GIS in Context

"GIS is an acronym for Geographical Information System". A GIS lets us visualise, question ,analyse and interpret data to understand the spatial relationship,patterns and trends between entities described by geographical location.

Why is Geographic Information Special?

- Geographic information is multidimensional, because 2 coordinates must be specified to define a location, whether they by x and y or latitude and longitude.
- It is voluminous, since a geographic database can easily reach a terabyte in size.
- It may be represented at different levels of spatial resolution.
- It may be represented in different ways inside a computer, and how this is done can strongly influence the ease of analysis and the end results.
- It must often be projected onto a flat surface;
- It requires many special methods for its analysis.
- It can be time-consuming to analyse.
- Although much geographic information is static, the process of updating is complex and expensive;
- Display of geographic information in the form of a map requires the retrieval of large amounts of data

You try:

Goal: *To learn the basics of GIS in the classroom and understand the different data types.*

In groups of four each answer the questions that appear on the value box

Check your results:

Once you have finished check your answers against your peers and give reason why you think GIS can be used at that place in the university.

Name	Value
Value	Characteristics of GIS
GIS Composition	What makes up a GIS
Use Cases	4 places where GIS can be used at the local university
Define	GIS in your own words

More about

Geographical information system allows us describe a position relative to the earth surface. The main component of a GIS are coordinates which allow us to defined objects in space. Each feature has a geographic component which is linked to attributes which describes the characteristics of the feature in detail.

Check your knowledge:

1. **What does location referrer to in context with GIS:**

a) Something that will interrupt human activity like a pothole in a road.
b) A graphical notation of a place in space with specific reference to the coordinates.
c) A GIS dataset representing a natural phenomenon.

2. **Which of the following problems can be best solved using a GIS:**

a) Path followed by students from their place of resident to a lecture room.
b) A church gathering that is done in a closed building.
c) Student sitting for an exam.

3. **Can GIS only be done on a computer:**

- True
- False

Answers: 1b, 2b, 3f

Further reading:

https://docs.qgis.org/2.14/en/docs/gentle_gis_introduction/
http://aqua.wisc.edu/CPR/IntroductiontoGeographicInformationSystemsGIS/tabid/78/Default.aspx