

# UNIT 3 VOCABULARY

This report provides a summary of key vocabulary for this unit. For each word, you will find the definition, related words, its word family, and examples of how the word, or forms of the word, are used in a sentence.

## advance

- a movement forward
- move forward, also in the metaphorical sense
- a change for the better; progress in development
- bring forward for consideration or acceptance
- increase or raise
- contribute to the progress or growth of
- cause to move forward
- obtain advantages, such as points, etc.
- develop in a positive way
- a tentative suggestion designed to elicit the reactions of others
- the act of moving forward (as toward a goal)
- develop further
- an amount paid before it is earned
- increase in price or value
- give a promotion to or assign to a higher position
- pay in advance
- move forward
- rise in rate or price
- being ahead of time or need
- situated ahead or going before

**Related words:** accelerate, adduce, advance, advanced, advancement, allege, approach, assign, beforehand, betterment, boost, elevate, encourage, exalt, feeler, further, gain, heighten, improve, improvement, overture, procession, progress, progression, promote, raise, rise, supercharge, upgrade, win

**Word family:** advance, advanced, advances, advancement, advancing, advancements

- Examples:**
- Your questions should be planned carefully in advance.
  - Be sure to make arrangements for this interview well in advance.
  - If a weak offense meets a powerful defense, the offense may seldom advance the ball past midfield.

## arrange

- put into a proper or systematic order
- make arrangements for
- plan, organize, and carry out (an event)
- set (printed matter) into a specific format
- arrange attractively
- adapt for performance in a different way
- arrange thoughts, ideas, temporal events

**Related words:** arrange, coiffure, dress, format, order, put, set, stage

**Word family:** prearrange, arranged, rearranged, prearrangement, arrangement, rearrange, rearrangement, arranger, arrangements, prearranged, arranging, arranges, disarrange, arrange

- Examples:**
- Arrange furniture by grouping pieces needed for different activities.
  - Some advertising agencies will arrange to perform advertising work on a fee basis.
  - Forms also arrange information so it can be read easily and filed accurately.

## chemical

- relating to or used in chemistry
- material produced by or used in a reaction involving changes in atoms or molecules
- of or made from or using substances produced by or used in reactions involving atomic or molecular changes

**Related words:** chemical

**Word family:** petrochemical, biochemist, chemists, chemicals, electrochemical, alchemists, photochemical, biochemistry, alchemist, electrochemistry, chemical, alchemy, alchemical, biochemical, chemistry, chemist, chemically

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<b>Examples:</b>	<ul style="list-style-type: none"> <li>Many chemical changes cannot be easily reversed.</li> <li>Rusting is a chemical property of the metals.</li> <li>Fire can cause both physical and chemical changes.</li> </ul>
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## chemistry

	<ul style="list-style-type: none"> <li>the science of matter; the branch of the natural sciences dealing with the composition of substances and their properties and reactions</li> <li>the chemical composition and properties of a substance or object</li> <li>the way two individuals relate to each other</li> </ul>
<b>Related words:</b>	alchemy, chemistry
<b>Word family:</b>	petrochemical, biochemist, chemists, chemicals, electrochemical, alchemists, photochemical, biochemistry, alchemist, electrochemistry, chemical, alchemy, alchemical, biochemical, chemistry, chemist, chemically
<b>Examples:</b>	<ul style="list-style-type: none"> <li>Gasoline is extracted from crude oil through chemistry.</li> <li>Our knowledge of chemistry in the body has increased.</li> <li>A woodshed was not the best place to do chemistry experiments.</li> </ul>

## civilization

	<ul style="list-style-type: none"> <li>A human society having dense population, large public buildings, a central authority and, often, a system of writing or other means of recording information.</li> </ul>
<b>Related words:</b>	acculturation, civilisation, civilization, culture, education, home, order, refinement, sphere
<b>Word family:</b>	civilizing, civilizations, civilian, civil, civility, uncivil, civilized, civilization, uncivilized, civilians, civilize
<b>Examples:</b>	<ul style="list-style-type: none"> <li>It takes specialists for a civilization to develop.</li> <li>Most archaeologists think that cities are signs of a civilization.</li> <li>Civilization also involves things like writing, trade, complicated manufacturing, and high levels of art and government.</li> </ul>

