

**NOTE:** The reading materials in this activity are adapted from *Mastering Science 3A* (“12.4 The human digestive system” p.43-56), Hong Kong: Oxford University Press (China) Limited, 2011

CMA Choi Cheung Kok Secondary School  
S.3 Biology  
Digestion (P.50-52)

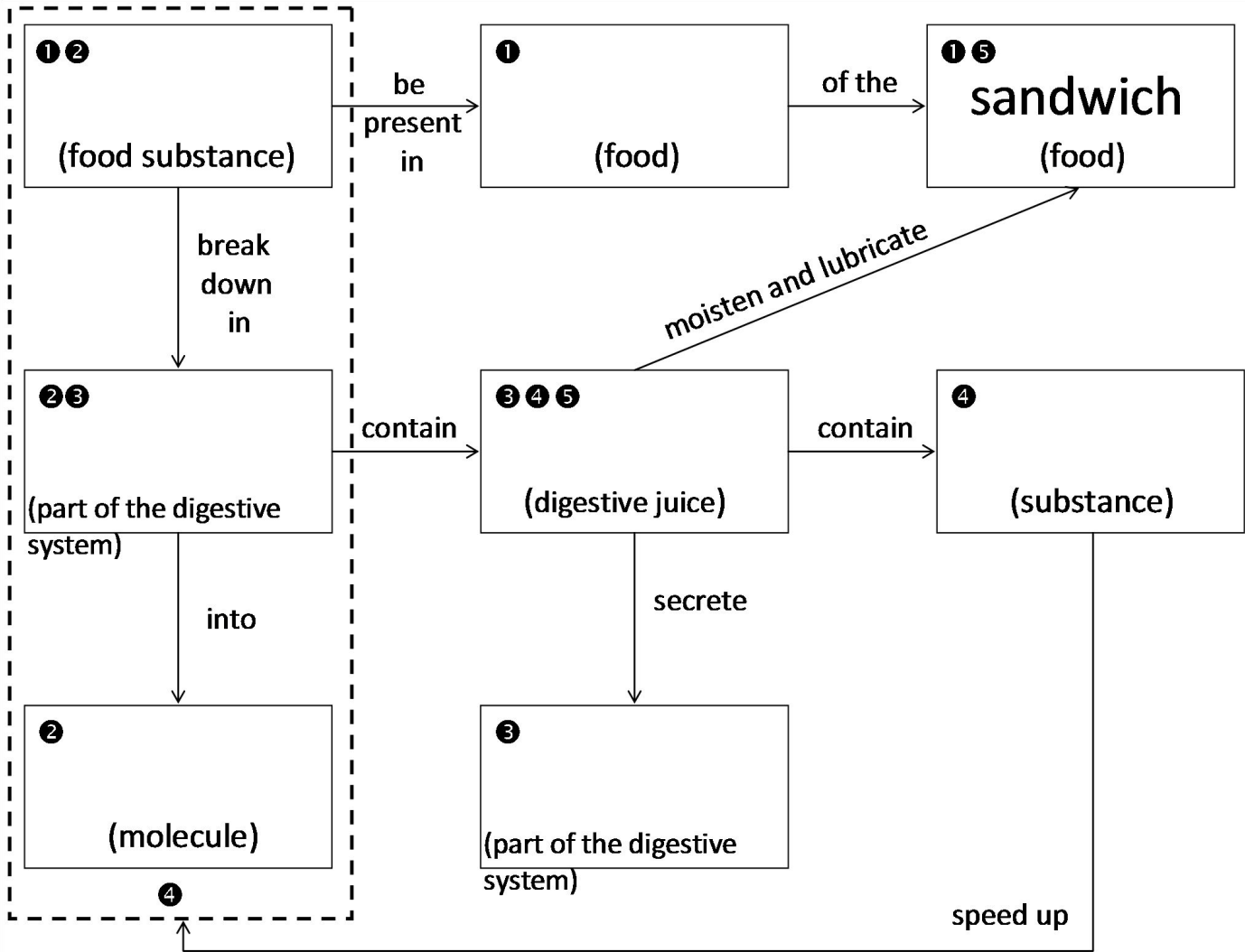
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Class: \_\_\_\_\_ (     )  
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A boy ate an egg sandwich (which contains egg, bread and salad dressing). How did his body digest the sandwich? Read the following paragraph about digestion in the mouth and complete the graphic organizer below.

