Digestion and Nutrition
Lesson 13 - Review Point 2

Biology - Key Stage 3

Mrs Walsh

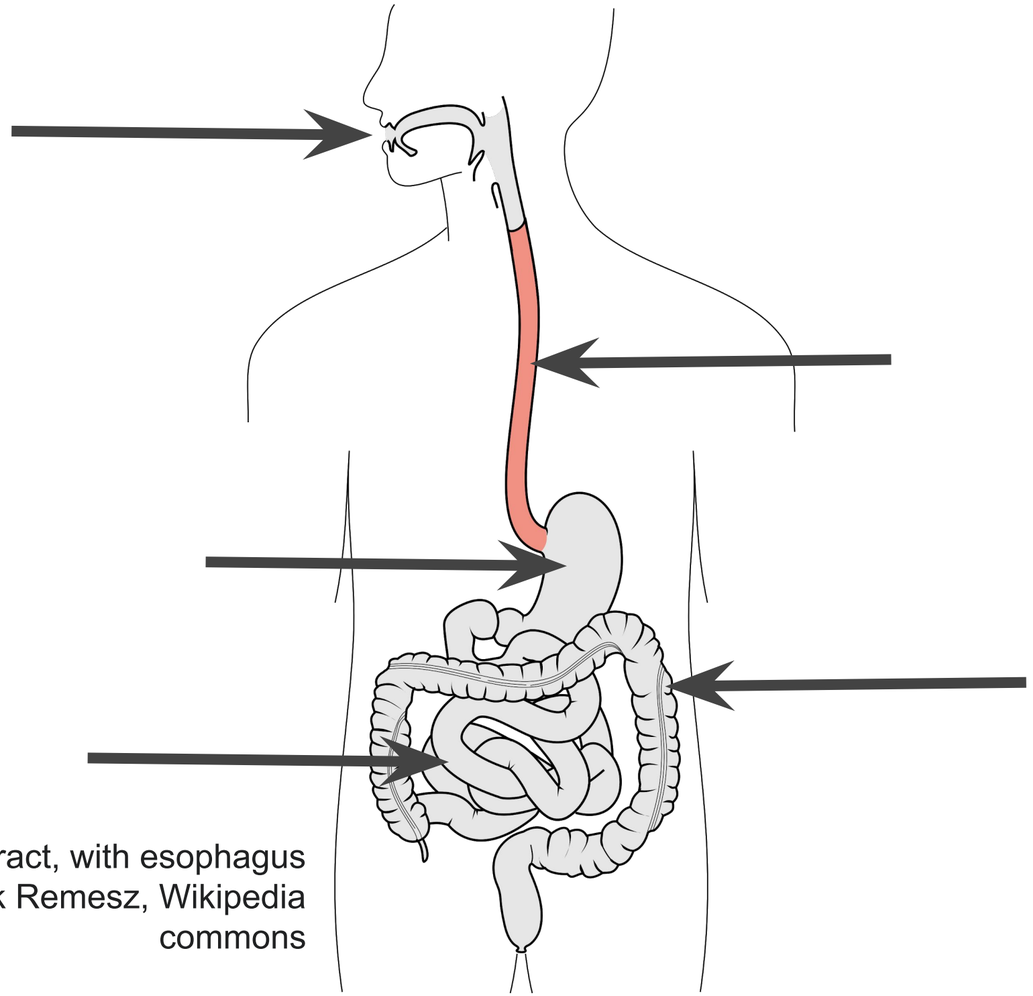
Key words

- Enzymes
- Protein
- Lipids (fats and oils)
- Dietary fibre
- Stomach
- Small intestine
- Large intestine
- Bile
- Saliva
- Amino acid
- Fatty acid
- Glycerol

Review: Organs of the digestive system

The digestive system

Fill in all the labels!



Scheme of digestive tract, with esophagus marked, Olek Remesz, Wikipedia commons

True or false?

