



## Provincial Department of Education - Sabaragamuwa - Weekly School

Subject - Information and Communication Technology

Grade - 8

Week - 22

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### Number systems

#### 1) Review exercises

- Observe carefully following summary and Do the Activity 1.1,1.2,1.3,1.4 and 1,5 in your workbook.

#### Summary

Number system	Binary	Decimal
Symbols	0, 1	0, 1, 2, 3, 4, 5, 6, 7, 8, 9
Base	2	10
Number representation example	$111010_2$	$367_{10}$
Conversion examples	<p>binary to decimal</p> <div><div>11011001</div><div><div><math>1 \times 2^0 = 1 \times 1 = 1</math></div><div><math>0 \times 2^1 = 0 \times 2 = 0</math></div><div><math>0 \times 2^2 = 0 \times 4 = 0</math></div><div><math>1 \times 2^3 = 1 \times 8 = 8</math></div><div><math>1 \times 2^4 = 1 \times 16 = 16</math></div><div><math>0 \times 2^5 = 0 \times 32 = 0</math></div><div><math>1 \times 2^6 = 1 \times 64 = 64</math></div><div><math>1 \times 2^7 = 1 \times 128 = 128</math></div></div><div><math>1 + 8 + 16 + 64 + 128 = 217</math></div></div>	<p>decimal to binary</p> <div><div>2   156</div><div>2   78 - 0</div><div>2   39 - 0</div><div>2   19 - 1</div><div>2   9 - 1</div><div>2   4 - 1</div><div>2   2 - 0</div><div>2   1 - 0</div><div>0 - 1</div></div> <div><math>156_{10} = 10011100_2</math></div>