Food in the mouth is broken down by an enzyme in the saliva. Saliva is a digestive juice secreted by the salivary glands. There are three groups of salivary glands on each side of our cheeks. The enzyme in the saliva works by speeding up the breakdown of large starch molecules into smaller maltose\* molecules.

Saliva also moistens\* and lubricates\* the food, making it easier to go down the oesophagus. Peristalsis of the oesophagus pushes the food down to the stomach.

Glossary:  
Maltose (n): a kind of sugar  
Moisten (v): make something slightly wet  
Lubricate (v): make something easier to move

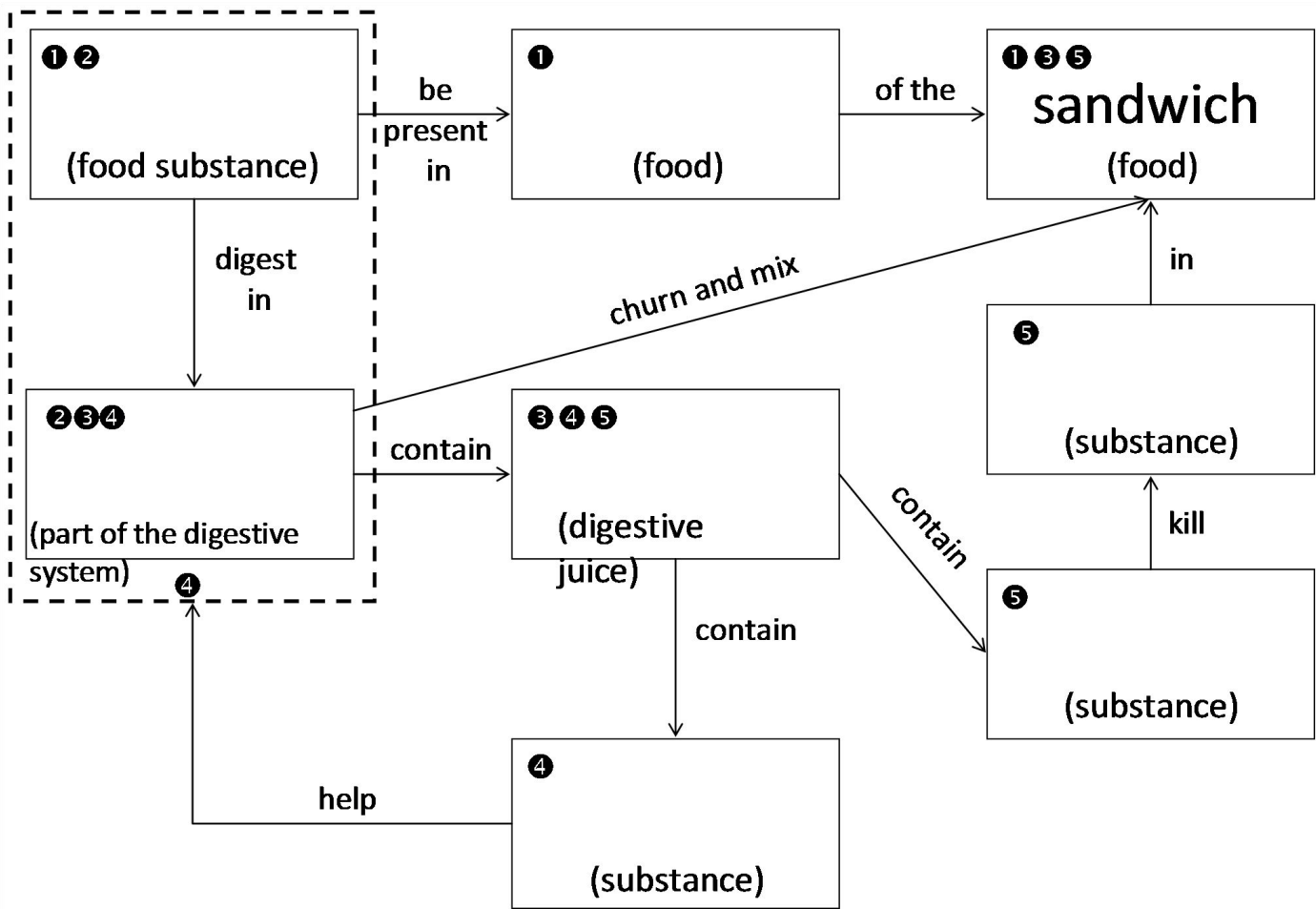


A boy ate an egg sandwich (which contains egg, bread and salad dressing). How did his body digest the sandwich? Read the following paragraph about digestion in the stomach and complete the graphic organizer below.