Correct the false statements

1. Digestion is the breaking down of large insoluble food molecules into small soluble molecules.
2. An example of mechanical digestion is chewing
3. Bile is released by the stomach
4. The small intestine is where most of our water is reabsorbed
5. Saliva adds amylase to the food whilst chewing
6. Stomach acid breaks down our food
7. The small intestine is extremely short to allow waste materials to pass through the body much more quickly
8. Peristalsis is the wave-like contractions that help to move food along the digestive tract.

True or false?
Correct the false statements

Number	Corrected statement
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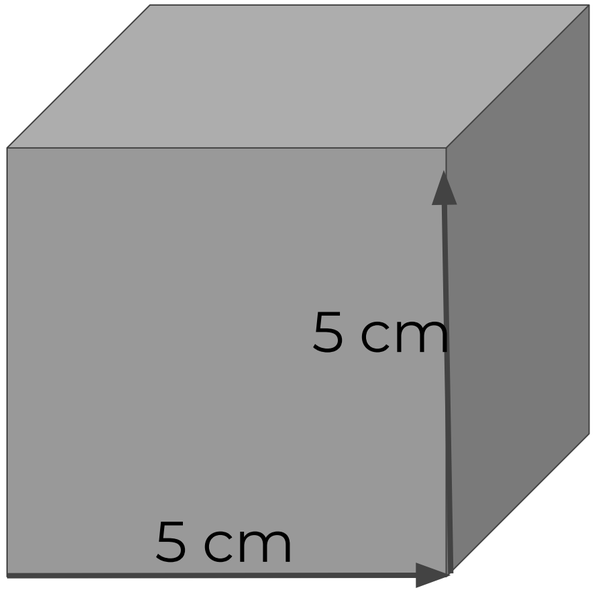
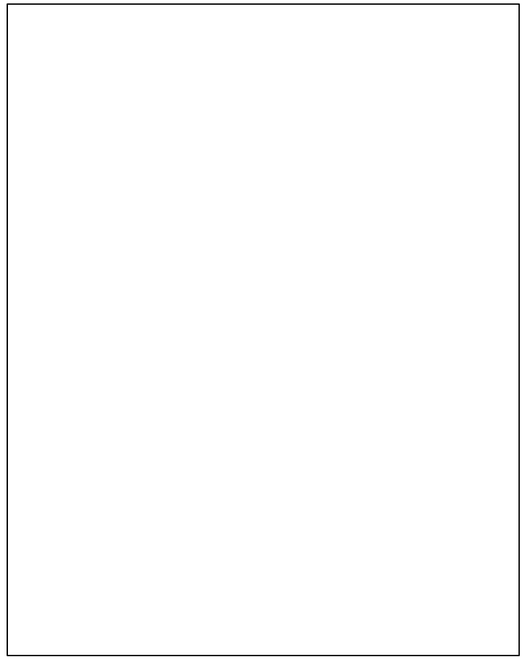
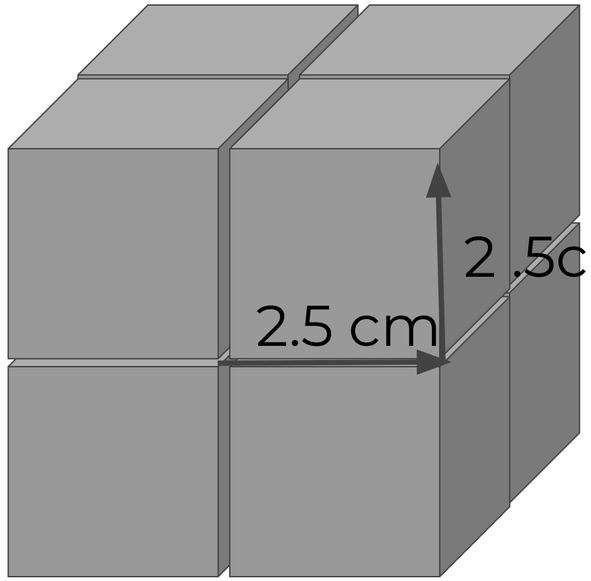
Review: Adaptations of the small intestine

