

Traditional Foods: Teacher's topic guide

God is Protector PART A

In this unit, students will assess the nutritional value of different cultural foods and compare this to modern Western processed foods. They will learn about the health benefits of traditional foods and the protection to our bodies that is available to us when we choose a healthy diet.

Bible references:

Genesis 1:29 God's provision of healthy food

Exodus 15:26 Protection in obedience

Galatians 6:9 Reaping what we sow (Not looking after our body has consequences)

Outcomes: Students will

- Understand the health benefits of traditional foods
- Appreciate the taste of foods from different cultures.
- Assess and compare the food value of traditional cultural dishes.
- Identify cultural foods in the community.
- Compare a typical processed food diet with traditional diets
- Devise ways of saving money by deleting unnecessary foods from our weekly food budget.
- Learn about the protective properties of naturally occurring vitamins and minerals in fruits and vegetables and many natural (unprocessed) foods.

Discussion:

What foods can you think of that are eaten by different cultural groups? (Take cultures relevant to your community).

How has the fast food and junk food industry changed traditional eating habits around the world?

How does a processed food diet compare with traditional diets, such as Fijian, Indian, Asian, and Mexican?

How is a typical diet in your country different from that of 100 years ago?

What happens when people combine a traditional diet with a processed food diet?

What are the main types of processed food/drink that people eat in your country?

What are nutrients?

How does a healthy diet protect us from illness?

Activities

- Make a large pie graph poster showing nutrients in foods:

Protein for growth and muscle building found in meat, chicken, fish, lentils, eggs, milk

Calcium for building bones found in milk, yoghurt, cheese, meat, vegetables and fish

Vitamin and minerals for keeping the body performing all the jobs it has to do, to carry oxygen around the body and to help the body fight off diseases, found in fruits, vegetables, meat, fish and most natural foods

Fats for energy and growth found in vegetables, coconuts, butter, meats, fish, milk, nuts

- Discuss health problems cause by processed food diets:

What are the most prevalent health problems in your country?

Can they be prevented by choosing a traditional diet? Which foods would have to be eliminated?

- Ask parents to assist in preparing traditional foods with the students
- Make a chart showing the main healthy foods of two traditional cultures, e.g. Pacific Island, Indian; Mediterranean; Asian; Mexican; Middle Eastern. Label each country's food selection.
- Compare a typical processed food diet with traditional diets. Explain why many traditional diets are healthier than a processed food diet.
- Compare nutritional value of traditional diets with a processed food diet.

Students then decide which foods are the most expensive foods in terms of nutritional value for money. This would mean that junk food is expensive because it has no nutritional value. Lentils and rice are cheap because a packet of lentils or rice when cooked can provide a good number of serves.

- In pairs or individually, students can research a country and write about the culture and the foods of the people. They are to show where the country is on a world map. Suggestions for questions to include in the report:

Where does the traditional food come from? (e.g. farms, home garden, markets, supermarkets)

Who cooks the food?

How do they eat it and who do they eat with? (e.g. immediate family, extended family, friends)

Are there foods that are eaten every day?

Are there any foods that are forbidden?

Are there special foods for celebrations?

- **Nutrients** – are the parts of food that makes us grow, and stay healthy. Only healthy foods do this.
- **Exercise** – at least half an hour every day
- **Water** – 6 glasses a day, (not fruit juice or fizzy drink)
- **Sunlight** – for vitamin D for strong bones.
- **Toxin-free** – avoid artificial food additives and avoid toxic chemicals in the environment
- **Air** – get fresh air every day
- **Rest** – don't stay up late
- **Think happy thoughts and trust in God**



Some definitions

Natural food: Also called 'unprocessed food'. These are foods directly from nature, such as fruit, vegetables, nuts, meat, fish and eggs. Some dried or tinned foods can be classified as natural foods if they do not have food additives, e.g. dried beans, lentils, rice, butter, milk, tinned tomatoes.