The stomach is a large muscular organ. Contraction of the muscles in the stomach churns\* and mixes the food with the gastric juice, which is a digestive juice containing enzymes and hydrochloric acid secreted from the stomach wall. The enzymes help digest the proteins in the food. The acid kills most of the bacteria present in the food.

Food stays in the stomach for about two to six hours depending on the type of the food. Then it is passed to the small intestine.

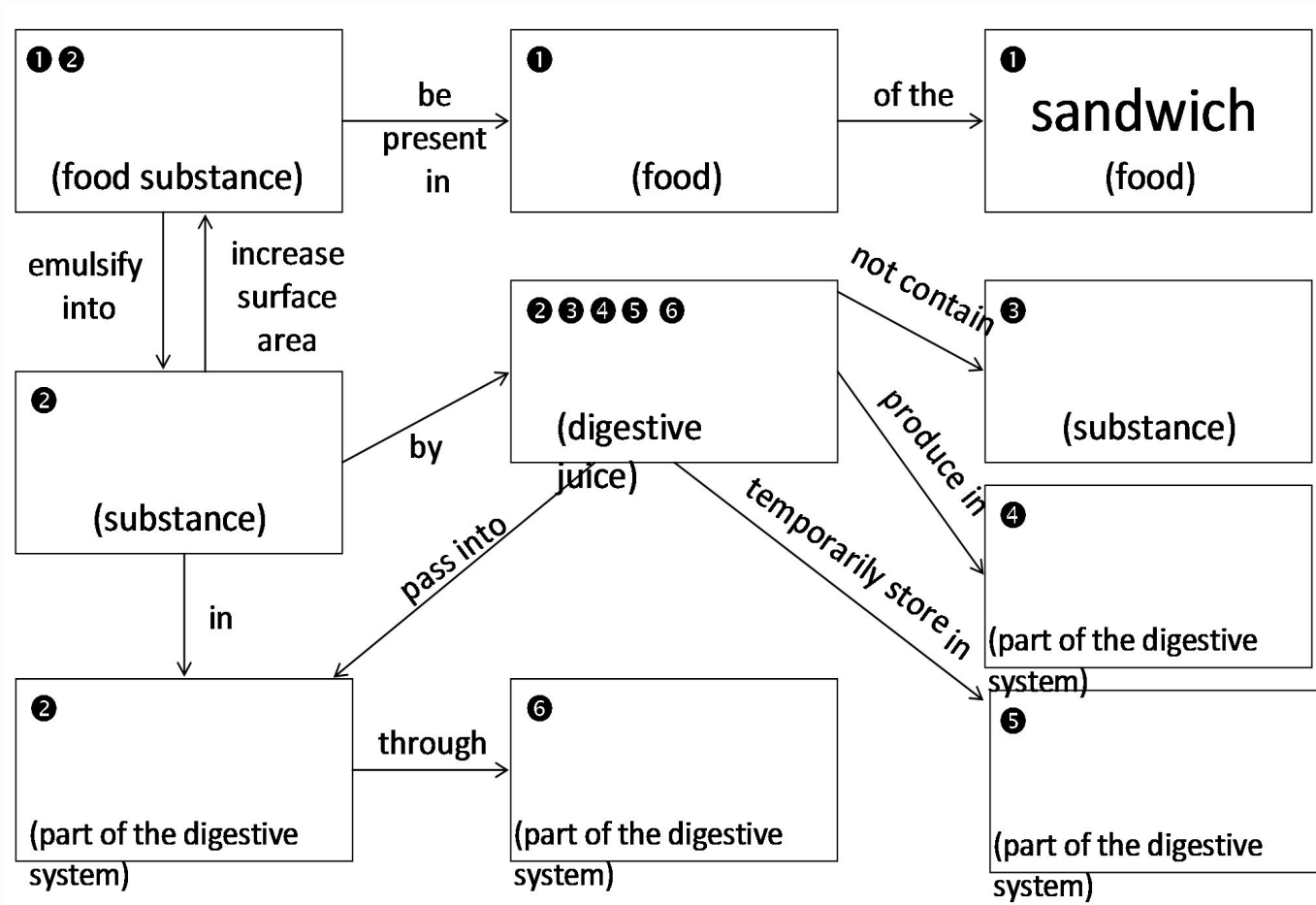
Glossary:  
Churn (v): move something violently



