

Progress Test 6

Science

30

First name: _____

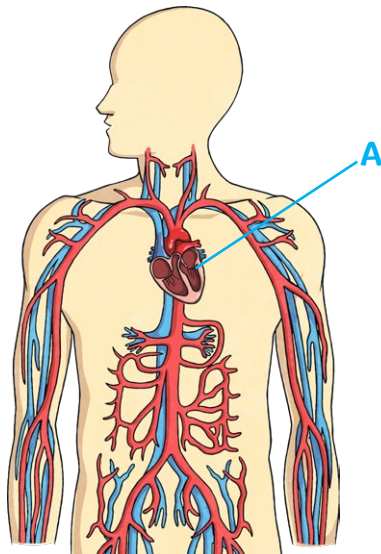
Last name: _____

Class: _____

Date: _____

Section 1: The Circulatory System

1. Here is a diagram of the circulatory system.



a) Name the organ labelled **A**.

1 mark

b) What is the function of organ **A**?

1 mark

c) This table shows the percentage of oxygen travelling in different blood vessels.

Blood Vessel	A	B	C
Percentage of Oxygen	94%	83%	75%

Which of these vessels is transporting blood **from** the lungs **to** the heart?

1 mark

d) Explain your answer.

2 marks

3.

a) Name **three** types of microorganisms.

1 mark

b) What did Carl Linnaeus create?

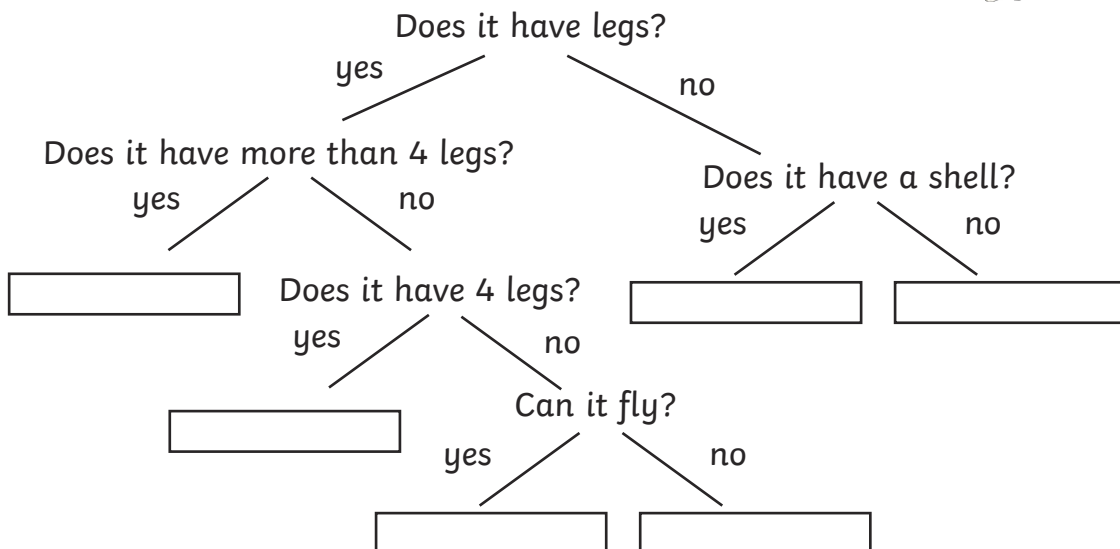
1 mark

c) Which of these animals is an invertebrate? Tick **one**.

- shark
- ladybird
- eagle
- newt
- crocodile

1 mark

d) Complete the flow chart with the correct animal names, according to their similarities and differences.



2 marks

4.

a) Draw lines to match the words to their definitions.

variation	Changes to certain characteristics which help species to survive in their environment.
inheritance	When characteristics are passed down from parents to offspring.
evolution	Differences between individuals of the same species.
adaptation	Changes to the characteristics of a species over a long period of time.

Note: A line is drawn from the dot on 'variation' to the dot on 'Differences between individuals of the same species.'

1 mark

b) Inherited characteristics are always physical.

- true
- false

1 mark

c) How can we use fossils as evidence of evolution?

1 mark

d) Label the picture to show **two** examples of how the polar bear has adapted to suit the Arctic environment.



2 marks

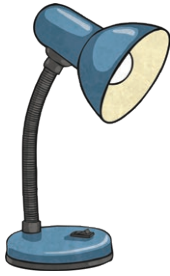
5.

a) Complete the sentence:
Light travels in a _____ line.

1 mark

b) Draw two arrows to show how the eye sees the ball.

1 mark



c) What is a shadow?

1 mark

d) Complete this question about changing the size of a shadow so it could be investigated using a fair test.

2 marks

What happens to the _____ of the shadow if you change the distance between the _____ and the _____?

