Glossary – Patterns in Nature

Word	Definition
1. Cell Theory	The theory that all living things are made from cells and come only from pre-existing cells; cells are the basic structural and functional unit of life.
2. Light Microscope	A microscope that uses a system of light and lenses to magnify an image of small objects.
3. Electron Microscope	A microscope that uses electrons to magnify an image of small objects.
4. Organelles	All organs that are found within cells.
5. Nucleus	Organelle containing the genetic information of the cell
6. Cytoplasm	All the contents of the cell including the organelles but excluding the nucleus.
7. Cell Wall	Cellulose structure surrounding a plant cell and provides strength and support.
8. Chloroplast	Green organelles found in plants that are responsible for the process of photosynthesis.
9. Vacuoles	Fluid-filled structures commonly found in plants and are used for support.
10. Electron Micrograph	Photographs of images seen under an electron microscope.
11. Mitochondria	Organelle responsible for energy production in an animal cell.
12. Golgi body	Flat membranes with disc-shaped vesicles budding off; the function is to process, package and sort out cell products.

13. Lysosomes	Fluid-filled sacs containing enzymes to break down worn out cell organelles.
14. Endoplasmic Reticulum	Organelle made up of flattened membranes functioning in transport within a cell as vesicles bud off.
15. Ribosomes	Small organelles that function in protein synthesis. They can be scattered over the endoplasmic reticulum or free in the cytoplasm.
16. Nucleolus	Found within the nucleus containing DNA and RNA.
17. Cell Membranes	Selective barrier that allows certain molecules to travel in and out of the cell.
18. Diffusion	Passive movement of molecules along a concentration gradient until equilibrium is reached.
19. Osmosis	Movement of water molecules from a high concentration to a low concentration.
20. Surface Area	The part of the object exposed to its surroundings.
21. Volume	The amount of space that an object occupies.
22. Glucose	An energy source for the body in the form of a simple sugar.
23. Starch	Insoluble sugar used in energy storage in plant cells.
24. Lipids	Form part of the bilayer of cell membranes and are insoluble in water.
25. Proteins	Polypeptide chains of amino acids.

26. Lignin	A chemical substance found in plant cells to strengthen cell walls.
27. Selectively Permeable	A barrier that allows only certain substances through and stops others.
28. Cells	The smallest unit of life.
29. Tissues	A group of cells with a similar structure and a common function.
30. Organs	A structure comprising of multiple tissues working together to perform a function.
31. Organ Systems	A group of organs working together to perform a similar function.
32. Multicellular	An organism made up of many cells.
33. Autotroph	Organisms that can produce their own food.
34. Heterotroph	Organisms that cannot make their own food and need to consume other living things for nutrients.
35. Photosynthesis	The process by which plant cells containing chlorophyll can produce their own energy.
36. Ecosystems	An environment containing organisms that interact with each other.
37. Nectar Feeding	An animal that feeds on a sugary solution produced by plants called nectar.
38. Vertebrate Herbivore	Organisms that consume plant material only.
39. Vertebrate Carnivore	Organisms that consume other animals.

40. Respiratory System	The organ system that allows gas exchange, breathing and respiration.
41. Circulatory System	The organ system responsible for the movement of blood around the body.
42. Excretory System	The organ system that allows waste to be removed from the body.
43. Radioisotopes	Unstable form of a molecule that emits radioactive particles.
44. Root hair cells	Water is absorbed and moves through the root via osmosis.
45. Xylem	Vascular tissue in plants that transports water upwards.
46. Phloem	Vascular tissue in plants that transports organic molecules (food) up and down the plant.
47. Stomates	Pores located in the epidermis of plant parts by which water vapour and gases can enter and leave the plant cell.
48. Lenticels	Small pores found in the woody stems in the outer cork layer; their function is gas exchange.
49. Invertebrate	An animal that does not have a backbone.
50. Vertebrate	An animal that does have a backbone.
51. Mitosis	The process of cell division where cells undergo a single division creating two daughter cells.
52. Cytokinesis	Division of a cells cytoplasm.
53. DNA	Deoxyribonucleic acid; contains all the genetic instructions for the cell and is found in the nucleus.