

NAME: _____



Yakult
Adventure

What is Yakult ?

Yakult is a fermented milk drink, made from skim milk powder, sugars, water and 6.5 billion of our unique beneficial bacteria called *Lactobacillus casei* Shirota strain in every 65ml bottle.

HOW DOES YAKULT WORK?

The beneficial bacteria in Yakult may help to keep your digestive system working well.

WHAT DOES YAKULT TASTE LIKE?

Yakult tastes deliciously refreshing and fruity. It has a sweet flavour to balance out the sour taste produced by the beneficial bacteria during fermentation.

WHAT IS THE DIFFERENCE BETWEEN YAKULT AND YAKULT LIGHT?

Yakult LIGHT has 75% less sugar and 40% less calories than Yakult Original but still has the same number of beneficial bacteria and a refreshing taste.



Facteria!

WHAT ARE PROBIOTICS?

Probiotics are live beneficial bacteria that help to keep the balance of the good and bad bacteria in our digestive system. Yakult contains our unique probiotic bacteria, the *Lactobacillus casei* Shirota strain.

WHO INVENTED YAKULT?

Yakult was developed by Dr Minoru Shirota in Japan in 1935. His work led him to investigate how beneficial bacteria could help the human digestive system. He discovered that the *Lactobacillus casei* Shirota strain survives the strong stomach acids and may have beneficial effects to human health. He added this bacteria to a milk base and bottled the fermented milk in a glass container. Yakult's bacteria were named in honour of Dr Shirota's research in microbiology.



Dr Minoru Shirota
(1899 - 1982)

What Are Bacteria?

Bacteria are 'microorganisms' or tiny living things. They are everywhere and are so small we need a microscope to see them. They live in the air around us, all over your skin and throughout your digestive system.

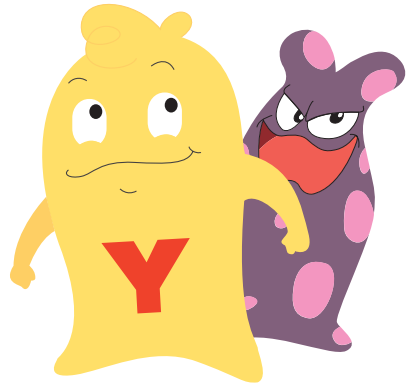


Lactobacillus casei
Shirota strain

THE GOOD AND BAD BACTERIA IN YOUR DIGESTIVE SYSTEM

Did you know there are more bacteria in your digestive system (or gut) than there are people in the world? **100 trillion bacteria** are living in your gut right now. That's **100,000,000,000,000!**

There are at least 500 different types of good and bad bacteria in your digestive system. The good types of bacteria are beneficial and help to keep you healthy. The bad types of bacteria can be potentially harmful.



BENEFICIAL VERSUS POTENTIALLY HARMFUL BACTERIA

Beneficial bacteria like Yakult's *Lactobacillus casei* Shirota strain grow in the gut and give extra help to your body's own good bacteria. They help the body to absorb and digest food as well as helping you empty your bowels. These beneficial bacteria can be found in probiotic food such as medicines, drinks and food.

Potentially harmful bacteria may produce substances called toxins which can cause illness or disease. Unhealthy lifestyle such as poor nutrition and physical inactivity may increase the growth of bad bacteria.

Everyday good and bad bacteria compete for food and space in your gut. So don't make it too easy for the bad ones to win. Make sure your digestive system has plenty of good bacteria!



Facteria!

DID YOU KNOW?

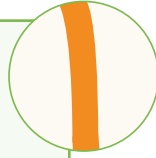
Bacteria were living on earth long before dinosaurs were.

What happens to the food we eat?

Can you draw a line to match up the parts of the digestive system to the correct description?

OESOPHAGUS

- Is the tube that transports chewed food from your mouth to your stomach.
- Wave-like muscle movements called peristalsis squeeze the chewed food down this tube to the stomach in less than 6 seconds.



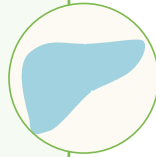
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DID YOU KNOW?