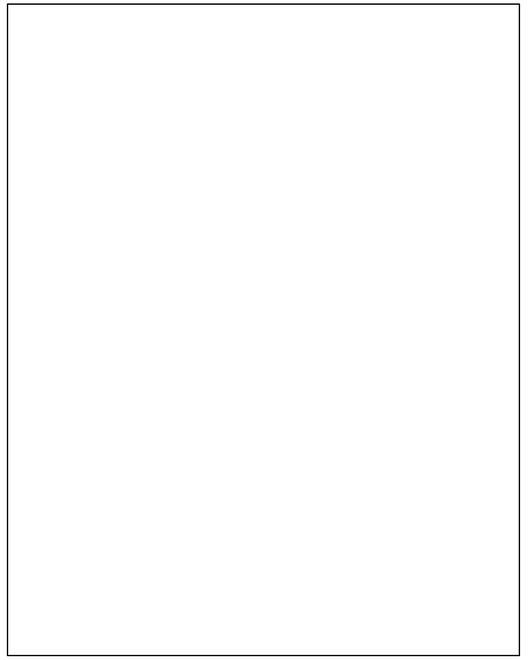
Surface area - independent practice

Surface area = total area of all the sides









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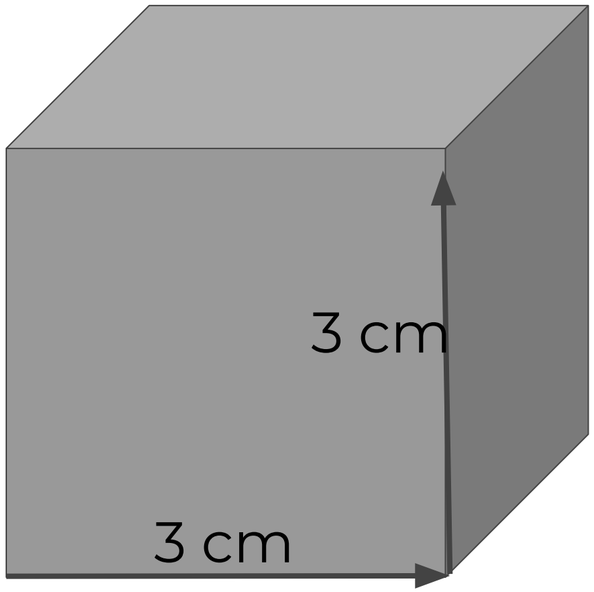

