

SCIENCE AS A PRODUCT

SCIENTIFIC AS A PRODUCT

A systematic body of knowledge acquired through the process of investigation from time to time.

SCIENTIFIC AS A PRODUCT

Science is dynamic in nature.
There is no ultimate solution for a problem.
The solution of a problem leads to the
discovery of new and the cycles goes on.

SCIENTIFIC AS A PRODUCT

Scientific information is constantly rearranged and oriented in the light of latest developments.

THE PRODUCT OF SCIENCE INCLUDES

- ★ Scientific Terms
- ★ Facts
- ★ Concepts
- ★ Principles
- ★ Theories
- ★ Law

SCIENTIFIC TERMS

It constitute the terms / vocabulary which are frequently used in scientific literature.

A ‘term’ is a new definable word having significant meaning in science context. Simply a label of idea.

FACTS

Facts are indisputable observations.

Facts are specific verifiable pieces of information obtained through simple Observation.

They are verified with reference to time and space.

FACTS

An observation that has been repeatedly confirmed and all practical purposes it is accepted as true.

A scientific fact is an objective and verifiable observation.

CONCEPT

A concept is a mental representation or mental picture of some objects or experience.

It represents a category of objects which share common properties.

CONCEPT

'A classification of ideas, objects or events into a set by mentally abstracting with common essential characteristics which defines that set'.

CONCEPT

It depends on the learners ability to observe a wide range of characteristics, at the same time abstracting those characteristics which are common to all.

CONCEPT

Mainly 3 types

- ★ Inspectional concept
- ★ Theoretical concept
- ★ Relational concept

INSPECTIONAL CONCEPT

Those concepts relating to things that can be observed by direct experience.

- Birds
- Trees
- Table

THEORETICAL CONCEPT

Those relating to the things that are not subject to direct observation.

→ Force , gravity, friction, osmosis

PRINCIPLE

A principle is a statement which establishes a relationship between at least two concepts.

Principles are more complex ideas based on several concepts. It is a statement predicting interrelationships among concepts.

PRINCIPLE

- Archimede's Principle
- Heisenberg uncertainty principle

LAW

A scientific law is a description of an observed phenomenon. (often mathematical description)

A law is a formal statement of the manner or order in which certain natural phenomena occur under specified Conditions.

→ Newtons laws of motion

THEORY

‘A carefully constructed system of logical reasoning, derived from well founded assumptions, regarding the basic nature of physical world’.

THEORY

A theory is said to be accepted hypothesis, or group of hypotheses.

A theory is a coherent explanation for a large number of facts and observations about the natural world.

→ Big bang theory

PRODUCT ASPECT OF SCIENCE

Products are noun in nature.

It represent the end of scientific pursuits.

The scientific developments based on empirical testing proves scientific products are dynamic in nature.

additional

Laws are concise verbal statements or mathematical expressions. There is difference between theory and law. A law may describe a single action or phenomenon whereas a theory explains a set of phenomena. A theory is a set of interconnected concepts, assumptions and principles giving a systematic explanation of natural phenomena. More importantly, a theory should predict new phenomena which are verifiable by experimentation.