Your oesophagus is as long as the point of your elbow to the tip of your fingers

LIVER

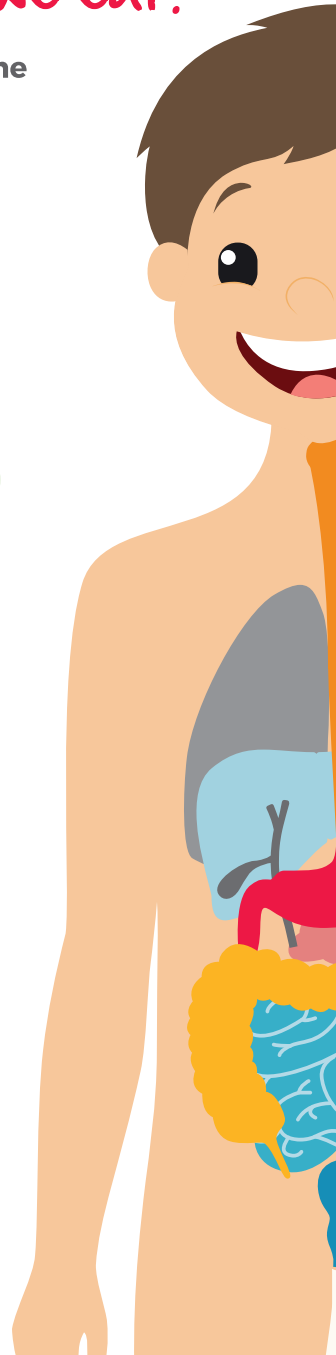
- The nutrient rich blood comes to the liver for processing.
- Helps figure out which nutrients will supply the body and what is stored for later.



SMALL INTESTINE

SITS BEHIND YOUR BELLY BUTTON

- This thin tube can be as long as 7 metres but inside your body, it is coiled up like a rope. It has an enormous surface area as big as a tennis court, lined with finger like projections called 'villi'.
- Nutrients are absorbed here for your body's growth and development.
- The good bacteria like the Shirota strain help to encourage the growth of other good bacteria here.



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DID YOU KNOW?

Your mouth warms up cold food and cools down warm food



MOUTH

WHERE DIGESTION STARTS

- In your mouth, teeth chew food into smaller pieces.
- The tongue and saliva make a soft wet ball of food, which you swallow.



STOMACH

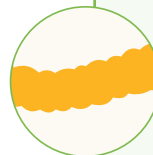
PRODUCES ACIDS TO HELP DIGEST AND BREAK DOWN FOOD.

- The muscles of the stomach help to churn food from a solid form to a mushy form before going to the small intestine.
- Strong acids help to protect us from bad bacteria from the internal and external environment invading our digestive system.
- The Shirota strain bacteria in Yakult is strong enough to survive the stomach acids and arrive alive in the small intestines.

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DID YOU KNOW?

Clench your fist. This is the size of your stomach when it's empty



LARGE INTESTINE

- The large intestine is shorter and wider than the small intestine and it is where water is absorbed.
- Undigested food and bacteria from the small intestine end up in the large intestine which is then passed out of the body.

Your Healthy Body

HOW DO WE KEEP A HEALTHY DIGESTIVE SYSTEM AND BODY?

- Eat a balanced diet with plenty of fruit and vegetables as well as drinking plenty of water
- Keep physically active
- Get enough sleep



WHY DO WE NEED TO HAVE HEALTHY EATING HABITS?

Nutritious food provides us with:

- Energy for our muscles and brain so we don't get tired throughout the day
- Nutrients that assist with growth, building muscles and strong bones
- Fluids like water help keep us hydrated and also helps to make up our blood

YOUR HEALTHY GOALS

You can make smart food choices and regular physical activity a priority. If you'd like to help your body stay healthy, choose a goal from the list or create your own goals! If you can maintain the goal for 3 weeks, it could become a positive habit. Don't stop at one! Keep challenging yourself by turning new goals into more healthy habits!

- 1** Eat a wide variety of coloured, fresh vegetables every day for your meals and snacks
- 2** Eat 2 pieces of fruit everyday: one for morning tea and one for afternoon tea
- 3** Carry a full water bottle with you to sip throughout the day
- 4** Get some indoor or outdoor physical activity for at least 30 minutes every day, play a game with a friend or take the dog for a walk
- 5** _____
- 6** _____
- 7** _____

Your Healthy Body Activity Page

Can you find all the words in the word-search below?