A boy ate an egg sandwich (which contains egg, bread and salad dressing). How did his body digest the sandwich? Read the following paragraph about the part of digestion in the small intestine and complete the graphic organizer below.

When food enters the small intestine, bile passes into the small intestine and mixes with the food. Bile is produced in the liver and is temporarily\* stored in the gall bladder. It passes into the small intestine through the bile duct. It contains no enzyme. It emulsifies\* fats into smaller oil droplets. This increases the surface area of fat molecules for other digestive juices to work on.

Glossary:  
Temporarily (adv): continue for only a limited period of time  
Emulsify (v): combine things to become a smooth mixture

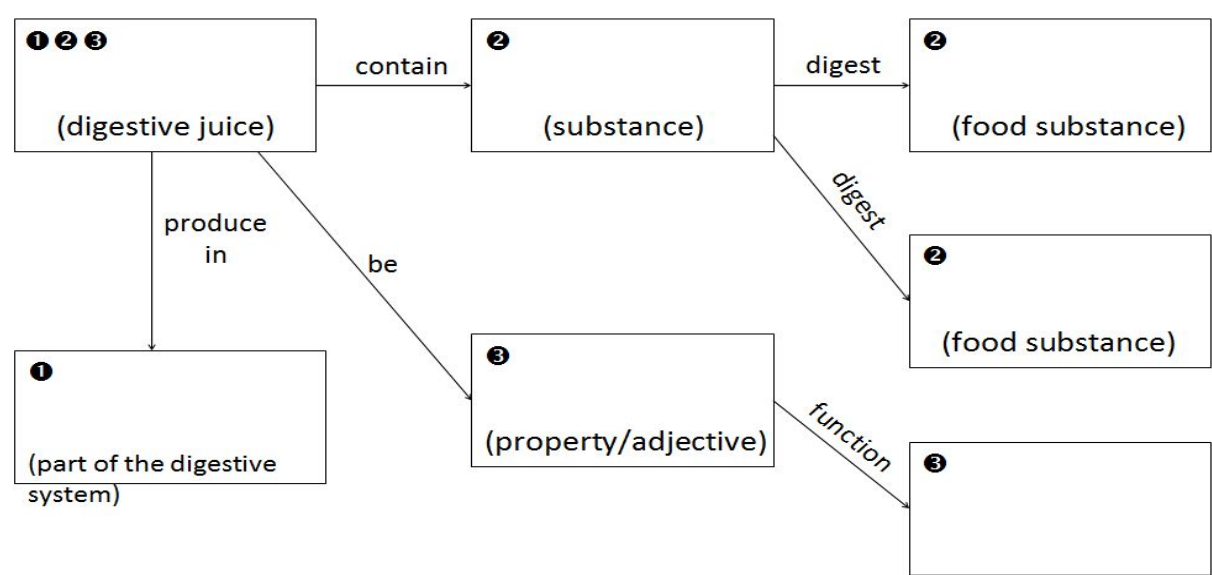
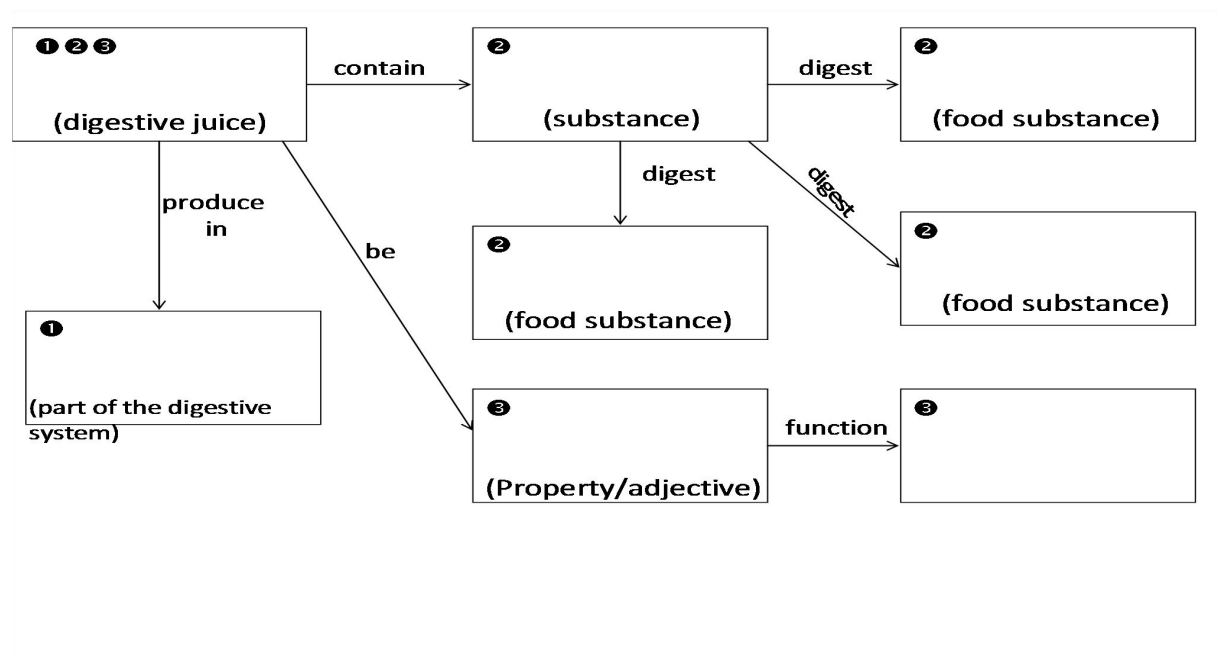


