…
Prime number	質數	2, 3, 5, 7, 11, 13,…
Zero	零	0
Positive numbers	正數	+1, +0.235, +3.6 the positive sign (+) can be omitted
Negative numbers	負數	-1, -2.35, -0.175
Even numbers	偶數	-2, -4, 0, 6, 8, …
Odd numbers	奇數	-1, -3, 5, 7, …
Fraction	分數	e.g. $\frac{1}{6}$, $\frac{3}{4}$, $\frac{9}{5}$
Denominator	分母	$\frac{1}{6}$ ⟵ denominator
Numerator	分子	$\frac{1}{6}$ ⟵ numerator

(ii) Calculation:

Plus / Add	加	3+5=8 (3 plus 5/add 3 to 5 is 8)	
Sum	和	8 is the sum of 3 and 5.	
Minus / subtract	減	8-3=5 (8 minus 3/subtracted 3 from 8 leaves 5)	
Difference	差	5 is the difference of 8 and 3.	
Times / Multiply	乘	4×5=20 (4 times 5/4 multiplied by 5 is 20)	
Product	積	20 is the product of 4 and 5.	
Divided by	除以	21÷5 = 4…1	4
Quotient	商	4 is the quotient	5)21
Dividend	被除數	21 is the dividend	20
Divisor	除數	5 is the divisor	1
Remainder	餘數	1 is the remainder	

Name: _____ Class: _____ (   )

A) Refer to the information in the picture and fill in the blanks using the terms in table (i) on Page 3. Each term can only be used once.

The numbers shown on the screen

-2, -1.3, -3, -0.46, 0, 0.3, 1, 2, 4, 5, 100, 501
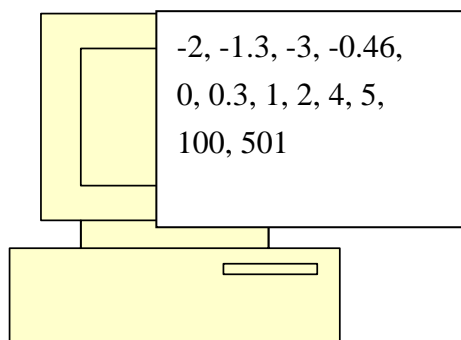
1. There are twelve numbers shown on the computer screen. If you pick the numbers, 1, 2, 4, 5, 100 and 501, we can call them _____ numbers or _____ numbers.

2. The numbers, -3, -2, 0, 1, 2, 4 and 501, are _____ or _____ numbers.

3. The numbers 2 and 5 are _____ numbers and _____ numbers.

4. The numbers, -2, 2, 0, 4 and 100 are _____ numbers.

5. The numbers, -3, 1, 5 and 501 are _____ numbers.

6. The numbers shown on the first row of the screen are _____ numbers.

7. The number 0.3 can be expressed as $\frac{3}{10}$, which is a _____.   The number 3 is the _____ and 10 is the _____ in $\frac{3}{10}$.

B)   Refer to the information on page 3 and complete the sentences below.

1.   16 is the _____ of 2 and 8.

2.   When we divide 17 by 5 (17÷5), we will get 3 as the _____ and 2 as the

      _____.

3.   In the above calculation 17 is the _____ and 5 is the

      _____.

4.   Two _____ four is six.

5.   Twelve _____ three is nine.

6.   If you _____ 2 to 6, you will get the _____ 8.

7.   In the calculation 6-5=1, 1 is the _____.

8.   You will get 2 if you _____ 2 from 4.

9.   4 _____ 6 is 24.

Suggested answers:

A)   1. natural, counting   2. integers, whole   3. prime, positive   4. even

      5. odd   6. negative   7. fraction, numerator, denominator

B)   1. product   2. quotient, remainder   3. dividend, divisor   4. plus

      5. minus   6. add, sum   7. difference   8. subtract   9. times