Remember to look forwards, backwards, up, down and on an angle.

B	O	O	E	S	O	P	H	A	G	U	S
E	A	U	Y	B	E	S	U	R	N	D	I
N	G	C	S	E	S	T	M	O	U	T	H
E	M	E	T	S	Y	S	A	Y	T	I	Y
F	V	E	O	E	S	Y	N	A	R	B	D
I	S	T	M	D	R	I	N	K	I	O	O
C	K	Y	A	E	R	I	M	U	T	T	B
I	L	H	C	R	E	E	A	L	I	T	Y
A	I	T	H	A	L	T	T	T	O	L	R
L	M	L	L	F	O	O	D	A	N	E	E
L	M	A	Y	R	A	G	U	S	W	M	V
E	I	E	I	N	T	E	S	T	I	N	E
W	K	H	Y	G	I	E	N	E	A	T	T
O	S	E	N	O	I	T	S	E	G	I	D
B	F	E	R	M	E	N	T	E	D	R	S

- Bacteria
- Beneficial
- Bottle
- Bowel
- Digestion
- Drink
- Everybody
- Fermented
- Food
- Healthy
- Human
- Hygiene
- Intestine
- Mouth
- Nutrition
- Oesophagus
- Shiota
- Skim Milk
- Stomach
- Sugar
- System
- Useby
- Water
- Yakult

**USE THE LETTERS
THAT ARE LEFT TO FIND
A HIDDEN MESSAGE.**

Use this message
as a heading for a
story that includes
10 of the words
you found in the
word search

How is Yakult Made?

1 INGREDIENTS USED ARE:

- Skim milk powder
- Sugars – sucrose and dextrose
- Flavouring
- Water
- 6.5 billion *Lactobacillus casei* Shirota strain

Yakult LIGHT contains the same ingredients as Yakult but also contain STEVIA, a plant based sweetener to reduce the amount of sugar needed to give Yakult LIGHT its sweet taste.

2 DISSOLVING AND STERILISATION:

The skim milk powder and sugars are dissolved with sterile filtered water to produce a batch of milk.

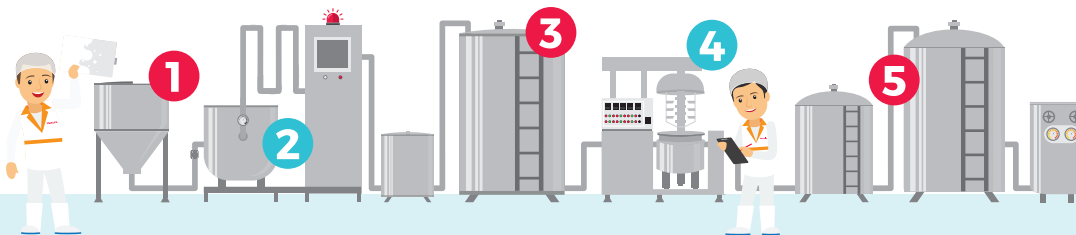
The batch of milk is sterilised or heated up to a high temperature (120°C) for a short period of time which kills any bacteria that might be in the milk. The sterilised milk is moved through pipes and valves to a fermentation tank.

3 FERMENTATION:

In the fermentation tanks, the temperature of the batch of sterilised milk is reduced to 37°C, the same as your body temperature. The beneficial *Lactobacillus casei* Shirota strain bacteria are added to the milk and left to ferment until high numbers of the bacteria are reached. The fermentation process produces lactic acid which creates a sour taste and thickens the milk.

4 HOMOGENISATION:

The thick milk mixture is forced through a machine which has tiny sieves to remove the lumps and create a smooth consistency.





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DID YOU KNOW?

The production line can fill up to **45,000 BOTTLES** in one hour

5

BLENDING, MIXING AND STORAGE:

Flavour and sugar syrup are blended and mixed with the milk to give Yakult its unique taste. This forms Yakult concentrate which is stored below 4°C in the tanks. The prepared Yakult concentrate is blended with equal parts of sterile filtered water and stored, ready to be bottled.

