The alimentary canal and peristalsis

Student activity • observation and reasoning

YEAR 10 / LESSON 52 / BIOLOGY + SCIENCE (DOUBLE AWARD)

The question

How is food moved and processed along the alimentary canal?

Use the supplied examples, record your reasoning and correct it using evidence.

Equipment

- Student booklet, pencil and ruler
- Clean fabric sleeve and a soft ball large enough not to be swallowed

Use clean modelling materials only. Keep balls and sleeves away from mouths; do not throw balls or wrap sleeves around anyone. No biological samples are handled.

Course coverage: Shared Biology / Double Award: 2.27–2.28. Gut structure and movement.

Plan, model or apparatus sketch

Draw and label the apparatus or biological model; identify one limitation.

Method and reasoning

Read the whole sequence before starting

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1. Draw a continuous route from mouth through oesophagus, stomach, duodenum, ileum, colon and rectum to anus.

2. Add the pancreas as an accessory organ supplying digestive enzymes, not a place food passes through.

3. Match each region with a major function, distinguishing digestion, absorption and egestion.

4. Use a soft ball in a fabric sleeve to model a coordinated wave of contraction behind a food bolus; keep the model away from mouths.

5. Explain why peristalsis is not simply food falling under gravity.

6. Evaluate model limits: the sleeve does not reproduce living muscle, secretions, absorption or nervous control.

Cleanup

- Return models and keep the corrected work.

Record your evidence

Blank spaces are for your own work

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Reference and task data

The mouth begins mechanical processing and starch digestion; the oesophagus transports by peristalsis; the stomach mixes food and provides acidic conditions. The duodenum receives secretions; the ileum absorbs digested nutrients. The colon absorbs water and ions; the rectum stores faeces. Egestion removes undigested material and is not the same as excretion.

Example / trial	Observation / evidence	Explanation / limit
Evidence / comparison		
Explanation		
Limit / correction		

Show your calculations, labelled model or correction here.

Explain and evaluate

Use evidence and show calculation steps where relevant

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1. Does food pass through the pancreas?

2. What is peristalsis?

3. Where is most nutrient absorption?

4. Name a colon function.

5. How is egestion different from excretion?

6. Give one sleeve-model limitation.