Fast food: Convenience food from outlets. Ready-to-eat foods such as hamburgers, hot dogs, fried chicken and chips. These have some nutritional value but contain ingredients that are not good for our health. Should be eaten rarely.

Food additives: Chemicals added to give artificial colour or flavour, or to preserve the food.

Processed food: These are foods that are changed from their natural state and sold in packets, cartons and cans. Some have nutritional value. Some have additives. Food labels should be checked and assessed for health benefits.

Junk food: food with no nutritional value and food that may be bad for our health. These include sweets, sugary foods, savoury snacks such as potato crisps, and soft drinks or imitation fruit drinks. Should be consumed rarely.

Beacon Media Research cards: Traditional foods

Blood and the immune system

God is Protector PART B

Spiritual Awareness:

a) The blood of Jesus provides healing and protection

Faith in the shed blood of Jesus protects the Christian from all spiritual adversaries. Blood is a powerful symbol of life and protection.

b) God created us with an inbuilt protective system

Blood serves a number of functions in the human body. The white blood cells give protection by killing viruses and bacteria, and are part of the immune system. The immune system also consists of the lymphatic system and the skin.

Our response to 'God is a Protector'

- Because God is a Protector I will...
- trust God
- have faith
- have peace
- not be afraid because He is with me
- give my worries to God
- do what God asks me to do
- believe that God will do as He says
- put on the armour of God to protect me against the enemy

Bible stories and passages:

Exodus chapters 7-12 God rescues His people from slavery; the blood over the door posts gave protection from the angel of death.

Luke 22:7-20 Cup of the new covenant in Jesus' blood poured out for us; protection from sin, Satan and eternal alienation from God.

Psalms 91 No plague shall come near your dwelling.

Leviticus 22:4 - 8 Ceremonial health laws concerning infectious skin disease, touching a dead body, eating of meat torn by wild animals. These laws were given for the protection of the Jews, long before other cultures knew that disease was passed on by germs, carried by blood, and transferred from animal to man.

Ephesians 1:19-22 The power in Christ's death. He put all things under His feet.

Bible Verses:

Leviticus 17:11 The life of every living thing is in the blood.

Hebrews 13:20 God raised from death our Lord Jesus, who is the Great Shepherd of the sheep as a result of His sacrificial, by which the eternal covenant is sealed. (The blood of Jesus began the agreement that God made with His people.)

Ephesians 1:7 In Him we have redemption through His blood, the forgiveness of our sins, according to the riches of His grace.

John 3:16 For God so loved the world...(God's rescue plan for us).

Exodus 15:26 If you pay attention to my commands I will put none of these diseases upon you. I am the Lord who heals you.

Key Questions

How does our body protect itself?

How important is blood to life?

What examples of the shedding of blood can we find in the Old Testament?

How was this a symbol of what was to come?

Why do you think God chose blood as a symbol of protection from evil?

Outcomes

Students will

Knowledge

- demonstrate that God protects our health by the defensive action of our white blood cells
- identify the components of immune system, (white blood cells and lymphatic system), and explain how the immune system protects us.
- explain how the skin protects us from infection
- describe the difference between red and white blood cells
- understand that living a healthy lifestyle can build a strong immune system and protect us against disease

Skills

- research and present data
- identify and draw different types of blood cells
- compare and contrast types of blood cells
- draw a diagram of the lymphatic system

Values

- appreciate the body's remarkable ability to repair itself and fight against disease
- appreciate the need to practice hygiene rules
- appreciate the work of organizations such as the Red Cross, and the need for blood donors
- appreciate God's provision of the body's protective structures and processes

Activities

- Describe and draw different types of blood cells.
- Report on blood types if known.
- Research the functions fulfilled by the blood: transport of food, waste, oxygen, hormones and chemical messengers; anti-bacterial action of white blood cells, clotting capacity to prevent bleeding, role in body temperature-control.
- Use a microscope to identify different blood cells. Prick fingers and examine blood smear.
- Compare human blood with that of other organisms.
- Draw and label the circulatory system
- Invite a blood bank representative to speak.
- Define the immune system.
- List the components of the lymphatic system, (lymph fluid and vessels, lymph nodes, spleen, tonsils)
- List the functions of the immune system.
- Investigate the role diet plays in building the immune system.
- Discuss the impact of bacteria and viruses on the human body.
- Construct a list of rules for health and hygiene.
- Investigate health rules of the Old Testament, particularly Leviticus 22: 4-8, and compare them to the hygiene knowledge of today.
- Discuss the function of the Red Cross organization, and study the biography of Dunant, the founder..

