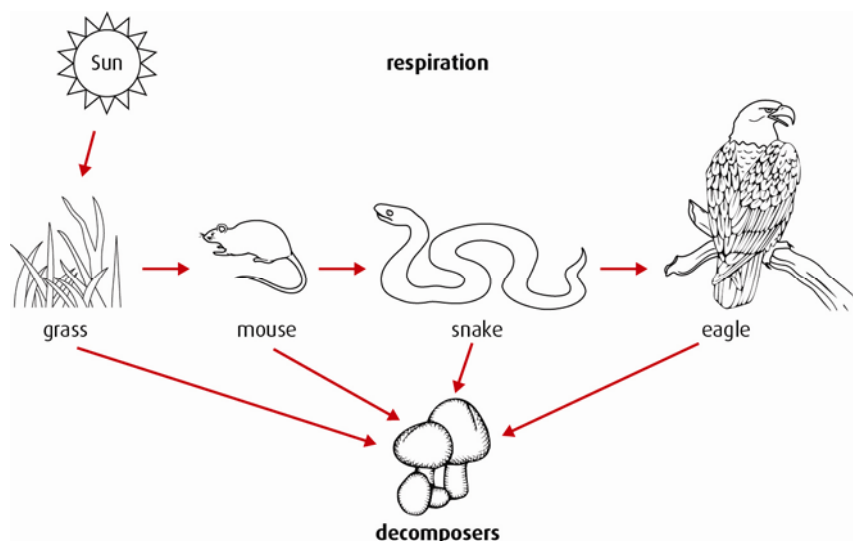


Answers for support worksheet – Chapter 5

1 a arrows as shown

(4 – ½ mark each)



b grass = producer (trophic level 1) (½)

mouse = primary consumer (trophic level 2) (½)

snake = secondary consumer (trophic level 3) (½)

eagle = tertiary consumer (trophic level 4) (½)

c The eagle is able to feed as both a secondary consumer (trophic level 3) and a tertiary consumer (trophic level 4). (1)

d At each trophic level (energy transfer) energy is lost as heat, during respiration. (1)

Some energy is wasted in waste products and when an organism dies. This waste passes to decomposers. (1)

2 a i An increase in temperature, up to a certain limit when another factor becomes limiting, will increase enzyme action and the rate of photosynthesis. (1)

ii Carbon dioxide is known as a 'greenhouse gas'. This means that it contributes to the greenhouse effect, by which the atmosphere traps heat radiated from the Earth's surface and helps to keep the Earth at a comfortable temperature for life to exist. An increase in carbon dioxide concentration may enhance this heating effect, resulting in an increase in global warming. (1)

iii An increase in temperature causes an increase in respiration and thus more carbon dioxide in the atmosphere. The solubility of carbon dioxide in the oceans decreases so this additional carbon dioxide remains in the atmosphere and can enhance the greenhouse effect, causing temperatures to rise further. (2)

- b** two out of: water vapour, methane, oxides of nitrogen, fluorocarbons (FCs)

3

(3 – 1 mark each)

Aspect of the theory of evolution	Letter of matching statement
Some variations are inherited.	C
There is variation in all populations.	B
Natural populations overproduce offspring.	A

- 4 a** kingdom, phylum, class, order, family, genus, species

(7)

b

(8 – 1 mark for each correctly filled box)

Phylum	Description	Example
Bryophyta	B	moss, liverworts
Filicinophyta	D	ferns, horsetails
Coniferophyta	A	fir, pine, cedar trees
Angiospermata	C	flowering plants, geranium, rose, lily or other suitable example

- 5** Example key shown below. Others are possible. No marks awarded for features that mention size without including relative proportions.

(8)

1	has two toes has more than two toes	deer 2
2	has three toes has more than three toes	3 4
3	toes are 'webbed' and linked by skin toes not webbed	duck turkey
4	four toes present five toes present	5 6
5	claws present at the end of the toes no claws on the toes	coyote bobcat
6	five toes are 'webbed' five toes are not webbed	beaver 7
7	instep clearly visible no instep present	black bear raccoon