Science Directing Words

Discuss

The word “discuss” will not be used as a directing word on science diploma examinations because it is not used consistently to mean a single activity.

The following words are specific in meaning.

Algebraically
Using mathematical procedures that involve letters or symbols to represent numbers

Analyze
To make a mathematical, chemical, or methodical examination of parts to determine the nature, proportion, function, interrelationship, etc. of the whole

Compare
Examine the character or qualities of two things by providing characteristics of both that point out their similarities and differences

Conclude
State a logical end based on reasoning and/or evidence

Contrast/Distinguish
Point out the differences between two things that have similar or comparable natures

Criticize
Point out the demerits of an item or issue

Define
Provide the essential qualities or meaning of a word or concept; make distinct and clear by marking out the limits

Describe
Give a written account or represent the characteristics of something by a figure, model, or picture

Design/Plan
Construct a plan; i.e., a detailed sequence of actions for a specific purpose

Determine
Find a solution, to a specified degree of accuracy, to a problem by showing appropriate formulas, procedures, and calculations

Enumerate
Specify one by one or list in concise form and according to some order

Evaluate
Give the significance or worth of something by identifying the good and bad points or the advantages and disadvantages

Explain
Make clear what is not immediately obvious or entirely known; give the cause of or reason for; make known in detail

Graphically
Using a drawing that is produced electronically or by hand and that shows a relation between certain sets of numbers

How
Show in what manner or way, with what meaning

Hypothesize
Form a tentative proposition intended as a possible explanation for an observed phenomenon; i.e., a possible cause for a specific effect. The proposition should be testable logically and/or empirically

Identify
Recognize and select as having the characteristics of something

Illustrate
Make clear by giving an example. The form of the example must be specified in the question; i.e., word description, sketch, or diagram

Infer
Form a generalization from sample data; arrive at a conclusion by reasoning from evidence

Interpret
Tell the meaning of something; present information in a new form that adds meaning to the original data

Justify/Show How
Show reasons for or give facts that support a position

Model
Find a model (in mathematics, a model of a situation is a pattern that is supposed to represent or set a standard for a real situation) that does a good job of representing a situation

Outline
Give, in an organized fashion, the essential parts of something. The form of the outline must be specified in the question; i.e., list, flow chart, concept map

Predict
Tell in advance on the basis of empirical evidence and/or logic

Prove
Establish the truth or validity of a statement for the general case by giving factual evidence or logical argument

Relate
Show logical or causal connection between things

Sketch
Provide a drawing that represents the key features of an object or graph

Solve
Give a solution for a problem; i.e., explanation in words and/or numbers

Summarize
Give a brief account of the main points

Trace
Give a step-by-step description of the development

Verify
Establish, by substitution for a particular case or by geometric comparison, the truth of a statement

Why
Show the cause, reason, or purpose