## BIOLOGY

## Passport to success

## Exchange of materials AQA Biology B3.1


l- 2 marks: some mention of energy being needed and uptake going against the concentration gradient. Poor SPAG. eith either root hair cell or small intestines with reference energy being needed and uptake going against concentration gradient. Some SPAG errors.

5-6 Marks: Detailed description of active transport in the small intestines and root hair cells. Almost faultless SPAG.


During active transport molecules are carried across the cell membrane against the concentration gradient from dilute solutions to concentrated solutions. Transport proteins transport the nutrients from the surrounding soil solution into the cell. This requires energy which comes from cellular respiration released by mitochondria (which is why these cells contain a lot of mitochondria). For example, root hair cells absorb mineral ions from the soil. Inside the small intestines, glucose is transferred from the small intestines into the blood stream via active transport.


## BIOLOGY

## Passport to success

## Exchange of materials AQA Biology B3.1a

##  



produces fruit syrup.
to a freshly prepared fruit salad
Explain why adding large amounts of sugar

## Question

Exchange of materials

## 



The sugar that is added to the fruit salad dissolves in the fruit juice on the surface of the fruit (l). This results in a sugar solution that is more concentrated on the outside of the fruit than inside the fruit (l). As a result water moves out of the fruit through the semi-permeable cell membranes of the fruit cells (l). This process is called osmosis.

## BIOLOGY3



## BIOLOGY

## Passport to success

Transporting materials AQA Biology B3.2
Firstly, then, also, but, however, on the
Səム!ฺววนแ๐ว
disadvantages commenting on both Compare: to give advantages and Describe: to give an ordered account. Command word
processes etc. one hand, on the other hand, Describe the advantages and disadvantages
of treating heart patients with
artificial hearts.
u0!1Sən0

## Transporting materials <br> $7^{\circ}$ をغ <br> ยภэ๐тоІя

However, there are many more problems associated with artificial hearts. Firstly, the success rate is very low (l)and many receivers of artificial hearts do not survive for long. The actual device has also got a limited lifespan(l) and needs to be recharged on a regular basis(l). The patient might experience a lot of discomfort from the battery and/or controller (1). Finally, there is an increased risk of infection (l).
$\therefore: \therefore 0.8: 8: 8.8:$

## BIOLOGY

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Transporting materials AQA Biology B3.2a
Describe: to give an ordered account.
Command word

$$
\begin{aligned}
& \text { Describe what is meant by the } \\
& \text { transpiration stream in plants }
\end{aligned}
$$

Connectives
u0!1sən0

## Transporting materials <br> 

then, also,
next
finally,....


## BIOLOGY

## Passport to success

Constant internal conditions AQA Biology B3.3
mionestriction $<$ diet $\lll<$ reject $\ll$ drugs $\lll \lll$ donor $\ll 6$ marks $\lll<$


## BIOLOGY

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Constant internal conditions
AQA Biology B3.3a


## BIOLOGY

## Passport to success

Humans and the environment AQA Biology B3.4

7ə！p＞＞＞D！ұつет
this means，as a result，unlike，like，．．
therefore，consequently，so，because
First，next，then，and，finally，
Sวム！ヤววนแOD
Explain：to link points logically
Describe：to give an ordered account．
РJOM DUEUUOD
methods． advantages and disadvantages of these farming of animals and explain the
Describe the methods used in the factory u0！1sənO
Humans and the environment

I－ट marks：A basic description of one factory farming method has been given or one advantage or disadvantage of factory farming has been stated．Poor SPAG．

3－4 marks：There is a description of at least one factory farming method and an advantage ${ }^{\text {noi }}$ or disadvantage is explained． Some SPAG errors．

5－1 parks：There is a
description of
factory farming methods and advantage（s）and disadvantage（s）are explained．Almost faultless SPAG．


Factory farming involves keeping animals，such as hens，calves and pigs，in cramped conditions inside temperature and light controlled pens．The animals are fed growth hormones and are treated with prophylactic antibiotics．Limiting the movement of the animals means that less energy is lost through movement．Controlling the food intake and feeding the animals with growth hormones means that the animals will grow faster and are ready to be slaughtered earlier．However，keeping so many animals close together means that diseases can spread faster and animals are more stressed which really is cruel towards the animals．

## BIOLOGY

## Passport to success

Humans and the environment AQA Biology B3.4a
Small $\ll$ es cape $\lll$ breed $\lll<$ stock $\lll$ es cape $\lll<$ quotas $\lll<e n f o r c e \ll$


Increasing mesh sizes will allow small fish that are caught in the net to escape (l). This is an advantage as more fish will be able to grow big enough to breed (l) and maintain fish stocks (l).

The same argument applies to prohibiting fishing during the breeding season (l).

Although prohibiting fishing in breeding grounds is trying to ensure that fish are able to breed and therefore maintain fish stocks, there is no guarantee that all fish will remain in the area (l) during the entire breeding season.

Enforcing fishing quotas attempts to maintain fish stocks but is a strategy that is difficult to enforce and control (l).

All of the above strategies have a series impact on fishermen as all controls make it harder (l) for them to get a good catch which is needed to guarantee a good income (l).



