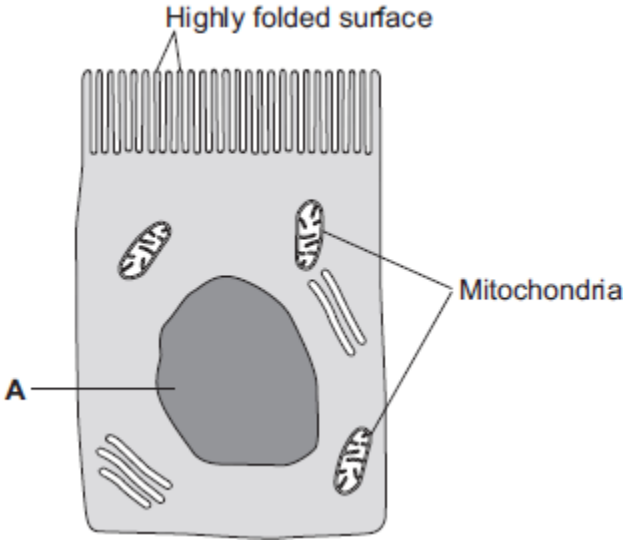


1

The image below shows an epithelial cell from the lining of the small intestine.

Direction in which food is absorbed



(a) (i) In the image above, the part of the cell labelled **A** contains chromosomes.

What is the name of part **A**?

.....

(1)

(ii) How are most soluble food molecules absorbed into the epithelial cells of the small intestine?

Draw a ring around the correct answer.

diffusion **osmosis** **respiration**

(1)

(b) Suggest how the highly folded cell surface helps the epithelial cell to absorb soluble food.

.....

.....

(1)

(c) Epithelial cells also carry out active transport.

(i) Name **one** food molecule absorbed into epithelial cells by active transport.

.....

(1)

(ii) Why is it necessary to absorb some food molecules by active transport?

.....

.....

(1)

(ii) Suggest why epithelial cells have many mitochondria.

.....
.....
.....
.....

(2)

(d) Some plants also carry out active transport.

Give **one** substance that plants absorb by active transport.

.....

(1)

(Total 8 marks)

Mark schemes

| | | | |
|----------|---|---|--|
| 1 | (a) (i) nucleus | 1 | |
| | (ii) diffusion | 1 | |
| | (b) increases / larger surface area (for diffusion) <i>ignore large surface area to volume ratio</i> | 1 | |
| | (c) (i) sugar / glucose <i>accept amino acids / other named monosaccharides</i> | 1 | |
| | (ii) against a concentration gradient or from low to high concentration | 1 | |
| | (iii) (active transport requires) energy (from) respiration | 1 | |
| | (d) minerals / ions <i>accept named ion ignore nutrients</i> do not accept water | 1 | |
| | | | |
| | | | |
| | | | |
| | | | |

[8]