A boy ate an egg sandwich (which contains egg, bread and salad dressing). How did his body digest the sandwich? Read the following paragraph about digestion in the small intestine and complete the graphic organizers below.

When food enters the small intestine, pancreatic juice and intestinal juice pass into the small intestine and mix with the food. Pancreatic juice is produced in the pancreas. It contains enzymes for digesting carbohydrates, proteins and fats. It is alkaline. It neutralizes\* the acidic food from the stomach. Intestinal juice is an alkaline juice produced by the glands in the wall of the small intestine. It contains enzymes which help break down carbohydrates and proteins into their simplest forms.

Glossary:

Neutralize (v): make something neutral



① \_\_\_\_\_ is present in the \_\_\_\_\_ of the sandwich.

② Starch is broken down in the mouth into \_\_\_\_\_.

③ The mouth contains \_\_\_\_\_ which is secreted by the \_\_\_\_\_.

④ Saliva contains \_\_\_\_\_ which helps speed up the digestion of starch.

⑤ Saliva \_\_\_\_\_ and \_\_\_\_\_ food and makes it easier to go down the oesophagus.

① \_\_\_\_\_ is present in the \_\_\_\_\_ of the sandwich.

② Protein is digested in the \_\_\_\_\_.

③ Stomach contains \_\_\_\_\_.

④ Gastric juice contains \_\_\_\_\_ which help the digestion of protein.

⑤ Gastric juice contains \_\_\_\_\_ which kills most of the \_\_\_\_\_ in food.

① \_\_\_\_\_ is present in the \_\_\_\_\_ of the sandwich.

② Fats are \_\_\_\_\_ into smaller oil droplets by \_\_\_\_\_ to increase the \_\_\_\_\_.

③ Bile does not contain \_\_\_\_\_.

④ Bile is produced in the \_\_\_\_\_.

⑤ Bile is temporarily stored in the \_\_\_\_\_.

⑥ Bile is passed into the small intestine through \_\_\_\_\_.

① Pancreatic juice is produced in \_\_\_\_\_.

② Pancreatic juice contains \_\_\_\_\_ for digesting \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.

③ Pancreatic juice is \_\_\_\_\_ so it can \_\_\_\_\_.

① Intestinal juice is produced in \_\_\_\_\_.

② Intestinal juice contains \_\_\_\_\_ for digesting \_\_\_\_\_ and \_\_\_\_\_.

③ Intestinal juice is \_\_\_\_\_ so it can \_\_\_\_\_.

Write an essay discussing how an egg sandwich is being digested in the human body.