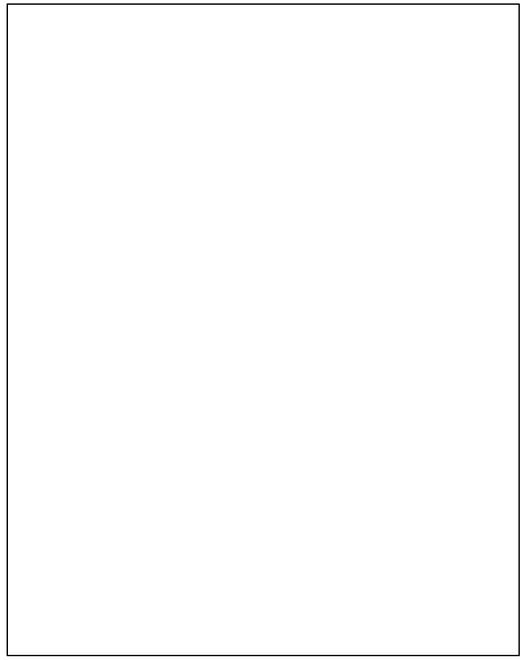

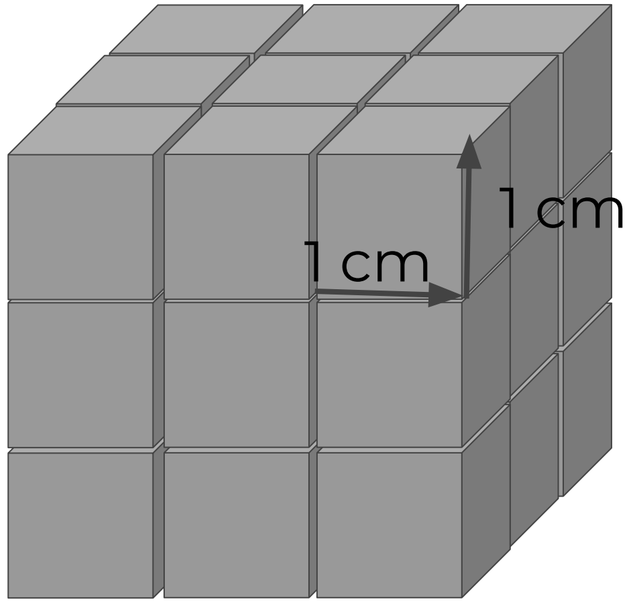

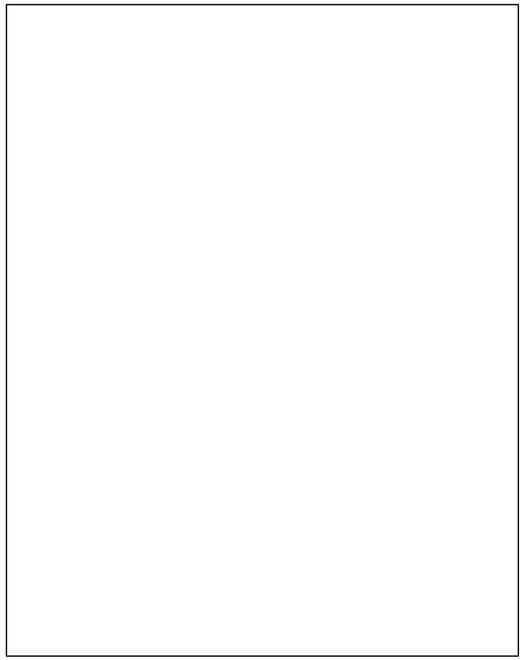

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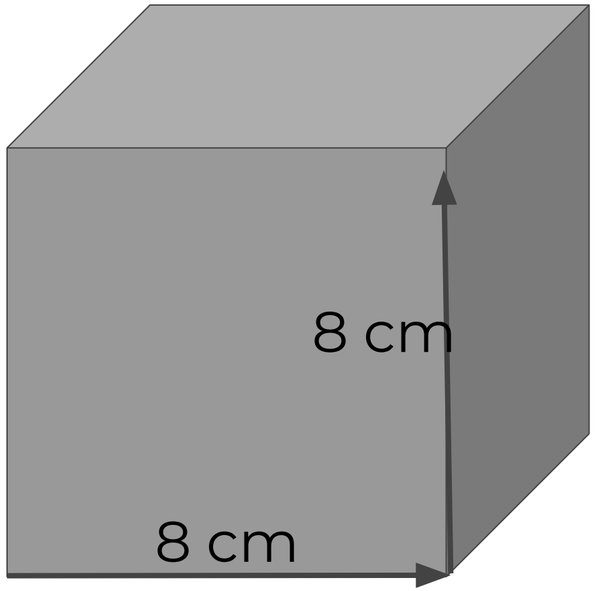
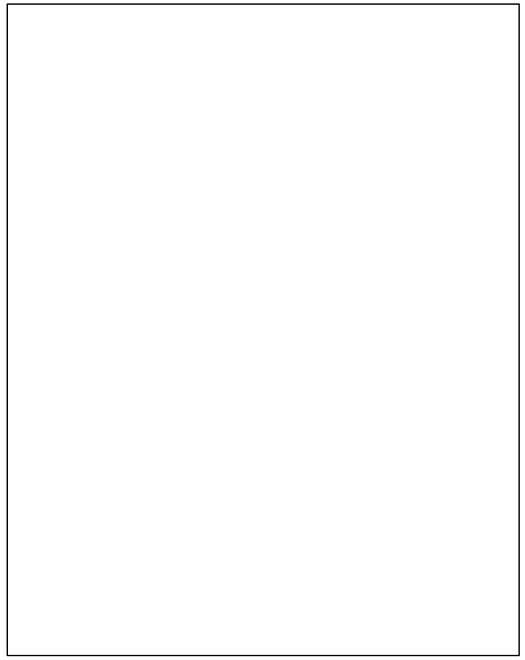
