Digestive enzymes breakdown insoluble molecules (starch, proteins + fats) into soluble ones (sugars, amino acids + fatty acids)

- Carbohydrases (e.g. amylase) digest starch to sugars
- Proteases (e.g. pepsin) breakdown proteins to amino acids -
- Lipase digests fat to fatty acids + glycerol _
- , ducad in diff

Digestive enzymes produced in different places	
Mouth	Oesophagus
 Food moistened by saliva from salivary glands 	 Tube takes bolus from mouth to stomach
 Amylase enzyme from salivary gland in saliva – 	 Lined with muscles that contact to move food
breaks down starch	along, by peristalsis
- Food chewed to form bolus (ball of food) them	
swallowed	
Stomach	Liver
- Pummels food with muscular walls	- Bile produced
- Produces pepsin	 Neutralises stomach acid
- Produces HCl	- Emulsifies fats
- Kill bacteria	
- Pepsin works best at pH 2 – acidic levels	
Gall Bladder	Pancreas
- Bile is stored	 Produces protease, amylase + lipase enzymes
- Releases bile into small intestine	- Release them into small intestine
Small intestine	Large intestine
 Produces protease, amylase + lipase enzymes 	 Excess water absorbed from food
- Where 'food' absorbed out of digestive system	
into body	
 Visking tubing, model for the gut Only lets small molecules through + not big molecule Cheaper + easier than using an animals gut Speed of digestion + absorption will be different due Add 5cm³ of starch solution + 1cm³ of amylase COMP 	es, like gut th offer int size Tube 1 Tube 2
solution to visking tube	Visking tubing
Rinse outside of tubennee Gab	containing 5 cm ³
Put visking tube into beaker of distilled water	of starch solution
	amylase solution
Test for starch using iodine and glucose using	
Benedict's reagent in the water after 10 mins	Visking tubing
	containing 5 cm ³
Benedict's reagent starts blue + turns red	of starch solution
dependant on amount of glucose present	

lodine stays orange if no starch present

No starch will be present bc starch molecules too big to pass through visking tube

Benedict's reagent turns red bc glucose present bc amylase broken down starch into sugars that can pass through

The higher the concentration of amylase the greater the change in colour of Benedict's reagent from blue to red (could be inbetween)

-Higher concentration of amylase = more active sites to break down starch = starch broken down at faster rate