

Pupil Progress Sheet Level 4 Biology - Biological Systems



	Success Criteria			
1	I can state the normal body temperature for humans.			
2	I can explain the meaning of the following terms, and can use them appropriately: optimum, control centre, central nervous system, receptors, effectors, internal conditions, external conditions.			
3	I can name three body responses that occur when body temperature rises too far above 37°C.			
4	I can name three body responses that occur when body temperature falls too far below 37°C.			
5	I can explain the cause, symptoms, and treatment for heatstroke and hypothermia.			
6	I can explain the meaning of the following terms, and can use them appropriately: dehydration, kidneys, reabsorbed, anti-diuretic hormone (ADH), hypothalamus, pituitary gland, isotonic.			
7	I understand that the body maintains a balance of water such that the water taken in equals the water used and lost.			
8	I can explain how the body responds to an excess intake of water, including the relevant organs, hormones, receptors, and effectors.			
9	I can explain how the body responds to dehydration, including the relevant organs, hormones, receptors, and effectors.			
10	I understand why it is important for the body to regulate the levels of glucose in the blood.			
11	I can describe the effects of low or high blood sugar, including symptoms and treatment.			
12	I can explain the meaning of the following terms, and can use them appropriately: glucose, glycogen, insulin, glucagon, endocrine glands, thyroid gland, adipose tissue.			
13	I can explain how the body responds to high blood sugar, including the relevant receptors, effectors, and hormones.			
14	I can explain how the body responds to low blood sugar, including the relevant receptors, effectors, and hormones.			
15	I can explain the cause of type 1 diabetes, and can list some symptoms and treatments for it.			

16	I can state the five steps in a reflex action.			
17	I can give some examples of reflex actions.			
18	I can describe the processing route in the brain for learned behaviour.			
19	I can describe the following learned behaviour: learned response, habituation, classical conditioning, trial and error learning, observational learning.			
20	I can give examples of the following learned behaviours: learned response, habituation, classical conditioning, trial and error learning, observational learning.			
21	I can state some advantages and some disadvantages of stress to an organism.			
22	I understand the purpose of choice chamber experiments.			
23	I can explain the results of choice chamber experiments.			
24	I can plan a choice chamber experiment. My plan includes: an aim, variables, measurements to be taken, equipment, safety, and method.			
25	I can safely carry out choice chamber experiments, recording and presenting my results in an appropriate way.			
26	I can evaluate choice chamber experiments.			
27	I can explain the meaning of the following terms, and use them appropriately: DNA, genes, chromosomes, proteins, enzymes, genetic disorder.			
28	I can give some examples of genetic disorders, and can describe their cause, symptoms, treatment, impact on quality of life, and impact on lifespan.			
29	I can name three reasons why cell division is important.			
30	I understand what the term mitosis means, and can describe the six stages in mitosis.			
31	Given the number of chromosomes in a parent cell, and can work out how many chromosomes each daughter cell will have.			
32	I can label diagrams representing the different stages of mitosis.			
33	I can explain why cell division is important in the growth and repair of tissues, giving some specific examples.			

34	I have completed my research assessment on why cell division is important in the growth and repair of a particular tissue.			
35	I understand that growth and development is different in different organisms.			
36	I can identify and describe the major stages of growth and development in different organisms.			
37	I can compare the growth and development of different organisms.			
38	I can explain the meaning of the following terms, and use them appropriately: gene, chromosome, allele, genotype, phenotype, dominant, recessive, homozygous, heterozygous.			
39	Given a genotype, I can determine whether the individual is homozygous or heterozygous for that characteristic.			
40	Given a genotype, I can use my knowledge of dominant and recessive alleles to determine the phenotype.			
41	Given a phenotype, I can write all possible genotypes.			
42	Given the genotypes of both parents, I can use a Punnet square to determine the possible genotypes of offspring.			
43	I can calculate the ratio of phenotypes of offspring using Punnet squares.			
44	I can calculate the percentage chance of having offspring of each phenotype, using Punnet squares.			
45	I can explain what enzymes are and how they work.			
46	I know that enzymes have optimum conditions, can identify some factors that affect enzyme activity.			
47	I have carried out an experiment showing the effect of temperature or pH on enzyme activity. My experiment write-up has: an aim, variable, measurements to take, equipment, safety, method, results, graph, conclusion, and evaluation.			
48	I can explain why enzymes are useful in industry, and can give some examples of industrial uses of enzymes.			
49	I can explain what micro-organisms are, and can name two main groups of micro-organism.			
50	I can explain why micro-organisms are useful in industry, and can give some examples of industrial			

	uses of micro-organisms.			
51	I can list some factors that affect the growth of micro-organisms.			