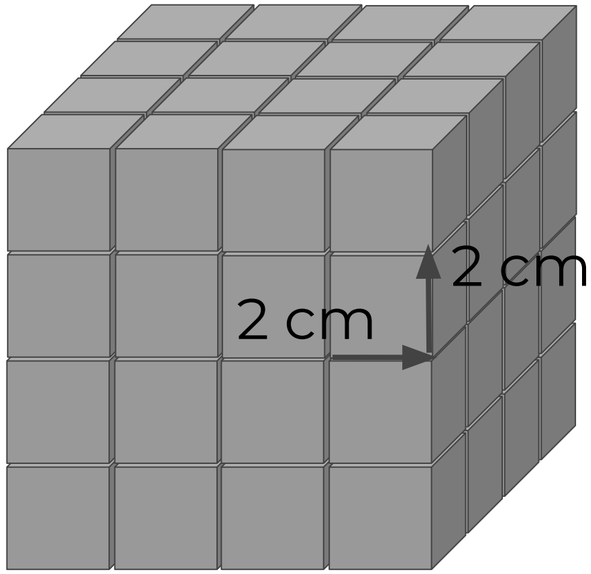






Review: Enzymes in digestion

Enzymes match up!

- Match up the enzyme to the chemical it interacts with

1. Amylase

2. Maltase

3. Protease

4. Lipase

5. Lactase

a) Lactose (sugar)

b) Proteins

c) Maltose (sugar)

d) Starch

e) Lipids (fats)

