

**Quick Quiz**

Topic	Answers			
	Q1	Q2	Q3	Q4
8Ba	B	A	D	D
8Bb	C	A	B	B
8Bc	A	B	B	A
8Bd	A	C	D	C
8Be	A	B	C	D

**End of Unit Test Mark Scheme Standard (S)**

Question	Part	Step	Answer	Mark scheme
1	a	3rd	Seedling, small tree or sapling drawn. Must have at least one leaf.	1 mark
	b	3rd 3rd 3rd	A – flowering A to B – pollination B – fertilisation C – fruit formation C to D – seed dispersal D – germination	3 marks – 3 marks for all six correct, 2 marks for 4 correct, 1 mark for 2 correct, otherwise 0
	c	3rd	C fertilisation	1 mark
2		2nd 4th	W – anther – makes pollen X – filament – supports the anther Y – stigma – traps/receives pollen Z – ovary – contains ovules/egg cells (Accept: phonetic misspellings, e.g. filliment)	4 marks – 4 marks for names and functions all correct = step 4; 1 mark for two names correct (to a total of 2), 1 mark for two functions correct (to a total of 2) = step 2
3	a	3rd	animal, fungus, protist/protoctist, prokaryote	1 mark
	b	3rd	whether they have flowers or cones	1 mark
	c	4th	any sensible suggestion (e.g. shape of leaves)	1 mark
	d	5th	<i>Ranunculus</i>	1 mark – do not accept misspelling
	e	5th	It means that scientists all over the world can be sure they are talking about the same plant / prevents confusion.	1 mark
4	a	3rd	X food store Y seed coat	1 mark – for both
	b	3rd	D root	1 mark
	c	2nd 2nd	water, oxygen, warmth (Accept: phonetic misspellings, e.g. oxijen)	2 marks – 2 marks for all correct, 1 mark for two correct
	d	3rd	B sexual	1 mark
5	a	6th 6th	It comes from an insect-pollinated flower because it is spikey. Flower N is insect-pollinated because it has red petals to attract them.	2 marks – 1 mark for each point

Question	Part	Step	Answer	Mark scheme
	<b>b</b>	<b>6th</b>	It would be smaller and/or smoother. Some students may mention that some pollen grains have 'wings'.	<b>1 mark</b>
	<b>c</b>	<b>4th</b>	<b>B</b> male gamete	<b>1 mark</b>
<b>6</b>	<b>a</b>	<b>4th</b>	<b>A</b> ovule	<b>1 mark</b>
	<b>b</b>	<b>6th</b>	<b>D</b> stigma	<b>1 mark</b>
	<b>c</b>	<b>7th</b> <b>7th</b>	To spread its seeds into new areas so that the plant can grow in new areas and spread. To make sure the offspring don't compete with the parent.	<b>2 marks</b> – 1 mark for each point
	<b>d</b>	<b>5th</b>	One of: wind – using spinners or parachutes; fruit – that animals eat; water – carries floating fruits on currents	<b>1 mark</b> – a description is needed for the mark. For example, do not accept 'wind'.
<b>7</b>		<b>4th</b>	The graph shows that bee numbers have been declining.	<b>2 marks</b> – 1 mark for interpreting the graph, 1 mark for a consequence
		<b>7th</b>	Fewer bees will result in less pollination. Less pollination will result in less fruit/ seeds. Less fruit/seeds will mean lower profits for the farmers.	

### Final Step Calculation

Marks	Step
1–5	Below 2nd
6–9	2nd
10–14	3rd
15–18	4th
19–22	5th
23–26	6th
27–30	7th

### End of Unit Test Mark Scheme Higher (H)

Question	Part	Step	Answer	Mark scheme
<b>1</b>	<b>a</b>	<b>6th</b> <b>6th</b>	It comes from an insect-pollinated flower because it is spikey. Flower N is insect-pollinated because it has red petals to attract them.	<b>2 marks</b> – 1 mark for each point
	<b>b</b>	<b>6th</b>	It would be smaller and/or smoother. Some students may mention that some pollen grains have 'wings'.	<b>1 mark</b>
	<b>c</b>	<b>6th</b>	It has wings to help it float in the air/on the breeze.	<b>1 mark</b>
	<b>d</b>	<b>4th</b>	<b>B</b> male gamete	<b>1 mark</b>

Question	Part	Step	Answer	Mark scheme
2	a	4th	A ovule	1 mark
	b	6th	D stigma	1 mark
	c	7th 7th	To spread its seeds into new areas so that the plant can grow in new areas and spread. To make sure the offspring don't compete with the parent.	2 marks – 1 mark for each point
	d	5th	The spinner makes the seed fall more slowly, providing more chance for the wind to blow it away from the parent plant.	1 mark
	e	6th	D The length of the wings.	1 mark
	f	5th	The longer the wings, the more time the spinner takes to fall.	1 mark
	g	7th	straight line of best fit drawn on the graph	1 mark
	h	5th	One of: fruit – that animals eat; water – carries floating fruits on currents; explosions – force of exploding fruits flings out seeds	1 mark – a description is needed for the mark. Do <b>not</b> accept 'water'.
3		4th	The graph shows that bee numbers have been declining.	2 marks – 1 mark for interpreting the graph, 1 mark for a consequence
		7th	Fewer bees will result in less pollination. Less pollination will result in less fruit/ seeds. Less fruit/seeds will mean lower profits for the farmers.	
4	a	7th	B because this showed the biggest increase in germination rates after heat treatment.	1 mark
	b	6th	Fire weakens the seed coat (either by the heat causing it to crack or by evaporating water inside the seed causing a buildup of pressure that causes the seed coat to crack).	1 mark
	c	7th 7th	Any two from: There are lots of nutrients in the soil because of the burnt plant material. There are no adult competitor plants for the seedlings. The seedlings give the species a chance to rapidly cover the whole area in just their species.	2 marks – 1 mark for each point up to a maximum of 2 marks
5	a	5th	It is bent to hold the anther in the right place to deposit pollen on the insect.	1 mark
	b	5th	They mature at different times so that the stigma will not receive pollen at the same time as the anther is producing pollen.	1 mark
	c	6th 6th	It will cause the offspring to be identical to the adult and so there will be no variation. This will mean that all the plants in an area are the same and so a sudden change in conditions may kill all of them.	2 marks
	d	7th	Self-pollination means that all the offspring plants will have the adaptations necessary to survive in that area (because they will be identical to the parent).	1 mark

