### 4. The digestive system

### 4.2 The stages of digestion

### <sup>4.2.8</sup> The large intestine

### THE HARDENING OF STOOLS

The liquid discharged from the small intestine contains a lot of water. Most of this water is absorbed in the large intestine, which is also called the colon.





The colon compresses waste from the digestive process to form faecal matter, also known as stools.

Some types of complex carbohydrates cannot be digested or absorbed by the body, which means they arrive in the colon still intact. You may have heard of these complex carbohydrates; they are called dietary fibre.

The large intestine contains a tremendous amount of bacteria. These bacteria ferment a large part of the dietary fibre. Fermentation makes it easier for stools to pass through, preventing constipation.

### **ELIMINATION OF STOOLS**

Stools contain residues that the body's cells cannot use or absorb. These are directed towards the anus to be expelled from the body.

An average of 15 to 30 hours pass between when food is eaten and when residues are excreted in stools. Even then, only 20% of the residues are eliminated during this time. Because of all the breaking and mixing that occurs during each step of digestion, it actually takes 3 to 7 days for 95% of the residues to be eliminated.

In DIGESTIX, any non-absorbed nutrients are rejected once they reach the end of the journey. Everything happens fairly quickly in this game, but in reality, digestion takes much longer.

	e intestine
What is the main component of chyme by the time it reaches the colon?	Fermentation of fibre in the colon does not help
O Proteins O Lipids O Water	O intestinal transit O nutrient absorption O intestinal health
The main role of the colon is to	The muscles in the colon wall contract to help move stools through.
absorb O nutrients O fibre	<b>O False O True</b>
O water	All dietary fibre is fermented in the colon.
The carbohydrates which enter the colon are	O False O True
O simple carbohydrates	
O optical fibres O dietary fibre	The time it takes for food to travel from the mouth to the anus is the same for everyone and is not related to what we
What is the other name for the colon?	eat.
O The small intestine O The intermediate intestine O The large intestine	O True O False
We store any fibre which is not fermented.	What is the average length of time it takes to eliminate 20% of the residue from a meal via stools?
	O 1 to 3 hours

O True **O False**  O 1 to 3 hours O 3 to 7 days O 15 to 30 hours

### Answers

### What is the main component of chyme by the time it reaches the colon?

#### **O Proteins**

Wrong! There may be some proteins, but they are not the main element.

#### **O** Lipids

Ŵrong! Try again!

#### Water

Well done! That's right!

### The main role of the colon is to absorb...

#### **O** nutrients

Wrong! Nutrients are mostly absorbed during the previous steps.

#### O fibre

Wrong! Fibre is fermented in your large intestine, but it is not absorbed.

#### water

Well done! Your body absorbs water from chyme as it moves through your colon.

### The carbohydrates which enter the colon are...

#### O simple carbohydrates

Wrong! Simple carbohydrates are absorbed in the previous step, in your small intestine.

#### O optical fibres

Wrong! That's not possible!

#### dietary fibre

Well done! Dietary fibre comprises complex carbohydrates. It is not digested by digestive enzymes, so it travels through to your colon.

#### What is the other name for the colon?

#### O The small intestine Wrong! That's not right.

- O The intermediate intestine
- Wrong! There is no such organ. • The large intestine

Well done! It is in fact your large intestine.

### We store any fibre which is not fermented.

#### O True

Wrong! It only remains stored if we are constipated.

#### False

Well done! Dietary fibre and other waste matter travel through your colon and exit your digestive tract via your anus.

### Fermentation of fibre in the colon does not help...

#### O intestinal transit

Wrong! Fibre in fact helps improve intestinal transit.

#### • nutrient absorption

Well done! This step takes place in your small intestine.

#### O intestinal health

Wrong! The fermentation of fibre helps keep your intestines healthy.

### The muscles in the colon wall contract to help move stools through.

#### **O** False

Wrong! That's not the correct answer.

#### True

Well done! That's right!

# All dietary fibre is fermented in the colon.

#### False

Well done! Some fibre, such as cellulose, is not fermented and is therefore eliminated with other waste.

**O** True

Wrong! Some types of fibre cannot be fermented.

#### The time it takes for food to travel from the mouth to the anus is the same for everyone and is not related to what we eat.

#### **O** True

Wrong! That's not the correct answer.

#### False

Well done! Bowel transit time may be influenced by a variety of factors. It varies from person to person, and depends on your state of health and on what you eat.

# What is the average length of time it takes to eliminate 20% of the residue from a meal via stools?

#### O 1 to 3 hours

Wrong! That's far too short.

#### O 3 to 7 days

Wrong! That's how long it takes to eliminate 95% of the residue from a meal.

#### 15 to 30 hours

Well done! This is an average, as a number of factors can influence bowel transit time.