# We as humans, love to understand about the world around us, nature, deserts, the universe, etc.

#### This is called

### **EARTH SCIENCE**

It assumes that natural events or phenomena can be explained through careful observation and explanation.

and it has many branches

#### **OCEANOGRAPHY**

- It discusses the ocean around our earth that covers
  71% of our planet
- The oceanographers use big ships with special instruments to study the sea
- They use soundwaves to find stuff in the ocean





#### Meteorology

- It discusses the earth's atmosphere
- Scientists use radars and satellites to predict the weather, it also helps with studying the climate and fixing problems like global warming
- Meteorologists work on weather observation to measure factors like wind and temperature
- That will help them make weather and climate maps





#### **ASTRONOMY**

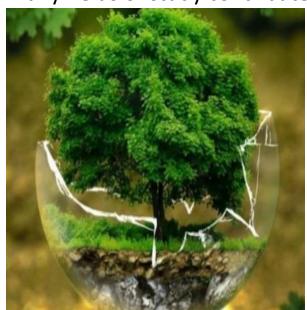
- It discusses space
- We study stuff like the sun, planets, etc. using special telescopes and other instruments
- Recovers and space probers and telescopes like the Hubble telescope added new info
- Ancient Babylonians charted the positions of planets 4000 years ago





#### **ENVIRONMENTAL SCIENCE**

- It discusses nature and the natural resources and how to use it efficiently
- It tries to deal with problems like pollution
- Many fields of study contribute to it





## **GEOLOGY**

- It discusses the origin, history, processes, and structure of the solid earth aka rocky land
- It explores the crust of the earth lookin for resources
- It studies factors like earthquakes and volcanoes
- It studies fossils and the earth from the past





#### Why do we study earth science?

- 1. It helps us to predict disasters by observing the natural forces
- 2. The origin of the universe and our role in it
- 3. Evolution of life
- 4. Finding good resources



#### **Branches of geology**

1-physical geology

 Deals with the nature and properties of materials that make up the earth, and it studies the processes that formed the planet



#### 2-Hydrology

 It deals with water and its atmosphere, it's conservation/distribution, especially at the sea-bed surface level

#### 3-Historical geology

 It deals with the record/timeline of earth's development in both physical and biologal manner

#### 4-Mineralogy

 It deals with minerals on the chemical/physical scale

#### 5-petrology

 It deals with rocks and their composition, origin, structure and classification

#### 6-petrography

 It deals with the lab analysis and the MICROSCOPIC investigation of rocvks

#### 7-Plaeontology

• It deals with fossils and remains



#### 8-structural geology

 It deals with the deformation on rocks and their distrubtion across a 3D space

#### 9-stratigaphy

 It deals eith the composition, relative positions, arrangement, succession of rocks to determine their history

#### 10-gemorphology

 It deals with the land formation, configuration, development of topographical features, and the evolution of earth's surface, and the factors dealing with it



# HOW GEOLOGY HELPS IN MOST OF OUR LIVES

- it helps us find resources like metals, oils, etc
- it helps us predict natural disasters and how to be safe
  - it helps us building structures safely and how to set foundation
  - it helps with studying the history of the planet using rock aging and fossils
  - geology helps us to know what our earth needs and with that we can protect it and the environment

