

Answers

TOPIC 1: CLASSIFYING CRITTERS

1. Any correct answer. One mark per correct answer. Answers might include; they photosynthesise, they make their own food, they have roots and leaves. (3)
2. Any correct/sensible answer. One mark per answer. Answers might include; use the correct equipment (pooters, dishes), be careful and respectful to the creature, make sure that the habitat remains undisturbed (do not drop litter for example) or leave the habitat in a better state than you found it, return the creature to its habitat once you have observed it. (3)
3. Award one mark per reason. Answers might include they carry germs and diseases and they aid digestion. (4)
4. Reasons covered during the investigation include; if it's warmer, not kept in the fridge, if it is exposed to moisture, if it has been left uncovered for days and air gets to it. (2)
5. Any valid difference can be awarded a mark. Might include: fungi do not photosynthesise, fungi create spores. (2)
6. Plants, animals, protists, microbes and fungi. One mark awarded for each. (5)
7. Any two true facts about Carl Linnaeus. Award one mark per fact. (2)
8. Any valid reason here. Answers might include; it enabled scientists to use a common language to identify, it meant that relationships between species could be seen more easily. Award one mark per reason. (2)

TOPIC 2: STAYING ALIVE

1. Labels might include veins, lungs, heart, arteries, diaphragm, windpipe. (5)
2. The human heart is an organ that pumps blood throughout the body via the circulatory system, or similar answer. (1)
3. The veins return the blood to the heart (or similar answer). May also include whether the blood is oxygenated or not. (1)
4. Any sensible answers. Might include; exercise gives the heart a workout and keeps it functioning properly, it keeps muscles toned and strong, it prevents diseases such as heart disease and osteoporosis, it enables organs to function well, keeps you happy and helps your mood.
5. Answers might include; John Boyd Orr was a scientist in the 1930s who proved that children needed more milk and food to grow and be a healthy weight. He proved the importance of diet.
6. Answers should include that drugs can be good for you when they are involved in medicine. We use lots of drugs to cure illness or help with illness. (2)
7. Children might include alcohol or cigarettes, as well as other drugs such as cannabis. Answers about effects might mention how it affects mood and internal organs. Children might mention the liver specifically or lungs. (2)

8. a) Sailors suffered from scurvy because they were not eating enough Vitamin C. Rickets is caused by a depletion in Vitamin D (2) b) Vitamin C rich foods – vegetables and fruit. Vitamin D rich food or drink – calcium. Award 2 marks for sensible answers. (2)

TOPIC 3: WE'RE EVOLVING!

1. Very thick fur, A layer of blubber (1 mark for each correct answer)
2. a) Hump (1) b) Wide feet (1)
3. One mark for two features. Answers might be streamline body, flippers, tail.
4. a) It uses camouflage (1), b) They were not as camouflage so were more noticeable (1) c) The darker moths (1) d) More dark moths survived and reproduced more dark moths. (1) e) They survived and their numbers rose again. (1)
5. a) Finch A (1) b) Large beaks are used for cracking nuts and seeds so they would survive on that island and reproduce offspring with the same beak which was essential for their survival. (1)
6. a) Primates (1) b) Any valid answer; they are the same shape, they both have five 'toes', they both have markings on them, they both have joints in the toes (1), c) Any valid answer; the big 'toe' of the chimpanzee is bigger, the space between the big toe and the rest of the toes on the chimpanzee foot is wider, the chimpanzee foot looks more like a human hand. (1) d) And valid reason, might include; we use our feet differently now, we cover them in socks and shoes, we don't use our feet to pick things up, we are not outside as much (1)


7. ☒ Animal and plant species develop characteristics over time which help them survive their habitats.

8. Large flat leaves (1)

TOPIC 4: LET IT SHINE

1. A bulb produces its own light. (1); Light from a bulb reflects from the book into our eyes. (1)
2. Same shape (1)
3. Soap bubbles / oil films / CD surfaces / sprinkler (1)
4. BMC 947 14 (1)
5. Ray starts from point of incidence (1); angle of incidence equals angle of reflection (by eye) (1)
6. false (1); true (1); false (1); true (1)
7. two mirrors used (1); vertically above one another (1); angled at 45° (1); correct rays drawn (1)
8. five or six points plotted correctly (3) but three or four points plotted correctly (2) one or two points plotted correctly (1); straight line drawn through points omitting origin (1); the greater the distance the larger the shadow (1)

TOPIC 5: ELECTRIFYING!

1. cell / battery (1); bulb (1)
2. add another cell/battery (1)
3. motor _____ (1);  buzzer (1)
4. A switch closed / switch on (1); B switch open / switch off (1); breaks circuit (1)
5. true (1); false (1); false (1); true (1)
6. six or seven points plotted correctly (3) but four or five points plotted correctly (2) two or three points plotted correctly (1); straight line drawn through points omitting origin (1); the greater the voltage the louder the buzzer (1); 2 V (1)

TOPIC 6: WE ARE DINOSAUR HUNTERS

1. Triassic, Jurassic, Cretaceous. (3)
2. Triassic – all land joined together ('Pangaea'), extensive deserts, riversides and scrubland. Jurassic – 'Pangaea' was splitting up. Damp climate, river forest and dense coniferous forest. Cretaceous – Continents broken apart, swampland mixed with flowering plants. Mountains and deserts. (6)
3. Children can choose any of the dinosaurs they have learnt about and two true facts based on their research. Award one mark for the dinosaur name and one mark per fact. (3)
4. Award one mark per idea. Might include body length, leg length, what the land is like, foot size. (2)
5. Award marks depending on how many ideas the children include in their answer. Ideas might include; a massive asteroid/ meteor hit the Earth, the climate changed and over-heated, the climate changed and went into an Ice age, disease wiped them out, huge number of volcanic eruptions, competition from other animals. They were too big. (6)