LESSON NOTES 16
Year/Level: 11   Subjects: Computer Studies

Strand:	CE 3 Information management
Sub-strand:	CE 11.3.1 Storing, managing and retrieving information
Content Learning Outcome:	Data and information, data organization, Role of information processing in DecisionMaking

Lesson Notes
Data and Information
Data
* Is raw measurements and observations in the form of text, numbers, symbols, images, and sounds which on their own have no meaning.
* Data may be made up of numbers called numeric data, text called alpha data or a combination of both numeric and alpha data called alpha- numeric data.
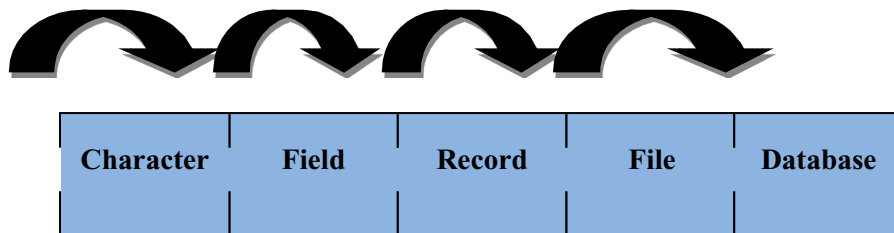
Information
* Is data organized and presented with context and meaning which can be evaluated, that is, statements can be made about it, either true or false and coherent or incoherent.

Data Organization
To be processed by the computer data is typically classified into groups or categories

Character	Field	Record	File	Database

Character is a single letter, number or special character such as punctuation marks, the $ sign etc. These are the smallest units of data representation.

A *Field* (column) contains a set of logically related characters. For example on a form, a person"s first name is a field, the last name is another field, street name is another field etc.

Record (row) is a collection of logically related fields represented together. All the contents of a form concerning one particular itinerary can be called a record.

File (table) is a collection of logically related records. All forms (which are records) are kept in one location that is a file.

Database integrates data. It is defined as the collection of integrated data. By integrated we mean the data consists of logically related files (linked tables).

Difference between Data and Information

Characteristics of data and information	
1) Data are the raw materials (Input) of information.	1) Information is the resultant (Output) version of some data.
2) Data is a distinct piece of information.	2) Information always be processed or organized.
3) Data is disorganized or unprocessed.	3) Information provides context which gives meaning to data

Role of information processing in Decision Making

Data processing is the process of manipulating data in one or more of the following six procedures:

Collecting data
* Data may be collected from a number of sources.
* The most common form of data collection is data entry from source documents.
* For example, collecting test marks for Form six students.
* These marks are written on a sheet of paper and then can be entered into a database or spreadsheet for manipulation

Organizing data
* Data must be arranged into relevant categories so that the relationships between various facts can be seen

Combining Data
* This involves the combination of similar data to reduce the number of data items to be processed.

Sorting Data
* This involves the arrangement of data in the order that is needed e.g. alphabetical, ascending/descending, chronological (SEQUENCIAL) etc.

Manipulating Data
* This involves performing calculations on the data e.g. finding the average of a set of numbers, calculating the percentage of a quantity etc.

Summarizing
* Data is summarized based on the contents of the relevant categories as shown in the tables below.

Traditionally data is processed in 2 ways:

Batch Processing
Data is collected over several hours, days or even weeks (period of time). It is then processed all at once as a batch. Example a bank credit card account which is updated monthly or weekly or a passbook savings account which is updated at the end of the day.

Real Time Processing
Occurs when data is processed at the same time the transaction occurs. For example, ATMs and online bill payment systems.

Questions

1) Difference between data and information?

2) Difference between batch processing and real time processing?