

Lesson One: Engineering

Passage

Listen to the following words, focusing on meaning and the use of the words in **bold**.

The **objective** of our current **task** is to measure the **precise grade** and strength of the materials we are using. As **structural engineers**, we use our training to **evaluate** the **integrity** of proposed structures such as buildings or bridges. We **ensure** that when a bridge is built, it is **reinforced** enough that it can withstand **sufficient** weight and not **collapse** when a heavy **vehicle** passes over it. We also make sure the **construction** of these structures follows the correct **protocol** and that the **maintenance** is **constant** and **uniform** so that each structure can pass **inspection**.

Stop the audio now and complete Exercises 1 and 2.

Exercise 1 — Identifying Parts of Speech

Identify the parts of speech (*noun, verb, adjective*) of the words in **bold** as used in the above paragraph. The first item is done for you.

- | | |
|-------------------------------|-----------------------|
| 1. objective _____ noun _____ | 7. ensure _____ |
| 2. precise _____ | 8. collapse _____ |
| 3. grade _____ | 9. construction _____ |
| 4. structural _____ | 10. constant _____ |
| 5. engineers _____ | 11. uniform _____ |
| 6. integrity _____ | 12. inspection _____ |

Note the following difference:

If you **ensure** that something is correct or that it happens, you check it and fix any problems.

If you **insure** something, you pay money so that if something bad happens to it, you will receive money to pay for your expenses.

Fill in the blanks with one of the above words.

We _____ our homes against damage caused by fires.

Please _____ that your name is on your paper.

Exercise 2 – Writing Sentences

Pick three of the following five words and write a sentence for each that demonstrates the meaning of the word. If a word has multiple meanings, use the same meaning as in the above passage.

task evaluate reinforced sufficient protocol

1. _____

2. _____

3. _____

Exercise 3 – Identifying Word Stress

For each of the following words, first identify the stressed syllable by underlining it. Then listen to the audio to check your answers. The first item has been done for you. Stop the audio now and continue listening after completing the exercise.

maintenance

technical

parallel

vehicle

component

mechanism

capacity

Definitions

Listen to the following definitions on the audio.

structure

(n) The structure of something is the way that its parts or elements are put together.

(v) **structure**; (adj) **structural**; (adv) **structurally**

integrity

(n) Integrity is the quality of being whole, not broken, or sound in construction.

correspond

(v) If x corresponds to y, there is a close relationship between x and y.

(adv) **correspondingly**

estimate

(n) An estimate is a judgement of a size, value, amount, or cost, which is based on incomplete information.

(v) **estimate**

demonstrate

(v) If you demonstrate something, you show how to do it or use it.

(n) **demonstration**; (adj) **demonstrable**

project

(n) A project is a complex job or assignment, often involving research or construction

(v) If you project, you plan for or estimate something in the future.

(n) **projection**

construction

(n) Construction is the act of building something.

(v) **construct**; (adj) **constructive**

component

(n) A component is one part that connects to other parts.

Stop the audio now and complete Exercise 4.

Exercise 4 — Using Words Correctly

Fill in the following blanks with one of the words defined above. Use the appropriate form or part of speech of the word. Please provide all possible answers.

1. Later today, we will see a(n) _____ of how to use the new equipment safely.
2. We need to test the _____ of the bridge so that we know it is safe to cross.
3. This computer is just one _____ of our complex network on campus.
4. Before we purchase our materials, we need to _____ the amount we will be using.
5. If you look at the _____ of this table, you will see that it is not stable because one leg is shorter than the others.
6. We were late to class today because the _____ of a new building on campus caused a delay in the bus route.
7. I spent five hours designing bridges in a(n) _____ for my engineering class last night that's due today.
8. When looking at my schedule for the quarter, I could not figure out which room numbers _____ to their respective classes.

Exercise 5 — Reviewing Nouns with *-ion* Endings 

A. Listen to the following words and underline the stressed syllable in each. The first item is done for you.

construction participation simulation inspection evaluation

Stop the audio now and answer the question below and do part B of this exercise.

What part of speech does the *-ion* ending indicate? (e.g. noun, verb, adjective, adverb)

B. Write the verb form related to each noun form

- 1. construction construct
- 2. participation _____
- 3. simulation _____
- 4. inspection _____
- 5. evaluation _____

While many of the verb forms are direct shortenings of the *-ion* noun forms, this rule is not a universal rule. Below are several forms which do not follow the above pattern:

acquisition → acquire

function → function

resolution → resolve

Pronunciation: Two-Syllable Noun and Verb Pairs 

Some two-syllable words that have the same noun and verb form follow a regular stress pattern. The noun is stressed on the first syllable, while the verb is stressed on the second syllable.

project (n)

transport (n)

impact (n)

project (v)

transport (v)

imact (v)

However, this rule is not universal, as demonstrated in these forms:

function (n/v)

format (n/v)

Pick one of the above pairs and write a sentence using the noun form and a separate sentence using the verb form. Underline the stressed syllable in each.

1. _____

2. _____

These lessons have been created as part of a master's thesis. Your participation and feedback will enhance the quality of the lessons. If you have any questions, comments, or suggestions, please email <jefflee@ucdavis.edu>.