Assessment

1. Make a poster to explain the function of the blood.
2. Make a chart of foods that strengthen the immune system.
3. What have I learned from the study of blood and the immune system...
about God?
about doing what God wants me to do?
about the Bible?

Learning Connections

Write a story about the day in the life of a white blood cell as it travels around the body.

Mathematics: Compare percentages of red to white blood cells in the blood.

Social Studies: Study the work of community blood banks.

Health: The role of germs in causing disease; basic hygiene; traditional food and health

Art: Design illustrated posters on the importance of washing hands or eating healthy traditional foods.

Biographies: Henry Dunant, Louis Pasteur, Joseph Lister

Research cards: The immune system

Art Year 7

God is Protector

Traditional foods and health

Biblical wall art and text: So whether you eat or drink, or whatever you do, do it all for the glory of God. 1 Corinthians 10:31

Posters:

Traditional foods

How to minimize infection by germs – handwashing, avoiding contact with others when you have colds and flu.

Values education Year 7

God is Protector

Responsibility

God provides protection for those who love and trust Him. However he expects us to take responsibility for our own actions as well. We cannot expect Him to protect us if we do not act in a responsible manner.

Responsibility is...

- being reliable
- being accountable
- looking after myself
- looking after my possessions
- being in charge of the way I act
- doing the things I am meant to do

Activities

How could the following foolish actions cause you to get hurt:

- Call people ugly and stupid
- Play with fireworks
- Cross the road without looking
- Swim in water that has undercurrents
- Dive into water that you don't know the depth of

Would you expect God to protect you in these situations?

What does the Bible say about responsibility?

1 Peter 2:2 Grow up to be strong Christians.

Ephesians 5:8 Live as children of the light.

Henri Dunant (Founder of the Red Cross)

Jean Henri Dunant was born in Geneva, Switzerland on 8th May, 1828. His parents were Christians and very active in social work. They helped orphans, prisoners and many other unfortunate people. Following in his parents footsteps, Henri Dunant started his social work when he was young by joining an organization that helped the poor.

On 24th June, 1859 Dunant arrived in Solferino, North Italy to visit the emperor. At that time Solferino was in the middle of a bad war. The Italian and French soldiers were fighting the Austrian soldiers. About 40,000 people were injured, dying and dead. Dunant wanted to do something to help the dying. He gathered together local people who could help to provide assistance for the injured and sick soldiers. Mainly women and girls offered their help. Dunant, with his own money, made temporary hospitals and bought needed materials.

Back in Geneva, Dunant decided to form an international organization to help injured soldiers in war. In 1863, Henri Dunant along with four Geneva citizens formed the International Committee of the Red Cross.

In 1901, the first Nobel Peace Prize was awarded to Dunant as the founder of Red Cross. One of the officials gave a commentary about Dunant: "There is no man who more deserves this honour, for it was you, forty years ago, who set on foot the international organization for the relief of the wounded on the battlefield. Without you, the Red Cross, the supreme humanitarian achievement of the nineteenth century would probably have never been undertaken."

Dunant died in 1910. According to his wish, he donated the prize money and his funds to the Red Cross.

Nowadays, the Red Cross has already spread all over the world. Red Cross works especially in gathering blood and distributing it to everyone who needs it. Without Henry Dunant, there would not be the Red Cross organization. Without the Red Cross, there might be still a million injured people who would not have been helped. This organization not only supplies much assistance for many people, but also invites us to participate together in helping another. All healthy adults can help the Red Cross by choosing to donate some of their blood.

