Year 8 Geography: GIS

Key terms

Anomaly	something that deviates from what is standard, normal, or expected
Coordinate	A point on a map
Data Layers	Platforms of information stacked on top of one another on a base of the real world.
GIS	A geographic information system (GIS) is a system designed to capture, store, manipulate, analyse, manage, and present all types of geographical data.
Intelligent data	Data which can be layered on maps
Matrix	A grid of squares
Exclusion zone	An area in which people are not allowed to enter
Vector Map	A map created using lines, areas and coordinates
Unintelligent data	Data which cannot be layered on maps
Trend	The general pattern of a map or data
Raster	A map produced using a matrix and coloured pixels

Describing a Pattern from a G.I.S

WHERE IS THE MOST DANGEROUS PLACE TO LIVE ?

1	West Yorkshire - 88.6	22	Warwickshire - 57.7
2	Cleveland - 82.4	23	Cambridgeshire - 57.5
3	Greater Manchester - 78.4	24	Leicestershire - 56.9
4	London - 75.6	25	West Mercia - 56
5	South Yorkshire - 73.8	26	North Wales - 52.8
6	Humberside - 72.9	27	Thames Valley - 52.3
7	Northumbria - 70.1	28	Suffolk - 52.2
8	Northamptonshire - 67.9	29	Dorset - 51.9
9	Avon and Somerset - 66.5	30	Hertfordshire - 51.9
10	Merseyside - 66.1	31	Sussex - 51.6
11	Lancashire - 66	32	Wiltshire - 50.8
12	West Midlands - 64.3	33	Norfolk - 47.5
13	Kent - 64.3	34	Cheshire - 47.4
14	Hampshire - 63.4	35	Derbyshire - 46.2
15	South Wales - 62.9	36	Cumbria - 45.4
16	Durham - 62	37	Lincolnshire - 44.8
17	Staffordshire - 60.7	38	Gloucestershire - 44.7
18	Nottinghamshire - 60.4	39	Surrey - 44
19	Gwent - 59.9	40	Devon and Cornwall - 41.7
20	Bedfordshire - 58.5	41	North Yorkshire - 40.7
21	Essex - 58.1	42	Dyfed-Powys - 36.6

KEY
- 90-80
- 80-70
- 70-60
- 60-50
- 50-40
- 40-30
per 1,000 people

To **describe** a pattern from a map you need to remember **T.E.A.**
- **T: Trend**
- **E: Example**
- **A: Anomaly** (something that doesn't fit the pattern)

- **T:** Describe generally what the pattern shows. Which areas of the country generally are at the most risk of crime . On the map above these areas are generally in the North of England. The south is less dangerous.
- **E:** Give an example with data to illustrate your point, e.g. 'West Yorkshire has the highest crime rate of 88.6 crimes per thousand people & this is in the north'.
- **A:** Find something that doesn't fit the pattern – can you see and low crime rates in the north of high crime rates in the south? e.g. an anomaly to this pattern is London which has 75.6 crimes per thousand people and is in the south of the country.

Use TEA to describe the pattern of crime in Hartlepool

The figure indicates number of recorded crimes in March 2017

Who Would Use a GIS?

- How would someone planning a town of city use the information below?
- What would happen if they didn't have all of the data in the model – such as rivers?
- Why do you think the rock type might be important?
- How could this data help:
  - The police?
  - A taxi driver?
  - A factory owner?
  - A water company?
  - A house-building developer?
  - The Environmental Agency

Data Layers

Platforms of information **stacked** on top of one another on a base of the real world.
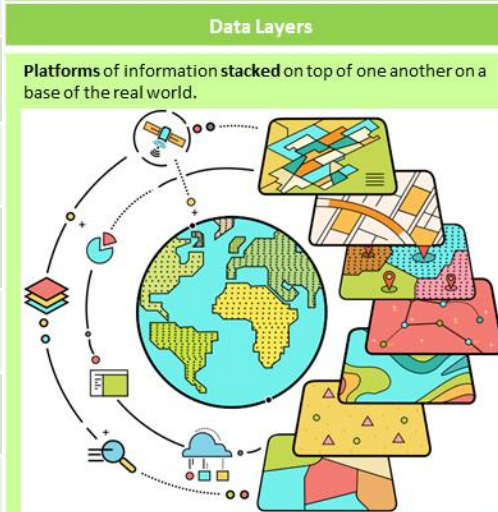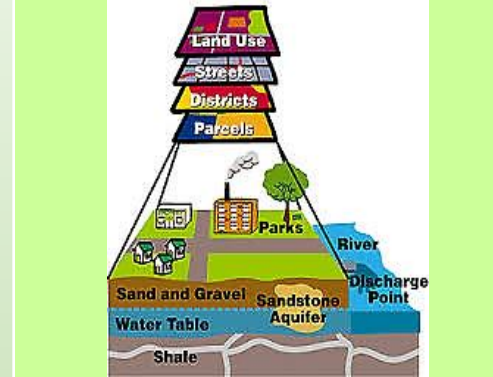
What is GIS?

- GIS means **Geographical Information System** and refers to way in which data can be platted on a map.
- A Geographical Information System (GIS) is designed to **capture, analyse** and **present** all types of geographical data.
- In the simplest terms GIS is the merging of maps, numbers, data and technology.
- A **base layer** of the shape of the land can be **overlaid** by other **information** such as rivers, buildings, pipelines, vegetation and other information. This can then be used by geographers to understand events such as flooding, plan towns and cities and help companies locate where they will make the most profit.
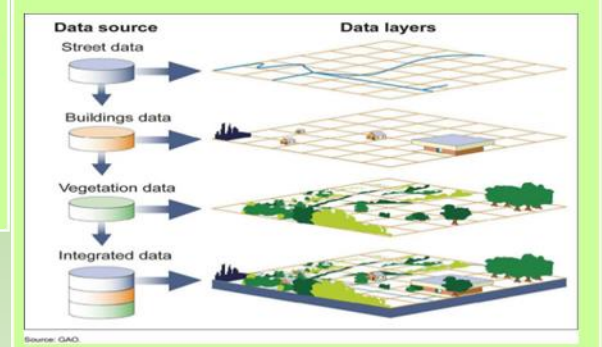
The Geography of Disease: The first ever GIS!

- The first ever GIS was created and used in London in 1845.
- Cholera was killing hundreds of people in the city.
- The first death was at 40 Broad Street in London and within 3 days 127 people died.
- By 2 weeks 600 people were dead.
- A doctor called **John Snow** began investigating what was causing the disease.
- Dr Snow **plotted the deaths on a map** and the location of **water pumps** on a map.
- He noticed that deaths were **clustered** around a water pump in **Broad Street.**
- The handle was removed from the pump and the outbreak stopped.