# Biology Checklist

## Cells, Human Body and Plants

Activate

| Lesson | Developing (T to1) | Secure (2 to 3) | Extending (3 to 4) |
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| B1 1.1 Observing cells | State what a cell is and describe how to use a microscope to observe a cell. | Describe what a cell is and explain how to use a microscope to observe a cell. | Explain what all living organisms are made of and explain what each part of the microscope does and how it is used. |
| B1 1.2 Plant and animal cells | Identify one similarity and one difference between a plant and an animal cell and match some components of a cell to their function. | Describe the similarities and differences between plant and animal cells and describe the functions of the components of a cell. | Explain the similarities and differences between plant and animal cells and explain the functions of the components of a cell by linking them to life processes. |
| B1 1.3 Specialised cells | Name some examples of specialised animal cells and plant cells. | Describe examples of specialised animal and plant cells. | Describe examples of specialised animal and plant cells, linking structure and function. |
| B1 1.4 Movement of substances | Identify substances that move into or out of cells and state simply what diffusion is. | Name some substances that move into and out of cells and describe the process of diffusion. | Explain which substances move into and out of cells and explain the process of diffusion. |
| B1 1.5 Unicellular organisms | Name an example of a unicellular organism and identify some structures in an amoeba and euglena. | Describe what a unicellular organism is and describe the structure of an amoeba and euglena. | Explain what a unicellular organism is and give detailed examples and describe the structure and function of an amoeba and euglena. |
| B2 2.1 Levels of organisation | State what is meant by a tissue, organ, and an organ system and state the sequence of the hierarchy of organisation in a multicellular organism. | Define and state examples of tissues, organs, and organ systems and explain the hierarchy of organisation in a multicellular organism. | Explain how the different tissues in an organ, and the different organs in an organ system function together and the hierarchy of organisation in a multicellular organism. |
| B2 2.2 Gas exchange | Name the parts of the gas exchange system and state that the parts of the gas exchange system are adapted to their function. | Describe the structure of the gas exchange system and describe how the parts of the gas exchange system are adapted to their function. | Describe the gas exchange system as an organ system, linking the organs and describe how the adaptations of the parts of the gas exchange system help them perform their function. |
| B2 2.3 Breathing | State what happens to the ribcage and diaphragm during inhaling and exhaling and what each part of the bell jar model represents. State a value of lung volume. | Describe the process of inhaling and exhaling and how a bell jar can be used to model what happens during breathing. Explain how to measure lung volumes. | Explain how the actions of the ribcage and diaphragm lead to inhaling and exhaling and explain the similarities and differences between the bell jar and the breathing system. Explain in detail how to measure lung volumes. |
| B2 2.4 Skeleton | Name the main parts of the skeleton and list the functions of the skeletal system. | Describe the structure of the skeleton and the functions of the skeletal system. | Explain the relationship between the bones and joints in the skeleton and the link between structure and functions in the skeletal system. |
| B2 2.5 Movement: joints | State where joints are found in the body and how a muscle exerts force during movement. | Describe the role of joints and explain how to measure the force exerted by different muscles. | Explain how the parts of a joint allow it to function and the relationship between the forces required to move different masses. |

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| B2 2.6 Movement: muscles | State the function of major muscle groups and give a definition of antagonistic muscles. | Describe the function of major muscle groups and explain how antagonistic muscles cause movement. | Explain how the muscle groups interact with other tissues to cause movement and why it is necessary to have both muscles in an antagonistic pair to cause movement. |
| B2 3.1 Adolescence | State the definitions for adolescence and puberty and the changes of the bodies of boys and girls during puberty. | State the difference between adolescence and puberty and describe the main changes which take place during puberty. | Explain the difference between adolescence and puberty and the main changes that take place during puberty. |
| B2 3.2 Reproductive systems | Name the main structures of the male and female reproductive structures and state a function of the main structures of the male and female reproductive systems. | Describe the main structures in the male and female reproductive systems and describe the function of the main structures in the male and female reproductive systems. | Explain how different parts of the male and female reproductive systems work together to achieve certain functions and the adaptations of some of the main structures that help them function. |
| B2 3.3 Fertilisation and implantation | State the definitions of gametes and what is meant by fertilisation. | Describe the structure and function of gametes and the process of fertilisation. | Compare the male and female gametes and the sequence of fertilisation and implantation. |
| B2 3.4 Development of a fetus | State the definition of gestation and can state how long a pregnancy lasts. | Describe what happens during gestation and describe what happens during birth. | Describe accurately the sequence of events during gestation and explain in detail how contractions bring about birth. |
| B2 3.5 The menstrual cycle | State a simple definition of the menstrual cycle and name the main stages in the menstrual cycle. | state what the menstrual cycle is and describe the main stages of the menstrual cycle. | Explain the role of the menstrual cycle in reproduction and describe the stages of the menstrual cycle as a timed sequence of events. |
| B2 3.6 Flowers and pollination | name the parts of a flower and state what is meant by pollination and name two methods of pollination. | identify the main structures in a flower and describe the process of pollination. Describe the differences between wind pollinated and insect pollinated plants. | Explain how the structures of the flower are adapted to their function and the role of pollination in plant reproduction. Explain the processes of wind and insect pollination comparing the similarities and differences between the two. |
| B2 3.7 Fertilisation and germination | state what is meant by fertilisation in plants and what seeds and fruit are. | describe the process of fertilisation in plants and how seeds and fruits are formed. | explain the process of fertilisation in plants, explaining the role of each of the parts involved in the process and how the germination of seeds occurs. |
| B2 3.8 Seed dispersal | state what is meant by seed dispersal and name the methods of seed dispersal. | state the ways that seeds can be dispersed and describe how a seed is adapted to its method of dispersal. | explain why seeds are dispersed and how the adaptations of seeds aid dispersal. |