

# Knowledge Organiser

Unit 4 – Databases

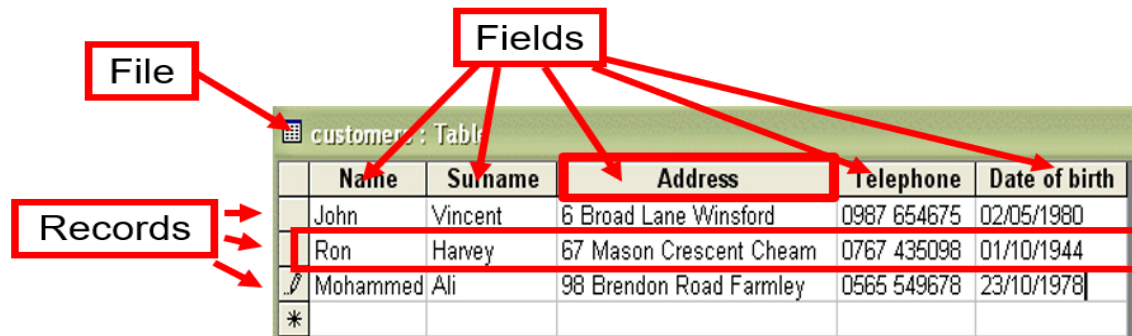
# Unit 4 – Databases

## Summary

A database is a way of storing information in an organised, logical way.

You can find information easily by **searching** and put information in order by **sorting**.

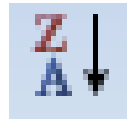
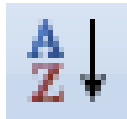
A **file** is a collection of **records**. A **record** is made up of categories called **fields**.



**Record** – All the information about a person or thing. These are stored in a **file**.

**Field** – One piece of information about a person or thing. The fields here are Name, Surname, Address, Telephone and Date of birth.

**Sorting** is a really simple way to organise your data. It can sort the data by any field. It can sort numerically or alphabetically.



## Datatypes

Data	Data Type
John Smith	Text
684552	Number (Integer) – A whole number.
Yes / No	Boolean – One of two options... Yes / No or True / False
1.64	Number (Decimals)
17/08/2020	Date / Time
07754865841	Text – A “number” cannot begin with 0.
£ \$	Currency
CH44 4CH	Text – Text can consist of both letters and numbers.

**Searching** means finding only some of the records of a certain type

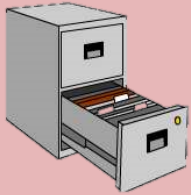
e.g. all those in the class with blue eyes.

A search is also known as a QUERY. ○ ○ ○

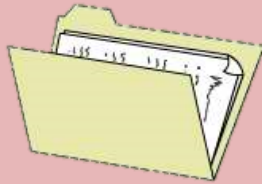
# Unit 4 – Databases

## Paper based Database Examples

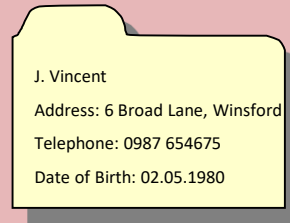
Filing cabinet



Files



Record



### ADVANTAGES

Cheap to set up

Don't need electricity,  
so will work if you have  
a power-cut

Don't need a computer  
– which is expensive

### DISADVANTAGES

Can be lost

Can't easily make back-  
up copies

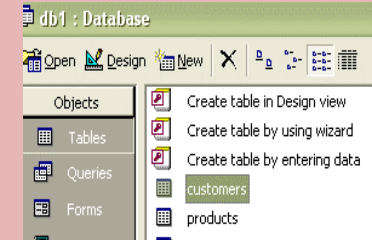
Hard to update or  
make changes

## Electronic Database Examples

Database



Files



Record

customers : Table		
Name	Surname	Address
John	Vincent	6 Broad Lane Winsford

### ADVANTAGES

Can easily make back-  
up copies

Can easily make  
changes

Can easily sort data  
into order e.g.  
alphabetic

### DISADVANTAGES

Can be expensive to set  
up if you have to get a  
professional to make it

If there is a power-cut,  
you can't use it

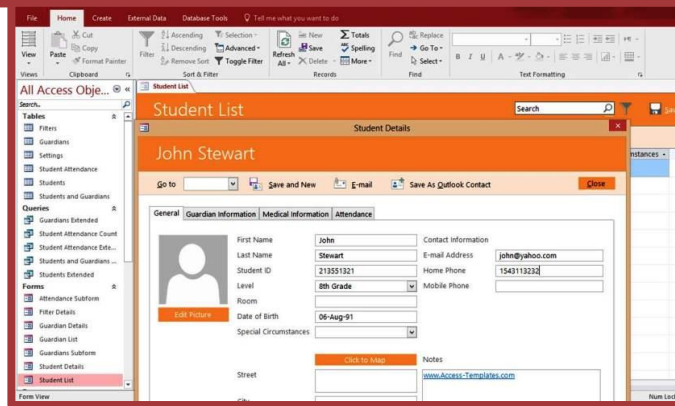
You need to have a  
computer

# Unit 4 – Databases

## Graphical User Interface

A graphical user interface (GUI) is the most common type of user interface in use today.

A GUI (pronounced gooey) is also known as a WIMP interface because it makes use of:



**Windows** – an area on the screen where the applications run

**Icons** - a picture or symbol which is used to represent software application

**Menus** - a list of options from which the user can choose what they require

**Pointers** - a symbol such as an arrow which moves around the screen as you move your mouse. Helps you to select objects.

Interfaces are created for databases to make them easier for customers to use and fill in the data.

## Mail Merge

A mail merge is when you utilise data from a database to populate details on a mass scale. An example would be if school wanted to send a letter out to every pupil's parents. They would create a template letter and use the names and addresses from a database to automatically fill in the personal details and print them hassle free.

## Reports

A report is a way to 'display' the contents of your database.

Reports can be made from different 'sets of data' including:

- The whole table .
- Results of your query searches.

The report can be modified (like a form) to change how it looks. For example:

- Text style and size
- Colours, Layouts and Images