## compound

	<ul style="list-style-type: none"> <li>make more intense, stronger, or more marked</li> <li>a whole formed by a union of two or more elements or parts</li> <li>put or add together</li> <li>(chemistry) a substance formed by chemical union of two or more elements or ingredients in definite proportion by weight</li> <li>an enclosure of residences and other building (especially in the Orient)</li> <li>calculate principal and interest</li> </ul>	<ul style="list-style-type: none"> <li>create by mixing or combining</li> <li>combine so as to form a whole; mix</li> <li>composed of more than one part</li> <li>consisting of two or more substances or ingredients or elements or parts</li> <li>composed of many distinct individuals united to form a whole or colony</li> </ul>
<b>Related words:</b>	colonial, combine, compound, deepen, gaol, heighten, intensify, jail, pen, pound, prison	
<b>Word family:</b>	compounded, compounds, compound, compounding	
<b>Examples:</b>	<ul style="list-style-type: none"> <li>A bicycle is a compound machine.</li> <li>Some sentences are simple, and some are compound.</li> <li>When elements join to make a compound, the elements change.</li> </ul>	

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## discover

- discover or determine the existence, presence, or fact of
- get to know or become aware of, usually accidentally
- make a discovery, make a new finding
- make a discovery
- find unexpectedly
- make known to the public information that was previously known only to a few people or that was meant to be kept a secret
- see for the first time; make a discovery
- identify as in botany or biology, for example

**Related words:** attain, break, describe, detect, disclose, discover, distinguish, divulge, expose, find, hear, identify, key, learn, name, notice, observe, reveal, see, strike, uncover, unwrap

**Word family:** rediscovery, discoverer, undiscovered, discover, rediscovered, discovered, discovers, discovering, rediscover, discoveries, discovery

- Examples:**
- You may discover many bugs that look like insects.
  - Very often the context of a new word helps you discover what the word means.
  - What did you discover when you observed the bicycle?

## discovery

- the act of discovering something
- something that is discovered
- a productive insight
- (law) compulsory pretrial disclosure of documents relevant to a case; enables one side in a litigation to elicit information from the other side concerning the facts in the case

**Related words:** breakthrough, discovery, find, uncovering

**Word family:** rediscovery, discoverer, undiscovered, discover, rediscovered, discovered, discovers, discovering, rediscover, discoveries, discovery

- Examples:**
- The discovery that stars move was the turning point.
  - Fleming's discovery of penicillin and his early work with it arose by chance during research in another area.
  - Newton's great contribution to the science of mechanics was the discovery that the same laws of nature are valid throughout our solar system.

## element

- an abstract part of something
- an artifact that is one of the individual parts of which a composite entity is made up; especially a part that can be separated from or attached to a system
- any of the more than 100 known substances (of which 92 occur naturally) that cannot be separated into simpler substances and that singly or in combination constitute all matter
- the most favorable environment for a plant or animal
- one of four substances thought in ancient and medieval cosmology to constitute the physical Universe
- the situation in which you are happiest and most effective
- a straight line that generates a cylinder or cone

**Related words:** component, constituent, element, factor, ingredient, member

**Word family:** elements, elementary, elemental, element

- Examples:**
- The atomic weight is the weight of one atom of the element.
  - Each element has a different number of protons in the nucleus of its atom.
  - We define an atom as the smallest particle of an element that can enter into a chemical combination.

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## establish

- set up or found
- set up or lay the groundwork for
- establish the validity of something, as by an example, explanation or experiment
- institute, enact, or establish
- bring about
- place
- build or establish something abstract
- use as a basis for; found on

**Related words:** base, build, constitute, demonstrate, establish, found, give, ground, install, institute, launch, make, plant, prove, shew, show

**Word family:** established, establish, establishments, establishing, reestablishment, establishes, reestablish, establishment

- Examples:**
- Maryland claimed that the Constitution gave the federal government no power to establish banks.
  - The states have the power to establish the requirements for voting in all elections.
  - Cities and states establish and enforce minimum standards for safety in all food service establishments.