## Final Step Calculation

Marks	Step
1–4	Below 4th
5–7	4th
8–12	5th
13–17	6th
18–25	7th

## Quick Check answers

Topic	Step	Answers
<b>8Ba</b>	<b>3rd–6th</b>	<b>a</b> Organisms are classified by looking at their characteristics; they are put into groups based on characteristics; those groups are divided again and again, with those in each group having more and more similar characteristics. Some students may also mention genus and species as the last two groups and how the names of these groups are used to give an organism its scientific name.
	<b>5th–6th</b>	<b>b</b> Genus and species are the last two groups in the classification system; the names of these groups are used to give an organism its scientific name and so you can tell which other organisms have similar characteristics because they are in the same genus; scientists can tell exactly what organism is being referred to using a scientific name.
	<b>6th–7th</b>	<b>c</b> Biodiversity is how many different species live in an area; biodiversity is important because all organisms in an area depend on one another; humans also get lots of things from different species and if we allow them to become extinct we may lose things that may become important in the future; more biodiverse areas are better at recovering from disasters; biodiversity enriches our lives.
<b>8Ba</b> <b>WS</b>	<b>4th–5th</b>	Overall procedure is outlined on Worksheet 8Ba-6.
<b>8Bb</b>	<b>4th–6th</b>	Student's own notes and annotations. They should clearly show that sexual reproduction needs two parents (asexual reproduction needs only one) and produces variety (but asexual reproduction does not).
<b>8Bc</b>	<b>4th–6th</b>	True False: 'statement' <i>The female parts of a flower include the ovary, stigma and style.</i> False: 'statement' <i>Insect-pollinated flowers often produce a scent and have brightly coloured flowers.</i> True False: 'statement' <i>The anther produces pollen grains.</i> False: 'statement' <i>The ovule contains a female gamete OR The pollen grain contains the male gamete.</i> True False: 'statement' <i>Some plants avoid self-pollination by having both male and female parts in the different flowers/on different plants.</i> True False: 'statement' <i>Plants try to avoid self-pollination so that their offspring have variation.</i>

Topic	Step	Answers
8Bd	4th–7th	<p><b>1 a</b> From left to right: 4, 1, 3, 2</p> <p><b>b</b> From left to right: 4 – The ovary swells and becomes the fruit. The ovules become seeds; 1 – A pollen grain lands on a stigma; 3 – The nucleus from the male gamete fuses with the nucleus in the egg cell; 2 – The pollen grain grows a pollen tube, which grows towards the ovule.</p> <p><b>c</b> Far-left box circled (The nucleus from the male gamete fuses with the nucleus in the egg cell.).</p> <p><b>d</b> Labels could include: egg cell, fruit, ovary, ovule, pollen grain, pollen tube, seed, stigma, style.</p> <p><b>e</b> Animals eat the fleshy fruit.</p>
8Bd Lit	5th–6th	<p><b>1 a</b> <i>Coffea robusta</i> is one of the main species of coffee plant grown for coffee.</p> <p><b>b</b> <i>Coffea robusta</i> facts: it is grown at sea level; it needs to be cross-pollinated by insects; it is cheaper to grow than other coffee beans; but its quality is not as high.</p> <p><b>c</b> Repeating <i>Coffea robusta</i> six times makes the paragraph harder to read as it lacks cohesion.</p> <p><b>d</b> <i>Coffea robusta</i> is one of the main species of coffee plant grown for coffee. <u>It</u> is grown at sea level <u>and</u> needs to be cross-pollinated by insects. <i>Coffea robusta</i> is cheaper to grow than other coffee plants but <u>its</u> ‘beans’ are not considered to be of such high quality. The choice of whether to grow <i>Coffea robusta</i> depends on the altitude of the fields and whether there are pollinators.</p> <p><b>2</b> A, C, E, D, B, F</p>
8Be	5th–7th  4th–8th	<p><b>1</b> Apple trees, bees and humans are all interdependent. The apple trees rely on bees that visit the flowers and so pollinate them. In turn, the bees rely on the apple trees for nectar/pollen, which they collect for food. Humans rely on the trees for food (apples). In turn, humans spread the seeds of the trees when they transport and eat the apples. Humans collect honey from the bees, and humans may provide hives for the bees to live in; they may even plant apple trees for the bees to collect nectar/pollen from.</p> <p>Award additional credit for paragraphs that have a sound overall structure and good levels of unity, cohesion, coherence and order.</p> <p><b>2</b> The seed should have the seed coat, food store, small root, small shoot and embryo labelled. The seed coat protects the seed. The food store supplies glucose for respiration, which also requires oxygen as a resource. Respiration releases the energy needed for the embryo to grow. After germination, a small root appears. The root absorbs water. The shoot will grow above ground and support the leaves. Photosynthesis will occur in the leaves to make food for the plant. Photosynthesis requires the following resources: light, carbon dioxide and water.</p>