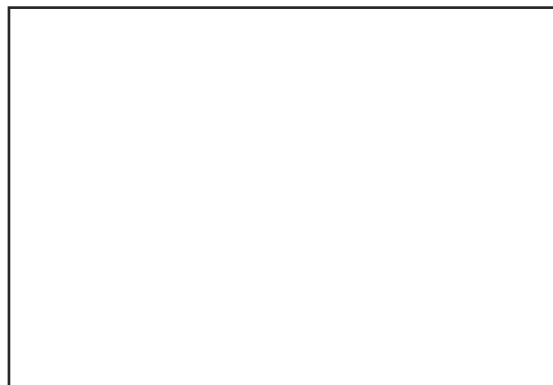
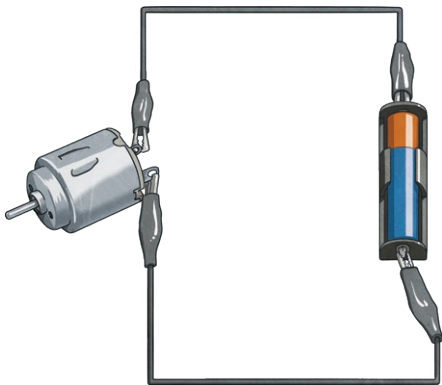
6.

a) Name this component.



1 mark

b) Draw a circuit diagram to represent this circuit.



1 mark

c) Name **one** way to make the motor in the circuit shown above spin more slowly.

1 mark

d) This table shows the results of a comparative test to investigate how the number of wires used affects the volume of a buzzer.

Number of Wires	2	3	4	5	6
Decibels	71	61	9	56	47

Which result is likely to be an anomaly? How can you tell this?

2 marks

	Answer	Assessment Focus	Possible Misconceptions and Interventions
1 (a)	heart (1 mark)	<ul style="list-style-type: none"> name and describe the functions of the main parts of the circulatory systems draw conclusions and explain findings 	<p>Children may need support to identify the main organs in the circulatory system.</p> <p>Use: KS2 Circulatory System Interactive Activity</p>
(b)	pumps blood around the body/circulatory system (1 mark)		<p>Children may need support to describe the functions of main parts of the circulatory system.</p> <p>Use: The Circulatory System Interactive eBook</p>
(c)	A (1 mark)		<p>Children may need support to understand how oxygen is transferred through different vessels in the circulatory system.</p> <p>Use: Blood Flow Around The Body Game</p>
(d)	<p>Accept answers such as:</p> <p>Blood vessel A contains the highest percentage of oxygen.</p> <p>Blood travelling from the lungs to the heart is the most oxygenated.</p> <p>(2 marks)</p>		<p>Use: The Circulatory System Interactive eBook</p>

<p>2 (a)</p>	<p><input checked="" type="checkbox"/> alcohol <input type="checkbox"/> air <input checked="" type="checkbox"/> drugs <input type="checkbox"/> nutrients (1 mark)</p>	<ul style="list-style-type: none"> describe the effects of diet, exercise, drugs and lifestyle on how the body functions 	<p>Children may need support to describe the effects of diet, exercise, drugs and lifestyle.</p> <p>Use: The Impact of Diet, Exercise, Drugs and Lifestyle on Bodies PowerPoint</p>
<p>(b)</p>	<p>Accept any two of the following points:</p> <ul style="list-style-type: none"> strengthens muscles improves circulation increases oxygen flow around the body helps you feel calm and relaxed helps you sleep more easily strengthens bones improves physical and mental health helps to prevent certain illnesses <p>(1 mark)</p>	<ul style="list-style-type: none"> draw conclusions and explain findings 	
<p>(c)</p>	<p>B (1 mark)</p>		<p>Children may need support interpreting scatter graphs or understanding how activities affect heart rate.</p>
<p>(d)</p>	<p>Heart rate increases with movement. Heart rate is often more steady while sleeping. (2 marks)</p>		<p>Use: Sunflower Line Graph Worksheet</p> <p>Use: Human Body: Heart Rate Experiment</p>

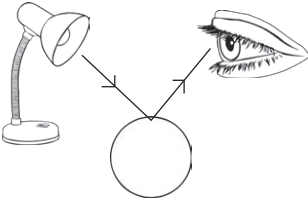
<p>3 (a)</p>	<ul style="list-style-type: none"> • bacteria • fungi/fungus (not mould) • viruses <p>(1 mark)</p>	<ul style="list-style-type: none"> • use the observable features of plants, animals and micro-organisms to group, classify and identify them into broad groups, using keys or other methods 	<p>Children may need support to define microorganisms. Possible teaching point: all moulds are fungi but not all fungi are moulds.</p> <p>Use: Microorganisms Science PowerPoint Quiz</p>
<p>(b)</p>	<p>Any of the following:</p> <ul style="list-style-type: none"> • classification system • Linnaean system • a system to classify items/ things • the basis of the taxonomy tree • wrote the Systema Naturae • binomial nomenclature <p>(1 mark)</p>	<ul style="list-style-type: none"> • describe ideas (including ideas that have changed over time) 	<p>Children may need support to recall the work of Carl Linnaeus and the Linnaean system.</p> <p>Use: Carl Linnaeus Fact File</p>
<p>(c)</p>	<p>ladybird</p> <p>(1 mark)</p>		<p>Children may need support to identify the difference between vertebrates/ invertebrates.</p> <p>Use: Living Things Classification Pack</p>