1. Where was Henri Dunant born?
2. Where is this country?
3. What did he see when he went to Italy?
4. What did he do to help?
5. How many people formed the original Red Cross organization?
6. What does the Red Cross do today?
7. How can grown-up people help the Red Cross today?

Louis Pasteur

Louis Pasteur was a French biologist and chemist. He is best known for his research into the cause and prevention of various diseases, as well as finding vaccines for anthrax and rabies.

He was born in Dole, France in 1822.

He taught at a school in Dijon and in 1848 became professor of chemistry at Strasbourg University. He married the daughter of the university's principal, in 1849. They had 5 children, although 3 died at an early age and these losses were partly responsible for Pasteur becoming a scientist.

Louis Pasteur realized that tiny organisms, known as germs, carry bacteria and cause disease. This became known as the 'germ theory'. He helped the silk industry, by realizing that microbes were destroying silkworms. He invented the process of pasteurization, which is widely used today for milk and beer. The rapid heating process, which kills harmful germs, still bears his name.

Joseph Lister

Joseph Lister was a British surgeon who made surgery safer for patients by introducing sterilization techniques. Joseph Lister studied at the University of London and he entered the Royal College of Surgeons when he was 26.

Lister worked as a professor of surgery at universities in both Glasgow and Edinburgh. He studied Lister's germ theory and from this developed a method of using antiseptic in surgery.

After studying Pasteur's findings, Lister soon realized that severe changes needed to happen to prevent so many people dying after surgery, due to infection. In those days, surgeons wore dirty aprons, surgical instruments were unclean and surgeons didn't even wash their hands before carrying out operations. Lister tested what would happen if the surgical instruments and bandages were treated with carbolic acid, and he was pleased to see that infection was significantly reduced.

By 1879 Lister's ideas had been accepted by most hospitals in Britain. Carbolic acid was used on bandages and was even sprayed into the air during operations to kill bacteria and reduce the risk of the wound becoming infected.

Joseph Lister was a quiet man of God who became known as the father of modern surgery. Lister died in 1912, aged 84.

<http://primaryfacts.com/161/joseph-lister-facts/>

The immune system 1

What is immunity?

Student activities

Immunity means that you are protected against something. There are different kinds of immunity. This topic is about how different parts of our bodies work together to keep us from getting sick. Immunity to some diseases is passed on from our mothers before we are born. Immunization (having your 'shots') helps our body's immune defence system protect us from diseases.

There are several parts to the immune system:

The skin, tonsils in the throat, adenoids in the ears, sinuses in the nose, the lungs, the bowel, white blood cells and the lymphatic system.

Your body is like a castle. It defends you against germs.



1. What is immunity?
2. List the parts of the immune system.

Immune system 2

The body's immune system

Everybody has an inbuilt immune system which protects it from diseases and germs. This system has a lot of different parts which work together to keep out any harmful germs, and attack and destroy any which manage to get inside your body.

Every day your body is exposed to millions of germs, and you do not get sick from them because of your immune system.

Every time you do get sick because of a germ, your immune system works to get rid of it and then it remembers how to fight the infection if the same germ comes again.

Usually the older you get, the more germs you become immune to.



1. What does the immune system do?
2. How does your immune system fight germs?

The immune system 3

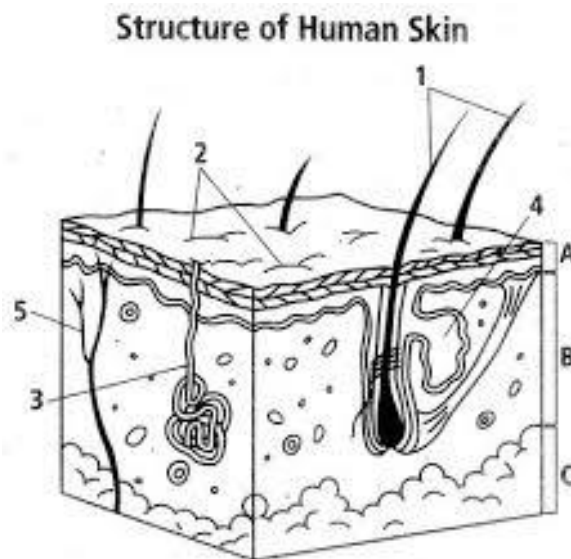
The skin

The skin is the first line of defence in your immune system.

