

Related concepts

Related concepts promote deep learning. They are grounded in specific disciplines and are useful for exploring key concepts in greater detail. Inquiry into related concepts helps students develop more complex and sophisticated conceptual understanding. Related concepts may arise from the subject matter of a unit or the craft of a subject—its features and processes.

The following tables list related concepts for the study of sciences.

The related concepts in biology		
Balance	Environment	Transformation
Consequences	Energy	Evidence
Form	Function	Interaction
Models	Movement	Patterns

Table 2a
Related concepts in biology

The related concepts in chemistry		
Balance	Conditions	Transfer
Consequences	Energy	Evidence
Form	Function	Interaction
Models	Movement	Patterns

Table 2b
Related concepts in chemistry

The related concepts in physics		
Development	Environment	Transformation
Consequences	Energy	Evidence
Form	Function	Interaction
Models	Movement	Patterns

Table 2c
Related concepts in physics

Related concepts in sciences

Related concept	Definition
Balance: biology specific	The dynamic equilibrium that exists among members of a stable natural community; the regulation of the internal environment of an organism.
Balance: chemistry specific	A state of equilibrium or stable distribution.
Conditions: chemistry specific	The environment, both physical and chemical, of a reaction or process; factors which contribute to an interaction including temperature, pressure, concentration, pH and the absence or presence of a catalyst.
Consequences	The observable or quantifiable effects, results, or outcomes correlated with an earlier event or events.
Development: physics specific	The process of applying theory to data and observations in order to improve, progress, or further scientific understanding.
Energy	The capacity of an object to do work or transfer heat.
Environment: biology specific	All of the biotic and abiotic factors that act on an organism, population or community and influence its survival, evolution and development.
Environment: physics specific	A description of the universe or a closed system through the application of the laws of physics; the complex of physical conditions or climate affecting a habitat or community.
Evidence	Support for a proposition derived from observation and interpretation of data.
Form	The features of an object that can be observed, identified, described, classified and categorized.
Function	A purpose, a role or a way of behaving that can be investigated; a mathematical relationship between variables.
Interaction	The effect or effects two or more systems, bodies, substances or organisms have on one another, so that the overall result is not simply the sum of the separate effects.
Models	Representations used for testing scientific theories or proposals that can be accurately repeated and validated; simulations used for explaining or predicting processes which may not be observable or to understand the dynamics of multiple underlying phenomena of a complex system.
Movement	The act, process, or result of displacing from one location or position to another within a defined frame of reference.
Patterns	The distribution of variables in time or space; sequences of events or features.

Related concept	Definition
Transfer: chemistry specific	The net movement of matter or particles from one location to another.
Transformation: biology specific	Differentiation of a cell; change of energy form, including at a molecular level; alteration of molecules and metabolism and/or genetic make-up of an organism or species and consequently a community, relative to external factors.
Transformation: physics specific	A change from one well-defined state to another well-defined state; an alteration in form or condition, including energy and particle nature.