Digestion occurs in \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ of the human body.

First of all, the starch present in the \_\_\_\_\_ of the sandwich is digested in the \_\_\_\_\_. It is broken down into \_\_\_\_\_. The mouth contains \_\_\_\_\_, which is secreted by the \_\_\_\_\_. The saliva contains \_\_\_\_\_ which helps speed up the digestion of starch. Also, the saliva helps \_\_\_\_\_ and \_\_\_\_\_ food, making it easier to go down the oesophagus.

After that, the food enters the stomach, where the digestion of \_\_\_\_\_ occurs. Protein is present in the \_\_\_\_\_ of the sandwich. Stomach contains \_\_\_\_\_ which contains enzymes to \_\_\_\_\_. It also contains \_\_\_\_\_ for \_\_\_\_\_.

When food enters the small intestine, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ pass into the small intestine and mix with the food. Fats present in the \_\_\_\_\_ of the sandwich are \_\_\_\_\_ by the bile so the \_\_\_\_\_ is increased for further digestion. Bile does not contain \_\_\_\_\_. It is produced in the \_\_\_\_\_ and \_\_\_\_\_.

\_\_\_\_\_ It is passed into the small intestine through the \_\_\_\_\_.

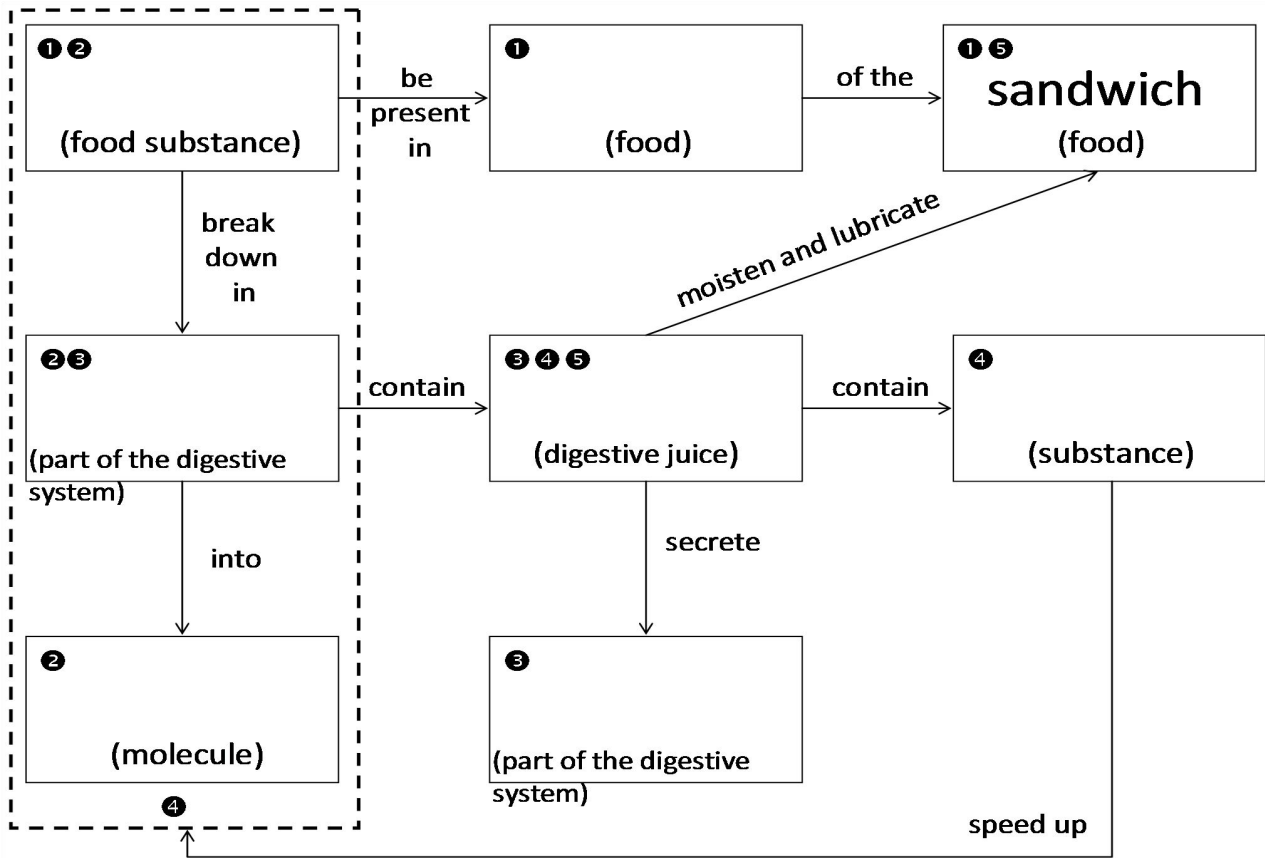
\_\_\_\_\_ is produced in the pancreas. It contains \_\_\_\_\_ for the digestion of \_\_\_\_\_. It is \_\_\_\_\_ so it can \_\_\_\_\_.