You know how you put plastic wrap over leftovers to keep them fresh enough for later? Well, your skin is like a plastic wrap to keep germs from getting into your body.

The epidermis (outside layer of skin) has special cells which warn the body about incoming germs.

Glands in the skin also make substances that can kill some bacteria (anti-bacterial chemicals). This means you don't get infections on your skin unless your skin is damaged, such as by a cut or a graze.



1. Draw the structure of the human skin.
2. How does the skin protect us from germs?

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Nose, mouth, eyes, ears, lungs and bowel

This is what happens when your nose, mouth, eyes, lungs and bowel get attacked by germs or dust:

The mucous membranes which line the mouth, throat, lungs and bowel, act like a barrier to germs, just as the skin does.

Saliva in the mouth and the tears which wash your eyes have special enzymes (chemicals) in them which break down the cell walls of many bacteria and viruses.

The mucous that is made in your nose, throat and lungs traps bacteria, viruses and dust.

Acid in your stomach kills most germs, and starts to digest your food.

What are the functions of the following?

1. Saliva
2. Mucous
3. Stomach acid

The immune system 5

The Lymphatic system

The lymphatic system is made up of:

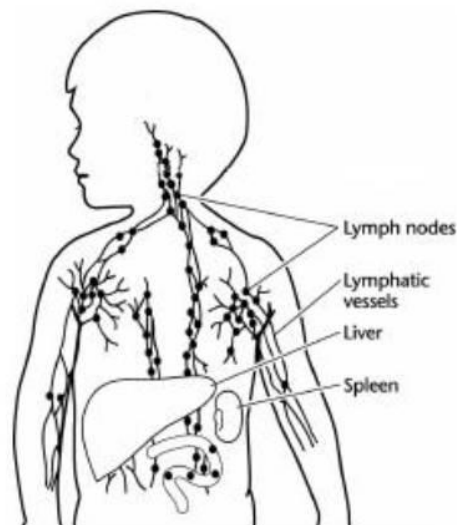
Lymph: a clear fluid that is very similar to the clear liquid in blood, but it carries only white blood cells, not red blood cells.

The lymph flows through all the parts of the body picking up fluid around cells and carrying it back to large veins near the heart. It also carries white blood cells to the places where they are needed.

Lymph nodes

Some bacteria or viruses that have entered the body are collected by the lymph and passed on to the lymph nodes where they are filtered out and destroyed. Lymph nodes are sometimes called glands.

