

READ TO LEARN!

When you organize a paragraph from general to specific, you are working **deductively**. Most scientific and informative writing requires deductive reasoning because it helps make complicated material easy to understand. When you organize from specific to general, you are working **inductively**. Inductive reasoning is often used in personal essays and short stories.

He who loves practice without theory is like sailor who boards ship without a rudder and compass and never knows where he may be cast. Theory without practice cannot survive and dies as quickly as it lives.
---- Leonardo da Vinci

There are two ways, and can only be two, of seeking and finding truth. The one, from senses and particulars, takes a flight to the most general axioms, and from those principles and their truths, settled once for all, invents and judges of intermediate axioms. The other method collects axioms from senses and particulars, ascending continuously and by degrees, so that in the end it arrives at the more general axioms; this latter way is the true one, but hitherto untried. ---- Francis Bacon

By “axioms” Bacon means general propositions arrived at by induction and suited to be the starting point of deductive reasoning.

The critical nature of the scientist’s profession requires a strong belief in one’s ability to learn. In another words, individual self-confidence is the foundation upon which our sciences, and collective technological and economic strength is built.

False facts are highly injurious to the progress of science, for they often endure long; but false views, if supported by some evidence, do little harm, for every one takes a salutary pleasure in proving their falseness.
--- Charles Darwin, *The Origin of Man*, Chap. 6.

Prefixes : Prefixes are those “word parts” that come *before* the root words (*pre* = before). Depending upon its meaning, a prefix changes the intent, or sense.

de [from, down] demote, depress, deprive, deceive, **deduct**

se [aside] secrete, segregate, seduce

ex, e, ec, ef [out] eject, exothermic, exit, eccentric (out of the center position)

re [back, again] reclaim, revive, revoke, rejuvenate, retard, reject, return

A *root* is a base upon which other words are built. Knowing the root of a difficult word can go a long way toward helping you figure out its meaning – even without a dictionary.

duc, duct [lead] produce, induce (lead into), seduce (lead aside), deduce, deductive

cide, cise [cut down, kill] suicide (killing of self), homicide (human killer), pesticide (pest killer), germicide (germ killer), insecticide, precise (cut exactly right), incision, scissors

scribe, script [write] scribe (a writer), scribble, manuscript (written by hand), inscribe, describe, subscribe, prescribe

lev [light, to raise] leverage (a form of control, power, or effectiveness; referring to the use of a lever), alleviate (to lessen or relieve the severity of a condition), elevate, levitate, elevator, lever, levee, levity

vi, vit, viv [life] viable (capable of living; able to work or develop acceptably or even well; a viable fetus, a viable product, a viable candidate), convivial, vital, vitamin, revitalize, vitality, vivid, revive, vivisection, vivacity, vivacious

Suffixes come at the end of a word. Very often a suffix will tell you what kind of word it is part of (noun, adverb, adjective, and so on). For example, words ending in *-ly* are usually adverbs.

ice [condition, state, quality] justice, malice

ness [state of] carelessness, kindness

ee [one who receive the action] employee, nominee (one who is nominated), refugee

ade [result of action] blockade (the result of a blocking action), lemonade

ish [origin, nature, resembling] foolish, Irish, clownish (resembling a clown)