Sabaragamuwa Provincial Department of Education – Weekly School

Grade 10

Information & Communication Technology

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Competency 3   : Investigates the methods used to represent data in computer systems.

Competency Level 3.1: Uses the binary number system to represent data in computer systems.

Select the correct words from the list and fill in the blanks.

Binary, data, Octal, Abacus, Decimal, number system, number, Hexadecimal

Once the ………………. is fed into the computer, it is represented as a ………………………. that they can understand. The group of numbers that can be understood in this way is called a ………………………………….. The ……………………………………., the world's first calculator invented by the Chinese, also had this number system concept.

Although humans use various mathematical number systems, computers can only understand the ……………………….. number system.

It also uses the …………………………….. number system, which contains 10-digits , the …………………………….   number   system   which   contains   8-digits   and   the   16-digit ………………………………… number system to represent the data.

2. The computer represents data in two signal states, 0 and 1 (binary numbers). It is similar to the ON and OFF of electronic circuits.

A representation of the data (image) is given below. Study it and engage in data representation activities.

Picture   Bitmap

□ = 0

■ = 1

0	0	0	1	1	0	0	0
0	0	1	0	0	1	0	0
0	0	1	0	0	1	0	0
0	1	0	0	0	0	1	0
0	1	1	1	1	1	1	0
0	1	0	0	0	0	1	0
1	0	0	0	0	0	0	1
1	0	0	0	0	0	0	1