SLR 9A Glucose: A Journey From Plate to Cell

Humans need energy

- Humans need a constant source of GLUCOSE to provide energy for cells.
- Carbohydrate-rich foods, such as whole-grains, vegetables and fruits, are the main source of energy for humans.
- When we eat a meal, carbohydrates are broken down into glucose, which is transported in the blood stream to our cells.

How does glucose get from the food we eat into our cells?

DIGESTION OF CARBOHYDRATES

LIVER-

SMALL INTESTINE

- 5. Glucose is carried in the blood to the liver, where it can:
 - circulate in the blood stream to supply cells with energy
 - travel via the blood stream to muscles where it is stored as glycogen
 - be converted to glycogen and stored in the liver
 - be converted to fat.

Glucose that is stored as glycogen can be converted back to glucose when required. 1. Digestion of complex carbohydrates starts in the mouth. Saliva contains the enzyme amylase that breaks carbohydrates down to maltose.

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STOMACH

2. Carbohydrates move through the stomach into the small intestine.

PANCREAS

 The pancreas secretes pancreatic juice into the small intestine. This contains amylase for the digestion of carbohydrates.

 In the small intestine, carbohydrates are broken down to glucose by enzymes (maltase, sucrose, lactase) that digest different types of sugars. Glucose is absorbed through the walls of the small intestine into the blood stream.



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A constant supply of energy

- Humans need 80 90mg of glucose per 100mL of blood to survive.
- After a meal, the level of glucose in the blood rises.
- When we don't eat, the level of glucose in the blood falls.
- The pancreas produces two hormones that work to keep our blood glucose levels steady.

How do blood glucose levels stay steady?

INSTRUCTIONS

Your task is to create a STORYBOARD to explain two ideas to your peers.

- 1. How does glucose get from the food we eat into our body cells?
- 2. How do blood glucose levels stay steady?

Work with a PARTNER

Resources you can use:

- The information on this worksheet
- The student presentation "BLOOD GLUCOSE"
- The KEY WORD list
- The STORYBOARD template.

Think about W's - what, where, when, why and how



KEY WORD LIST





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