

## Course N-02

## 2. Etymology علم أصل الكلمات

**2.1. Definition:** Etymology is the study of the origin of words and the way in which their meanings have changed throughout history.

### **2.2. Forming Concepts and Strengthening Vocabulary in Earth Sciences through Etymology (تكوين المفاهيم وتعزيز المفردات في علم الأرض من خلال أصل الكلمة)**

Many technical terms used in the **Earth sciences** are derived from foreign languages such as **Greek** and **Latin**. However, knowledge of the **root** words from which these technical terms are formed to quickly understand new terms that may be encountered, a genetic treatment of the Earth science vocabulary early on is expected to help the student develop a keen aptitude and an enduring interest in the subject.

Earth science” can be considered a layman’s term for “geoscience”, various branches and sub-branches of study and also phenomena, e.g., geography, geology, geophysics, geochemistry, geomagnetism, geomorphology, geochronometry, geodesy, geoid, geostrophic, etc.

These terms contain additional **affixes** of Greek origin

e.g., “graphy” (graphein to write)

“logy” (logos discussion, study),

“morpho” (morphe shape),

“chrono” (chronos time)

### **2.3. Geology**

#### **1.3.1. Names**

Rock and mineral names present a substantive topic requiring an extended study in and of themselves, and are not presented in this paper.

As an example, the element **iron** is **ferrum** in **Latin** and **sideros** in **Greek**, resulting in the mineral siderite (iron carbonate). The latter root word is some times misleading as sideris, the Latin root means star (cf., siderial). Haematite (Gr. haima blood), the principal ore of iron gets its name from its color.

#### **1.3.2. Cave Deposits**

e.g., stalagmites (Gr. stalagmos a dropping), Stalactites (Gr. stalaktos a dropping) are so called because they are formed from the top out of the falling water drops.

#### **1.3.3. Geologic age terms**

divisions of geological ages.

**Palaeozoic** (Gr. palaeo ancient); zoe life),

**Mesozoic** (Gr. mesos middle),

**Cenozoic**, or Cainozoic or Kainozoic (Gr. Kainos new),

### 1.3.4. Common affixes

#### 1.3.4.1. Lith/lite

The affix **lith**, or its variant **lite** occurs extensively in geological terms. **Lithos** is stone in Greek. **Lith** and **lite** occur as suffixes to names of several varieties of rock formations according to their area of genesis, mechanism of formation or shape and composition.

#### 1.3.4.2. Morphe

**Morphe** is shape in Greek; morphology is the study of external appearance (i.e., Gr. morphe shape eg. Amorphous

#### 1.3.4.3. Meta

(Gr. meta after) refers to a change, in geology referring to rock shape and composition. e.g. (meta)morphism

#### 1.3.4.4. Clase

Klasis is breaking in Greek; its derivatives **clase**, **clasis**, **clast** and **clastic** are common affixes of which several terms are formed. **Clasts** (also **klasts**) are produced by physical breakdown of a larger (sedimentary) rock mass by different causative agents.

*Eg. Root Terms*

Gr. *Klasis* breaking                      plagioclase

#### 1.3.4.5. Oro

In Greek, **oroes** is mountain, giving rise to terms such as **orogeny**, **synorogenic** (Gr. syn together, eg. **Syncline**)

#### 1.3.4.6. Cline

In geology, examples of terms based on this affix (Gr. **klinein** to lean) are; **syncline** (Gr. syn together), **geosyncline**, **orocline** and **orogeosyncline**. Changing the prefix, we get more terms like **aclinal**, **anaclinal** (Gr. ana up, anew), **pericline**, **diacline** (Gr. dia through, across), **anticline** (Gr. anti against),

#### 1.3.4.7. Gen

**Gennaine**, in Greek is “to produce”. This affix is adapted for use in various forms as **gene**, **genesis**, **genetic/genic**, **genous** and **geny**.  
**Hydrogen** (Gr. **hydros** water) produces water,  
**Oxygen** (Gr. **oxys** sharp);

### 2.4. Conclusion

Classical technical terms in Earth sciences derive from about three hundred Greek, followed by Latin and German word roots. More terms continue to be derived as newer concepts

develop. Frequently used affixes include: iso, lith (or lite), gen, geo, cline, morphic, hydro, ortho, para, thermo, clase, syn, chrono, strato, pseudo, thermo etc. The knowledge of etymology of technical terms can possibly remove the often intimidating appearance of technical terms and help students to better understand the concepts represented. The work may also catalyze exercises which take stock of the terms with a view towards examining the relevance of some old confusing terms, and in some cases to suggest new appropriate terms that can better explain current knowledge.

Sarma, Nittala. (2006). Forming Concepts and Strengthening Vocabulary in Earth Sciences through Etymology.