6

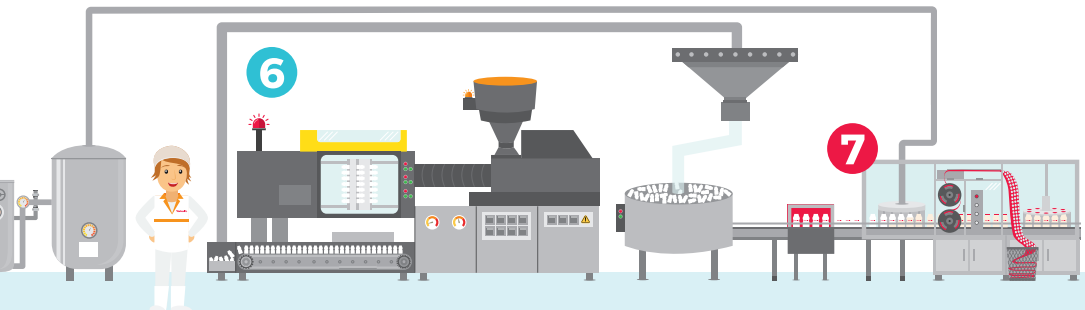
THE PLASTIC BOTTLES ARE MADE USING 3 INJECTION BLOW MOULDING MACHINES:

Triple food grade polystyrene code 6 recyclable beads are heated to melt and then moulded into our unique bottle shape. Each machine can make 11,000 bottles an hour, which are then stored in large storage tanks.

7

BOTTLE PRINTING, FILLING, CAPPING AND SEALING:

The selector machine places the bottles upright on the automatic line to be printed with the quick drying, non-toxic red ink for the Yakult logo; the blue plastic film Yakult LIGHT label is shrunk around the bottles. The labelling contains product information including ingredients and company details. The use-by date and batch code are printed on the waist of the bottle. Bottles are filled with 65ml of fresh Yakult, capped with either a red or blue foil lid and sealed. The bottles travel via conveyor belts to the packaging area.



How is Yakult Made?

8 PACKAGING:

Bottles travel to one of two separate packaging lines to be wrapped in polyethylene plastic which is then shrink wrapped to make either a 5 or 10 pack. Packages are then automatically grouped together to form a 'slab' of 50 bottles.

9 ROBOTIC ARM:

Three slabs are picked up and stacked onto a pallet by a robotic arm, wrapped in clear film to secure the pallet and then moved to the Cold Storage Room.

10 QUALITY CONTROL:

Quality Control tests are carried out throughout the production of Yakult. The bottles must pass the tests before they can be released to the stores. Tests include checking the ingredients, counting the number of beneficial bacteria and taste tests. The bottles, caps and packaging are also inspected.

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DID YOU KNOW?

There are over 35 Yakult factories in other countries around the world.



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WORKERS HEALTH & SAFETY

Workers wear protective clothing such as hair nets, white jackets and pants, rubber boots and hearing protection.

Hands must be washed and kept clean when working in the factory.

Safety barriers are fitted to equipment to protect workers.



11

COLD CHAIN DELIVERY:

From our Cold storage room, Yakult is delivered to stores by:

- Refrigerated trucks to large supermarket warehouses.
- Sales consultants driving refrigerated vans to smaller independent supermarkets, international grocers and convenience stores.

9

8



Quick Recap



WHAT BACTERIA CAN BE FOUND IN A BOTTLE OF YAKULT?

- a. *Lactobacillus casei* Shirota
- b. *Lactobacillus acidophilus*
- c. *Streptococcus thermophilus*
- d. *Bifidobacterium bifidum*

WHICH PART OF THE BODY ABSORBS NUTRIENTS FOR YOUR BODY'S GROWTH AND DEVELOPMENT?