Review: Enzymes and temperature

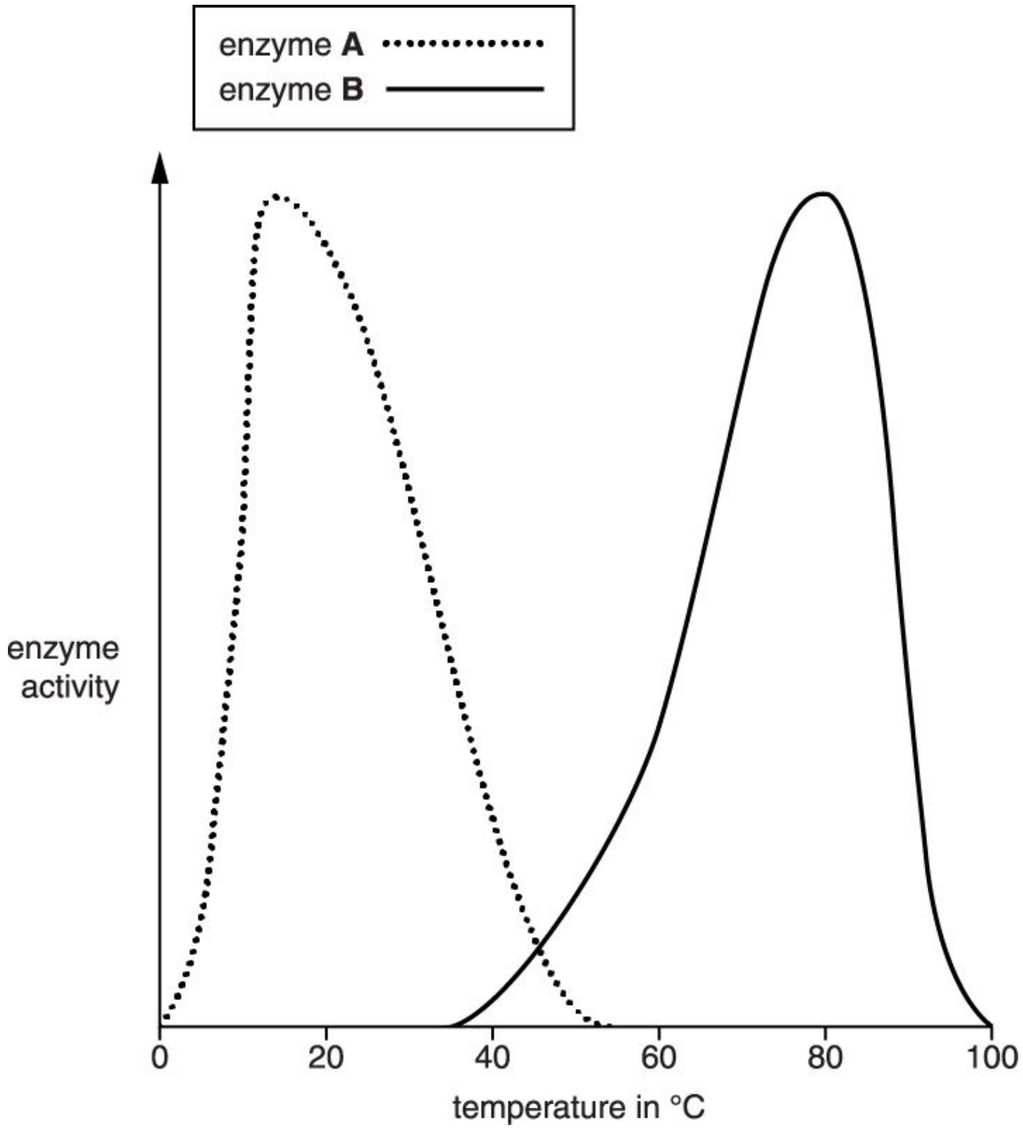
Exam Question Practice

1. Corinne does an experiment using two different enzymes, **A** and **B**.

   She records the activity of each enzyme at different temperatures.
   She plots her results on a graph.

   Both enzymes work on the same chemical.

   (Question continues on the next slide...)



Source: OCR January 2013, A151/02

Exam Question Practice

One of the enzymes is from a bacterium that lives in hot springs at 80 °C. The other enzyme is from a bacterium that lives in the sea at 14 °C.

Corinne concludes that enzyme A comes from the bacterium that lives in the sea.

Explain why Corinne's conclusion is correct. [2]

