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| **Science Glossary** |
| A |
| **abiotic**  A non-living condition or thing in an ecosystem. |
| accuracy  The correctness of a single measurement; how close it is to the true or accepted value. |
| argument  A claim justified with reference to evidence; scientific arguments are contestable. |
| Asia-Pacific  A region including Australia, countries across Asia and Pacific Island nations. |
| assumption  Something taken for granted to be true. |
| B |
| bias  Presentation of one perspective, favouring one side in an argument or discussion, often accompanied by a refusal to consider possible merits of alternative perspectives. |
| biotic  The living components of ecosystems. |

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| C |
| change of state  The change of a substance from one physical state of matter (solid, liquid, gas) to another. |
| characteristic  A distinguishing aspect (including features and behaviours) of an object, material, living thing or event. |
| claim  An assertion that something is true. |
| conclusion  A judgement based on evidence. |
| condensation  The process where water vapour becomes liquid water. |
| conductors  Materials through which heat, sound or electrical energy are freely transferred. |
| consumers  Living things that cannot make their own food and have to feed on other living things to survive. |
| continuous data  Quantitative data with a potentially infinite number of possible values along a continuum. |
| controlled variable  A variable that is kept constant (or changed in constant ways) during an investigation. |
| Country/Place  Spaces mapped out that individuals or groups of First Nations Peoples of Australia occupy and regard as their own and having varying degrees of spirituality. They include lands, waters and sky. |
| credibility  The believability and reliability of information. |
| D |
| dark energy  A form of energy that exerts a negative, repulsive force. |
| dark matter  A form of matter that does not absorb, reflect or refract light. |
| data  A general term for a set of observations or measurements collected during an investigation. Primary data is collected by the user; secondary data is collected by others. |
| decomposers  Living things such as fungi and bacteria that break down dead organic material. |
| decomposition reaction  A chemical reaction in which a complex reactant breaks down into 2 or more simpler products. |
| dependent variable  A variable that changes in response to changes to the independent variable in an investigation. |
| deposition  The process in which sediments, soil and rocks are laid down so that new landforms or land masses are formed or modified. |
| digital tools  Digital hardware, software, platforms and resources used to develop and communicate learning, ideas and information. |
| discrete data  Quantitative data consisting of a number of separate values where intermediate values are not permissible. |
| displacement (reaction)  A chemical reaction in which one atom (or group of atoms) is replaced by another atom (or group of atoms) in a compound, or a reaction in which 2 compounds react to form 2 new components. |
| E |
| Earth system  The entire Earth system; a combination of interrelated, interdependent and interacting systems (the biosphere, geosphere, hydrosphere and atmosphere). |
| Earth’s systems  The interrelated, interdependent systems within the Earth system; the geosphere, hydrosphere, atmosphere and biosphere. |
| economic system  A system that coordinats resource allocation, and production and distribution of good and services within a society or country |
| environment  All the surroundings, living and non-living. |
| environmental system  The interrelated, interdependent and interacting Earth systems (the geosphere, hydrosphere, atmosphere and biosphere) |
| erosion  The process by which soil, rocks and other surface materials of Earth are worn away, such as by the action of water, glaciers, wind or waves. |
| evaporation  The transfer of water from the surface of Earth to the atmosphere; heat energy from the sun causes liquid water to turn into water vapour and to rise up through the atmosphere. |
| evidence  Data that is considered reliable and valid, and that can be used to support a particular idea, conclusion or decision. |
| explanation  A scientific explanation provides an account of a phenomenon through descriptive statements about how that phenomenon came to be. |
| explanatory model  A description of why and how a thing works or an explanation of why a phenomenon is the way it is. |
| F |
| fair test  An investigation where one variable (the independent variable) is changed and all other conditions (controlled variables) are kept the same; the dependent variable is what is measured or observed. |
| fair testing  An investigation where one variable (the independent variable) is changed and all other conditions (controlled variables) are kept the same; the dependent variable is what is measured or observed. |
| food chains  Sequences of organisms that begin with a producer and end with a consumer and shows the order in which living things depend on each other for food. |
| food webs  Representations of the feeding relationships in an ecosystem. A food web typically comprises multiple interconnected food chains. |
| force  A push or pull between objects, which may cause one or both objects to change speed and/or direction of their motion or change their shape. |
| formal measurement  Measurement based on an agreed standard unit (e.g. metre, second, kilogram). |
| G |
| genome  An organism’s complete set of genetic information. |
| graph  A visual representation of the relationship between quantities plotted with reference to a set of axes. |
| H |
| habitat  The natural environment of an organism such as a plant or animal. |