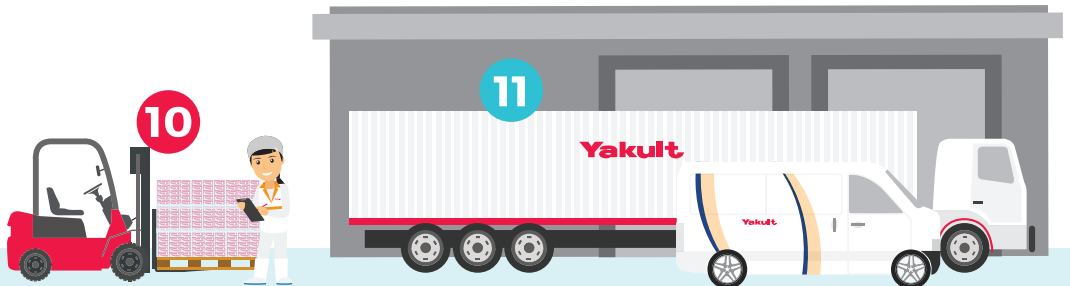
- a. Stomach
 - b. Liver
 - c. Small intestine
 - d. Large intestine
-

Reflection

a NAME TWO NEW THINGS THAT YOU HAVE LEARNT TODAY.

b WHAT DO YOU FIND MOST INTERESTING DURING THE YAKULT FACTORY TOUR?

c WHAT WOULD YOU LIKE TO KNOW MORE ABOUT?



Facterial

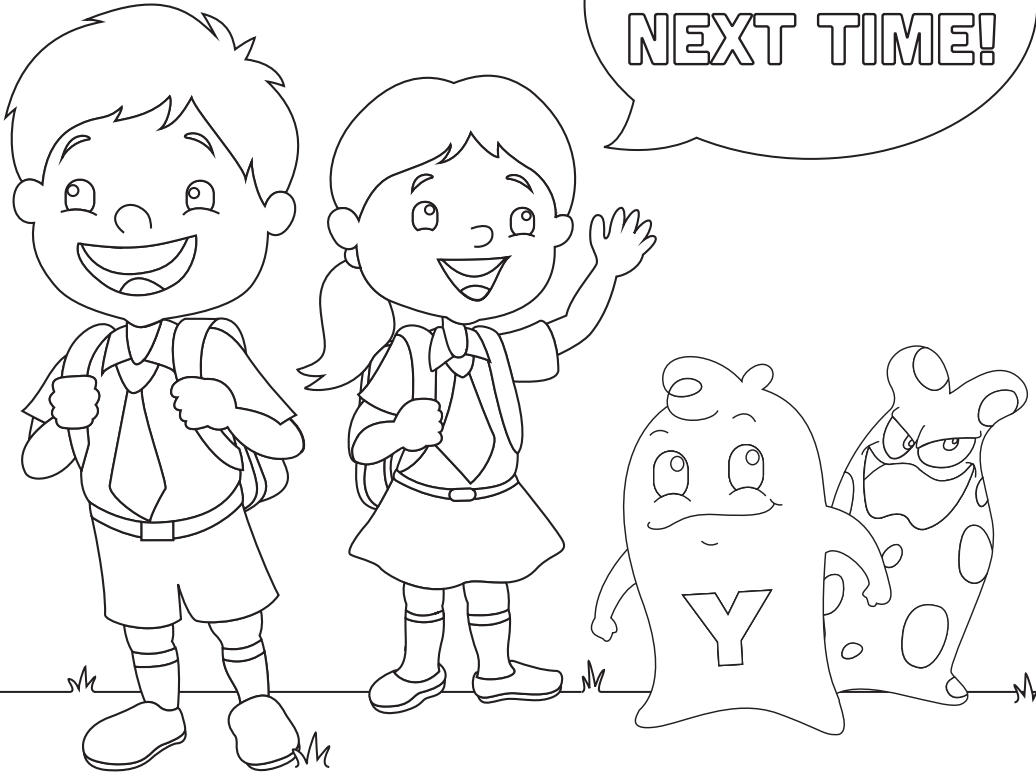
DID YOU KNOW?

The word Yakult comes from the word *jahurto* which means 'yoghurt - like' in Esperanto



COLOURING PAGE

SEE YOU
NEXT TIME!



Yakult

www.yakult.com.au

FREE CALL: 1800 640 023
10 Monterey Road, Dandenong VIC 3175