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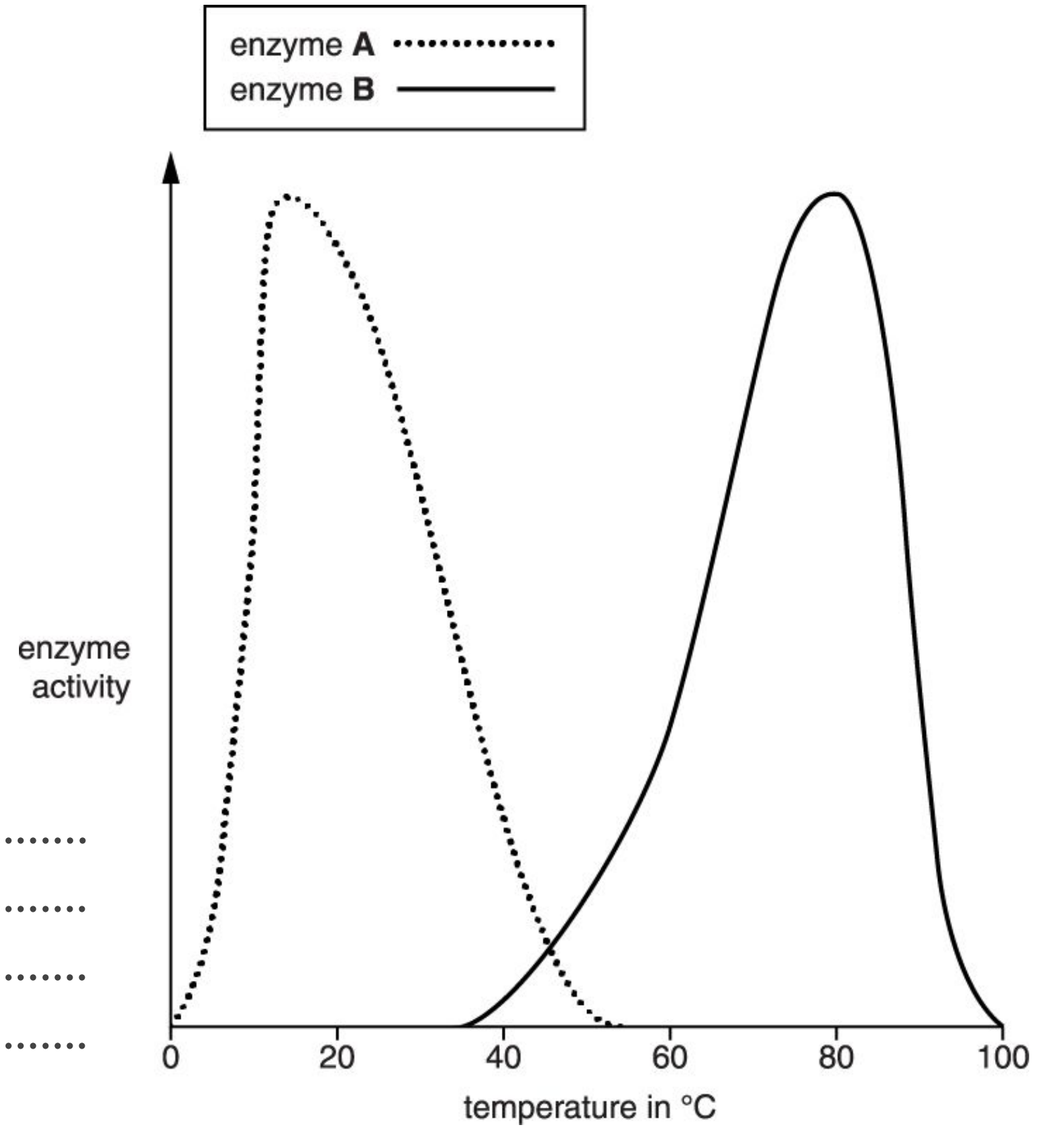

Source: OCR January 2013, A151/02

Exam-style Question Practice

Describe and explain the shape of each curve after 20 °C and 80 °C, respectively. [2]

