

# Vocabulary Lesson in Academic and Scientific English

## Lesson I

**Exercise I: Repeat the words below after the teacher. Stressed syllables are underlined. Words which differ in stress from the verb are preceded by \*.**

VERB	NOUN	ADJECTIVE	ADVERB
<u>theor</u> ize	<u>theor</u> y	* <u>theor</u> etical	* <u>theor</u> etically
<u>anal</u> ogize	<u>anal</u> ogy	<u>anal</u> ogous	~
<u>stand</u> ardize	<u>stand</u> ard	<u>stand</u> ard	<u>stand</u> ardly
<u>optim</u> ize	<u>optim</u> um	<u>optim</u> um (or) <u>optim</u> al	<u>optim</u> ally
<u>char</u> acterize	* <u>char</u> acteristic	* <u>char</u> acteristic	* <u>char</u> acteristically

**Exercise II: First LISTEN to the word and its definition. Next, READ sentence “a”. Then, in your groups, complete sentences “b” and “c” by writing in the correct word.**

- theorize:** to put forward a set of concepts which account for observed facts or phenomena.
  - Newton theorized that gravity caused the apple to fall on his head.
  - The \_\_\_\_\_ of relativity was developed by Albert Einstein in the early twentieth century.
  - The professor approached the problem in a \_\_\_\_\_ way rather than in an empirical (experimental) way.
- analogize:** to explain something by showing its correspondence or similarity to something else.
  - The process of solving one problem by analogizing from another has often yielded valuable results.
  - The action of the heart is often explained by drawing an \_\_\_\_\_ between the heart and a pump.
  - The flow of current in a wire is \_\_\_\_\_ to the flow of water in a pipe.
- standardize:** to make something conform to a pre-determined size, value, etc. To regulate.
  - In order to standardize the length of the yard in England, King Henry ordered in 1120 that it be the exact length of his arm.
  - Measurement \_\_\_\_\_ are now more precise due to sophisticated instrumentation.
  - A \_\_\_\_\_ method of determining the weight of an object is the use of a balance.
- optimize:** to make something the best or most suitable.
  - In order to optimize growing conditions, temperature and light were rigorously controlled.
  - The \_\_\_\_\_ temperature for growing the bacteria is 37°C.
  - The \_\_\_\_\_ design for the system was the one which required minimum energy.

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5. **characterize:** to describe the peculiar or distinguishing quality or property of something.
- In recent years, much research has been characterized by the use of computer technology.
  - A \_\_\_\_\_ property of the soil in this area is its high clay content.
  - Iron ore \_\_\_\_\_ has a red color.

**Exercise III: Now test your knowledge of the words you practiced in Exercises I and II. In your groups, write answers to the questions below, substituting one of the words from Exercise I for the underlined word or words.**

- Is there a commonly used method for calculating the speed of sound?  
**Yes, there**
- Is a low melting point one of the distinguishing properties of water?  
**Yes, it**
- According to theory, are perpetual motion machines possible?  
**No,**
- Were high temperatures and bright light the best conditions for enzyme growth?  
**No, they**
- Can one phenomenon be considered similar to another if they have certain features in common?  
**Yes, one**

**Exercise IV: Irregular plurals.**

1. analysis 2. hypothesis 3. thesis 4. phenomenon 5. criterion 6. datum

**Exercise V: Certain nouns have corresponding verb forms which have the same spelling and pronunciation.**

- benefit:** to be useful or profitable for. During the last hundred years, many medicines have been developed which benefit mankind.
- function:** to work, to act, to have a purpose, to serve. Shivering functions to maintain body temperature.
- report:** to tell what has been learned by observation or investigation. The scientist reported his new discovery at the annual meeting.
- research:** to make a systematic investigation into a subject in order to discover facts or principles. They researched the problem carefully before arriving at a conclusion.
- result (in) [noun: result (of)]:** to have as the outcome of an action; to end (in). The prolonged drought (lack of rain) resulted in severe crop failure.
- yield:** to produce, often by a natural process. (e.g., agriculture). Middle Eastern oil wells yield large quantities of crude oil.

**Replace the underlined word or words in the sentences below with the noun form of the verbs you just practiced; benefit, function, report, research, result, or yield.**

- Human population growth is mainly the outcome of increases in food production.
- One purpose of the skin is to control body heat.
- Many species of insects live with ants and enjoy the advantages of the parasitic relationship.
- She did her investigation in the field of plant physiology.
- They submitted the account of their findings to the national publication.
- The crop production of this farm increased last year.