<p>(d)</p>	<p>Answers from left to right:</p> <ul style="list-style-type: none"> • insect • cat • bird • girl • snail • fish <p>Accept variations of the words above e.g. beetle or shield bug in place of 'insect'.</p> <p>2 marks for all correct</p> <p>1 mark for 4 or 5 correct</p>		
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<p>4 (a)</p>	<p>1 mark for lines drawn correctly to show:</p> <p>inheritance: When characteristics are passed down from parents to offspring.</p> <p>evolution: Changes to the characteristics of a species over a long period of time.</p> <p>adaptation: Changes to certain characteristics which help a species to survive in their environment.</p> <p>(1 mark)</p>	<ul style="list-style-type: none"> • use the basic ideas of inheritance, variation and adaptation to describe how living things have changed and evolved over time and provide evidence for evolution • record data and results using scientific diagrams and labels 	<p>Children may need support to define key vocabulary.</p> <p>Use: Y6 Evolution and Inheritance Science Key Vocabulary Cloud and Retrieval Questions</p>
<p>(b)</p>	<p>false</p> <p>(1 mark)</p>		
<p>(c)</p>	<p>Accept answers which mention comparison or observing change over time, for example:</p> <ul style="list-style-type: none"> • comparing the fossil with a present-day skeleton of the same species • to see how a the skeleton of a species has changed over time <p>(1 mark)</p>		<p>Children may need support to apply the theory of evolution.</p> <p>Use: The Theory of Evolution - Treetopix! - Twinkl Kids' TV</p> <p>Use: Fossils and Evolution Year 6 Differentiated Lesson Teaching Pack</p>

<p>(d)</p>	<p>2 marks for any two of the following: (1 mark for one correct answer)</p> <ul style="list-style-type: none"> • white colouring to act as camouflage • thick layers of fat for warmth • thick fur for insulation/ warmth • an oily coat which can shed water to minimise heat loss • large feet for grip and weight distribution on the ice • sharp claws to grip on the ice 		<p>Children may need support to analyse how adaptations to a habitat benefit an organism.</p> <p>Use: Adaptations of a Polar Bear Display Poster</p>
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5 (a)	straight (1 mark)	<ul style="list-style-type: none"> • use the idea that light from light sources, or reflected light, travels in straight lines and enters our eyes to explain how we see objects and how the shape of shadows form • ask their own questions about the scientific phenomena they are studying and select the most appropriate ways to answer these questions, recognising and controlling variables where necessary 	<p>Children may need support to apply their knowledge of how light travels.</p> <p>Use: Y6 Light: The Journey of Light Worksheet</p>
(b)	(1 mark)		
(c)	<p>1 mark for an appropriate description, for example:</p> <ul style="list-style-type: none"> • a shadow is an absence of light • a shadow is a dark shape formed when an opaque object blocks the light 		
(d)	<p>What happens to the _____ of the shadow if you change the distance between the _____ and the _____?</p> <ul style="list-style-type: none"> • size, height or length (1 mark) and • light source and object or • object and surface <p>(2 marks for all correct, 1 mark for 2 correct)</p>		<p>Children may need support to analyse how altering distance affects shadows.</p> <p>Use: Y6 Light: Investigating How Shadows Change with Distance Worksheet</p>

<p>6 (a)</p>	<p>buzzer (1 mark)</p>	<ul style="list-style-type: none"> • use simple apparatus to construct and control a series circuit and describe how the circuit may be affected when changes are made to it 	<p>Children may need support to recall circuit symbols.</p> <p>Use: Circuit Symbols Worksheet</p> <p>Use: Electricity Circuit Symbols Word Mat</p>
<p>(b)</p>	 <p>(1 mark)</p>		<p>Children may need support to explain how the circuit is affected when changes are made to it.</p> <p>Use: Y6 Science Electricity: What Happens to the Bulb? Fortune Teller</p> <p>Use: Retrieval Practice: Science: Electricity: Year 6: Interactive Quiz</p>
<p>(c)</p>	<p>1 mark for any of the following:</p> <ul style="list-style-type: none"> • use longer/more wires • add another motor • add any other components (except battery/cell) • use less power/voltage or change the cell <p>Do not accept: references to breaking the circuit.</p>	<ul style="list-style-type: none"> • use recognised symbols to represent simple series circuit diagrams • draw conclusions, explain and evaluate their methods and findings 	

<p>(d)</p>	<p>4 wires, 9 decibel volume is the anomaly. (1 mark)</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Accept any reasonable explanation of why, such as:</p> <ul style="list-style-type: none"> • the buzzer was louder with 5 and 6 wires • the other decibel measurements decrease slowly, this doesn't follow the pattern </div> <p>(1 mark)</p>		
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