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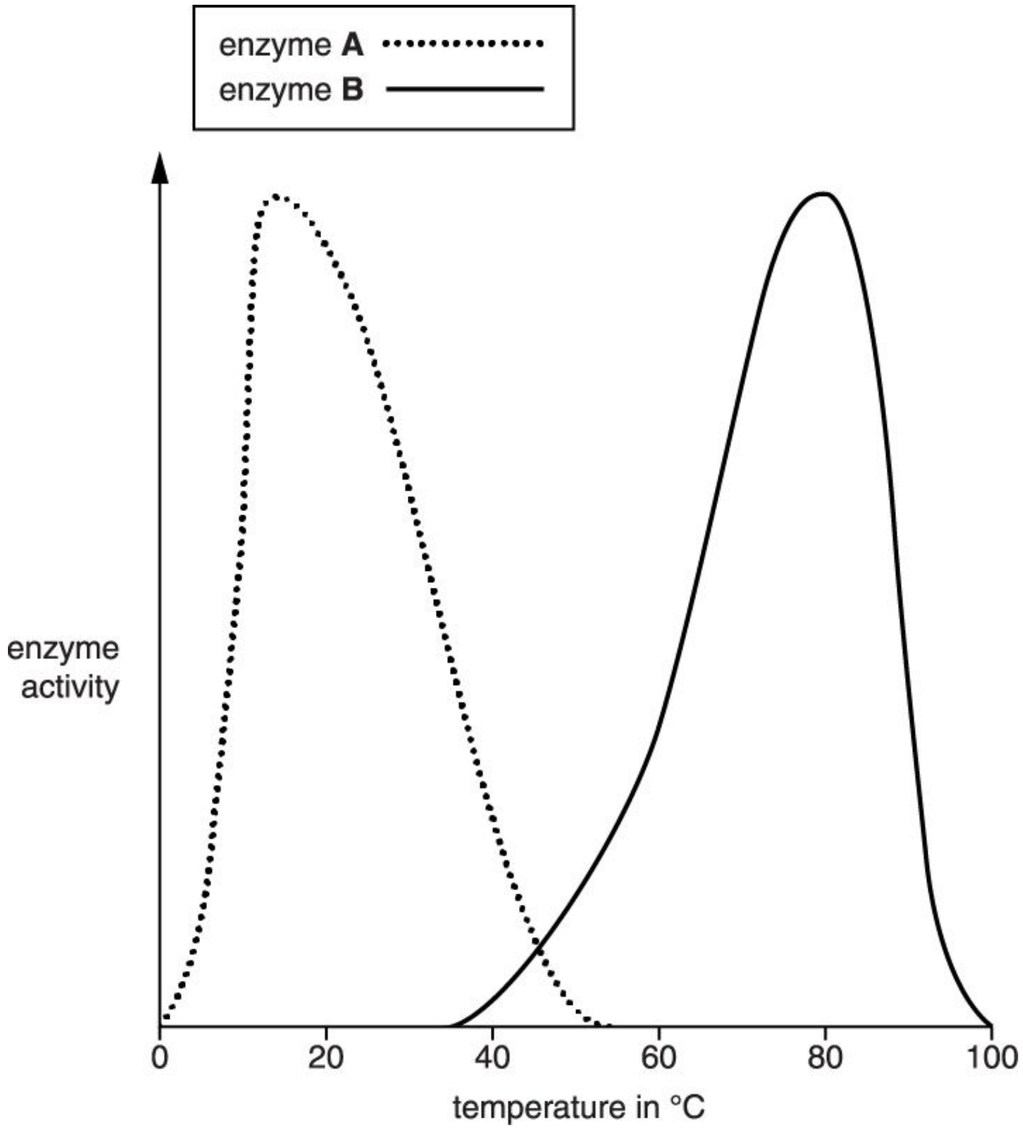

Image source: OCR January 2013, A151/02

Review: Mixed questions

Find it, fix it!

(Use the table on the following page if needed)

Food mixed with saliva and enzymes in the mouth, this is example of mechanical digestion.	As temperature increases the rate of enzyme activity also increases.	Lipase enzymes break down proteins into amino acids.
The small intestine has an excellent blood supply which increases the surface area for maximum absorption of food..	Bile aids in the digestion of carbohydrates..	Digestion is necessary so we can get water from our food.

Find it, fix it!

Key questions

1. What is mechanical digestion? .....
2. What is protein needed for in the diet? .....
3. Why is there hydrochloric acid in the stomach? .....
4. Which enzyme digests starch? .....
5. Why do enzymes not work at high temperatures? .....

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Accurate scientific language

Food is broken down in the stomach by the hydrochloric acid	
At high temperatures enzymes are killed	
Digestion starts in the stomach	
All bacteria are dangerous and can cause disease	