## hydrogen

- a nonmetallic univalent element that is normally a colorless and odorless highly flammable diatomic gas; the simplest and lightest and most abundant element in the Universe

**Related words:** hydrogen

**Word family:** hydrogenated, hydrogen, hydrogenation

- Examples:**
- Hydrogen gas is lighter than air.
  - The sun is constantly losing hydrogen and gaining helium through nuclear fusion.
  - The high flammability of hydrogen requires that it be handled with care.

## institute

- set up or lay the groundwork for
- advance or set forth in court
- an association organized to promote art or science or education

**Related words:** bring, constitute, establish, found, institute, plant

**Word family:** institutes, instituted, instituting

- Examples:**
- Before 1972, there was no such organization as the National Institute for Automotive Service Excellence.
  - The institute promotes the understanding of the world's aluminum industry and the broader use of its products.
  - Stanford Research Institute suggests it may be possible to grow plants which will contain proteins of a quality as good as those found in meats.

## property

- something owned; any tangible or intangible possession that is owned by someone;
- a basic or essential attribute shared by all members of a class
- any area set aside for a particular purpose
- a construct whereby objects or individuals can be distinguished
- any movable articles or objects used on the set of a play or movie

**Related words:** attribute, belongings, dimension, feature, holding, land, parcel, place, possession, prop, property

**Word family:** propertied, property, properties

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<b>Examples:</b>	<ul style="list-style-type: none"> <li>• Rusting is a chemical property of the metals.</li> <li>• The color of the park bench is a physical property.</li> <li>• Burning is a chemical property of substances that will burn.</li> </ul>
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**scientific**

	<ul style="list-style-type: none"> <li>• of or relating to the practice of science</li> <li>• conforming with the principles or methods used in science</li> </ul>
<b>Related words:</b>	scientific
<b>Word family:</b>	scientific, prescience, science, scientifically, omniscience, sciences, pseudoscience, scientist, scientists, pseudoscientific
<b>Examples:</b>	<ul style="list-style-type: none"> <li>• A scientific hypothesis is an educated guess.</li> <li>• A scientific theory must be able to be tested.</li> <li>• Technology is the use of scientific knowledge in a practical way.</li> </ul>

**substance**

	<ul style="list-style-type: none"> <li>• the real physical matter of which a person or thing consists</li> <li>• the choicest or most essential or most vital part of some idea or experience</li> <li>• the idea that is intended</li> </ul>	<ul style="list-style-type: none"> <li>• material of a particular kind or constitution</li> <li>• considerable capital (wealth or income)</li> <li>• what a communication that is about something is about</li> <li>• a particular kind or species of matter with uniform properties</li> </ul>
<b>Related words:</b>	center, centre, content, core, essence, gist, heart, inwardness, kernel, marrow, meaning, means, meat, message, nub, pith, substance, sum	
<b>Word family:</b>	substance, insubstantial, substantiated, substances, substantiate, unsubstantial, substantive, substantial, substantially, transubstantiation, substantiation	
<b>Examples:</b>	<ul style="list-style-type: none"> <li>• We use properties to tell one substance from another.</li> <li>• A substance is a particular kind of matter.</li> <li>• Air causes a new substance called rust to form on some metal objects.</li> </ul>	

**supernova**

	<ul style="list-style-type: none"> <li>• a star that explodes and becomes extremely luminous in the process</li> </ul>
<b>Related words:</b>	supernova
<b>Word family:</b>	supernovae
<b>Examples:</b>	<ul style="list-style-type: none"> <li>• It may even become an extremely brilliant nova, a supernova.</li> <li>• A large star that is blown completely apart when it explodes is called a supernova when exploding.</li> <li>• They noted the exact place in the sky where this supernova appeared.</li> </ul>

**Universe**

	<ul style="list-style-type: none"> <li>• everything that exists anywhere</li> <li>• (statistics) the entire aggregation of items from which samples can be drawn</li> <li>• everything stated or assumed in a given discussion</li> </ul>
<b>Related words:</b>	cosmos, creation, existence, population, universe, world

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<b>Word family:</b>	universalist, universality, universes, universe, universal, universally
<b>Examples:</b>	<ul style="list-style-type: none"> <li>• Our solar system is part of a vast Universe.</li> <li>• All objects in the Universe are made of matter.</li> <li>• Some scientists have questioned whether the Universe had a beginning.</li> </ul>

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