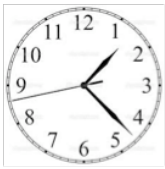
Binary Format

Worksheet 1

1 Figure 1 shows some common devices. In the spaces provided, state whether they are analogue or digital devices.

Figure 1



2 Explain why data needs to be converted into a binary format in order to be processed by computers.

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3 (a) Convert the following decimal numbers into binary ones.

(i) 10110101 [ ]

(ii 00101011 [ ]

(iii) 11001001 [ ]

(b) Convert the following digital numbers into binary ones.

(i) 213 [ ]

(ii) 69 [ ]

(iii) 130 [ ]

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4 **When a programmer was creating a program in order to convert decimal numbers into binary ones, similar to the one in Activity 2, they firstly wrote some pseudocode to show the logical stages of the algorithm.**

Part of the pseudocode is shown below. Complete it by filling in the missing words in the spaces below.

Program ConvertDecimalToBinary

Declare variables

var numberEntered
var bitEight = 0
bitSeven = 0
bitSix = 0
etc to…
bitOne = 0

Test number entered

If (number entered [ ] 255) then
Alert (Number must not be greater than 255)
Exit
End if

Calculate bit eight

If (number entered [ ] 128 then
bitEight = 1
numberEntered = numberEntered - [ ]
end if

Calculate bit seven

If(numberEntered >= [ ] then
bitSeven = [ ]
numberEntered = [ ]
end if