Intestinal juice is \_\_\_\_\_

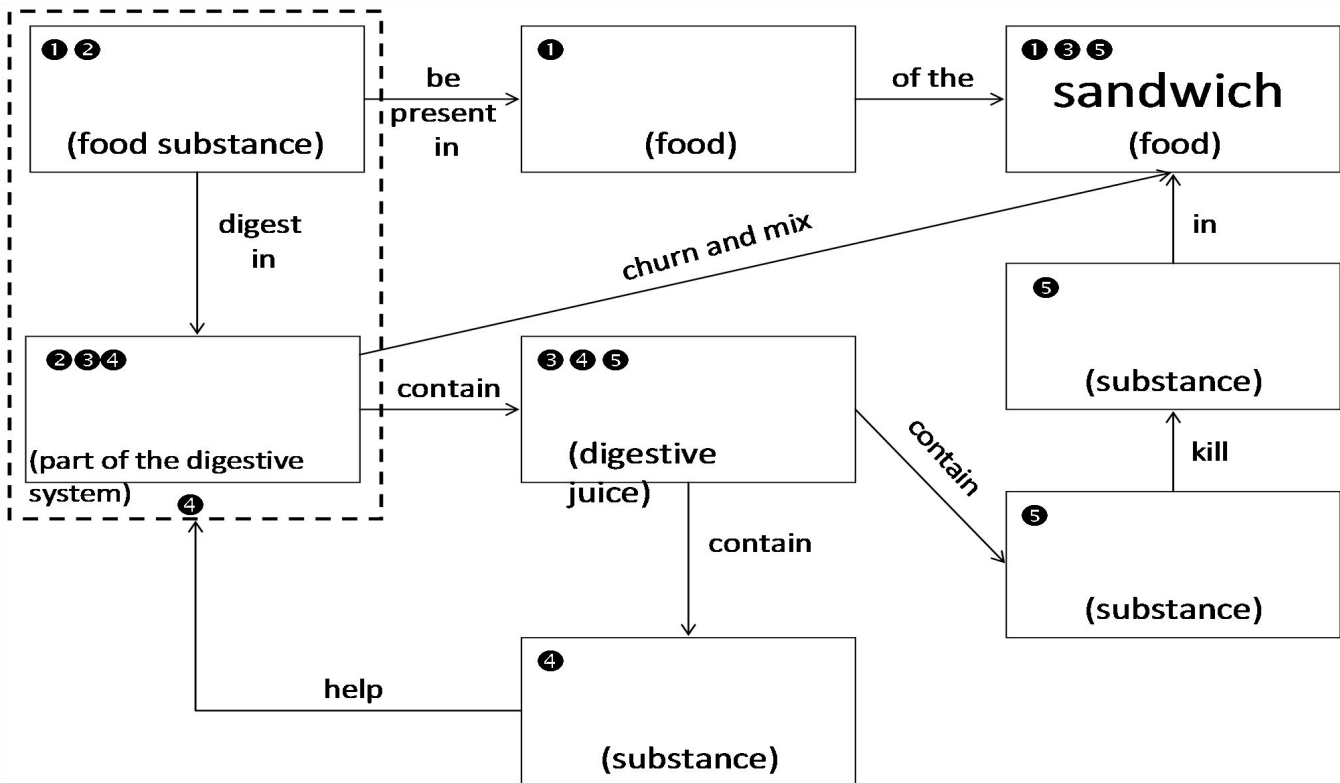
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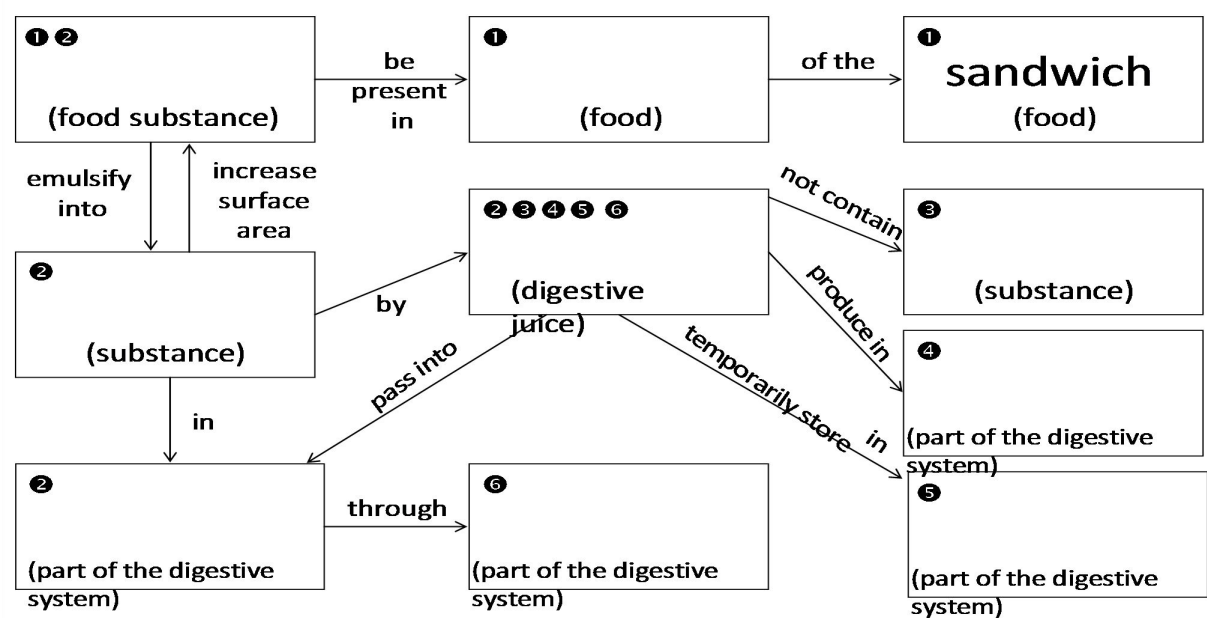
Digestion in Mouth