| hypothesis  A tentative idea or explanation for an observation, which can be tested and either supported or refuted by investigation. |
| I |
| independent variable  A variable that is changed in an investigation to see what effect it has on the dependent variable. |
| inference  An informed guess or logical conclusion based on previous experiences, observations and knowledge. |
| informal measurement  Measurement that is not based on any agreed standard unit (e.g. handspans, paces, cups). |
| insulators  Materials which inhibit the transfer of heat, sound or electrical energy. |
| investigation  A scientific process of answering a question, exploring an idea or solving a problem that requires activities such as planning, collecting and interpreting data and forming a conclusion. |
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| L |
| language features  Features that support meaning (e.g. clause- and word-level grammar, vocabulary, figurative language, punctuation, images). Choices vary for the purpose, subject matter, audience and mode or medium. |
| law  A statement of a relationship based on available evidence. |
| M |
| mass  The measure for how much matter an object contains. The SI unit for mass is the kilogram (kg). |
| material  A substance with particular qualities or that is used for specific purposes. |
| material composition  The substance of which a thing is made or composed. |
| matter  A physical substance; anything that has mass and occupies space. |
| Mendelian inheritance  An inheritance pattern that follows the laws of segregation and independent assortment in which a gene inherited from either parent segregates into gametes at an equal frequency. |
| model  A representation that describes, simplifies, clarifies or gives an explanation of the workings, structure or relationships within an object, system or idea. |
| N |
| negative feedback mechanism  A system's output, such as blood glucose level, that causes a reduction or dampening of the process that lead to that output. |

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| O |
| observable  Something that can be seen, heard, felt, tasted or smelled either directly by an individual or indirectly by a measuring device (e.g. a ruler, camera or thermometer). |
| observation  A representation of something that has been seen, heard, felt, tasted or smelled either directly by an individual or indirectly by a measuring device. |
| outlier  A data point that is far from other data points in a set of data. |
| P |
| particle theory  The kinetic theory of matter that all matter consists of tiny indivisible particles that are constantly moving. |
| pattern  A repeated occurrence or sequence. |
| precipitation  In the water cycle, liquid or frozen water in the atmosphere that falls to Earth as rain, hail or snow. In chemistry, precipitation occurs when an insoluble solid emerges from a liquid solution. |
| precision  How close 2 or more measurements are to each other, regardless of whether those measurements are accurate. It is possible for measurements to be precise but not accurate. |
| producers  Living things such as plants and algae that make their own food, usually using energy from sunlight. |
| properties  Attributes of an object or material, normally used to describe attributes common to a group. |
| Q |
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| R |
| reflected  Changed direction of light when it bounces off a surface. |
| refracted  Changed direction (bending) of light when it passes through one transparent substance into another. |
| relationship  A connection or association between ideas or between components of systems and structures. |
| reliability  An extent to which repeated observations and/or measurements taken under identical circumstances will yield similar results. |
| repeatable investigations  Investigations that produce the same results when repeated by the original researcher using the same method and equipment. |
| representation  The means by which science ideas and explanations are understood and communicated. Representations can take many different forms or modes. |
| reproducible investigations  Investigations that when repeated by other researchers using the same method and materials achieves similar results. |
| S |
| scientific prediction  A guess about what might happen based on observations. |
| senses  Hearing, sight, smell, touch and taste. |
| simulation  A representation of a process, event or system, which imitates the real situation. |
| social (system)  Systems defined by patterns of interactions and relationships between individuals, groups and institutions |
| synthesis reaction  A reaction in which a more complex compound is produced from simpler compounds (also called combination reactions). |
| system  A group of interacting objects, materials or processes that form an integrated whole. |
| T |
| theory  An explanation of a set of observations that is based on one or more proven hypotheses, which has been accepted through consensus by a group of scientists. |
| transportation  The movement of sediments, soil and rocks across Earth's surface by water, wind, ice or gravity. |
| trend  General direction in which something is changing. |
| U |
| uncertainty  A situation in which something is not known or certain. |
| V |
| validity  An extent to which tests measure what was intended; an extent to which data, inferences and actions produced from tests and other processes are accurate. |
| variable  A factor that can be changed, kept the same or measured in an investigation (e.g. time, distance, light, temperature). |
| W |
| weathering  The breaking down or dissolving of rocks, soils and minerals on Earth's surface. This can occur through mechanical, chemical and biological processes. |
| world views  Sets of attitudes, values and beliefs about the world around us which inform our thoughts and actions |
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