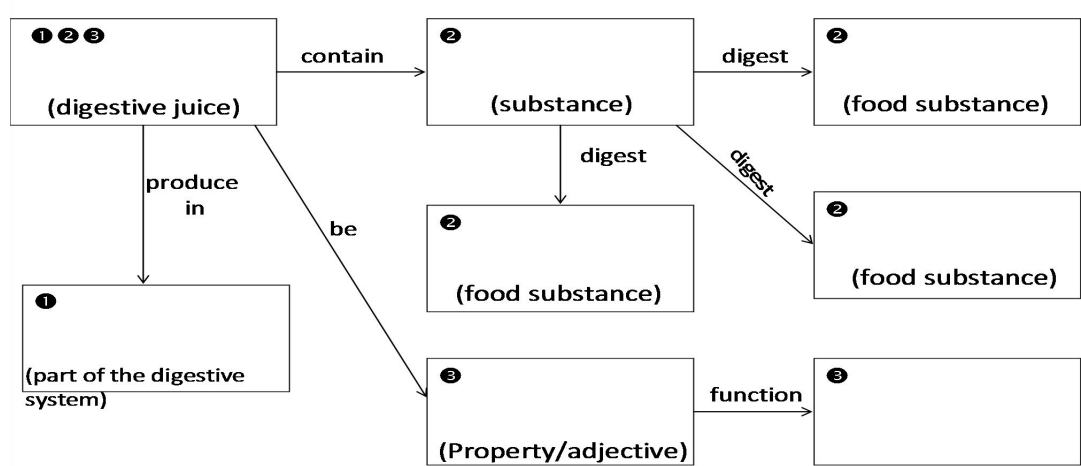
Digestion in Stomach



Digestion in small intestine (Bile)



Digestion in small intestine (Pancreatic juice)



Digestion in small intestine (Intestinal juice)