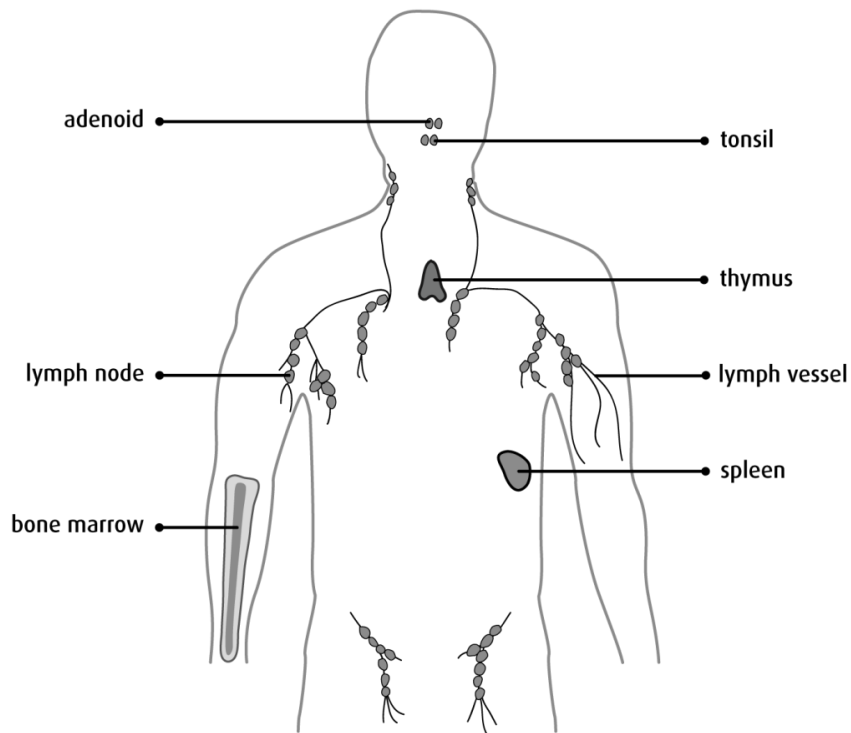
Your doctor can often tell if you have an infection by checking out the lymph nodes (glands) in your neck and under your arms to see if they're swollen. If they are, it shows that they are working to get rid of bacteria or viruses.



1. What is the function of lymph?
2. Where are lymph nodes found?
3. How do they help us?

The immune system 6

Diagram of the lymphatic system



The spleen clears out worn out blood cells and fights off infection.

The thymus trains the T cells (one of the white blood cells) to do their job of looking out for germs or things that don't belong in the body, and destroying them.

The bone marrow is where the blood cells are made.

The adenoids keep infection out of your ears.

The tonsils kill germs that may enter the throat.

The lymph vessels carry lymph fluid around the body.

List the functions of the following:

Spleen, thymus, bone marrow, adenoids, tonsils. Copy the diagram.

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Facts about blood

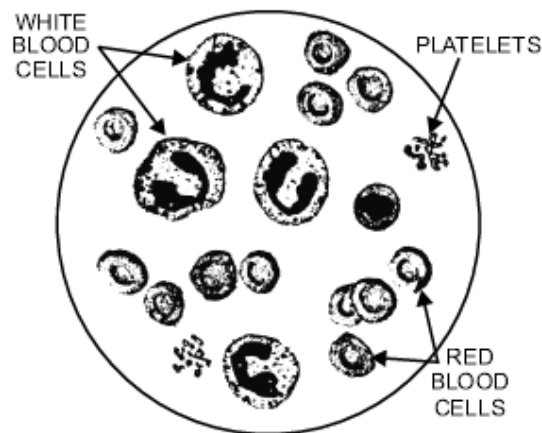
Blood is made up of four parts – plasma, red cells, white cells and platelets. Each part has a special job.

Plasma is a yellow liquid. It helps give you energy and grow.

Red blood cells carry oxygen to your cells.

White blood cells clean the blood and fight germs. When a virus enters your body, white blood cells rush to destroy the virus so you get better.

Platelets help your blood clot. When you cut yourself, a clot forms so the blood stops running. If your blood didn't clot, you could bleed to death.



1. What are the four parts of blood?
2. List the function of each.
3. Draw the diagram.

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White blood cells

In your blood, you have red blood cells and white blood cells, and in lymph there are white blood cells.

There are several different types of white cells which work together to seek out and destroy bacteria and viruses.

All of them start off in the bone marrow, growing from 'stem cells'.

The disease-fighting white blood cells are specialists. Some of the white blood cells are: *Neutrophils*, which move around the body in the blood and seek out foreign material (things that don't belong in your body).

Macrophages are the biggest blood cells. Some live in different parts of the body and help to keep it clean, e.g. in the lungs. Others swim around cleaning up other white blood cells that have been damaged while doing their jobs, e.g. cleaning up pus that has been caused by neutrophils when they work to clear out bacteria from a wound.

Lymphocytes work on bacterial and viral infections

There are two different types:

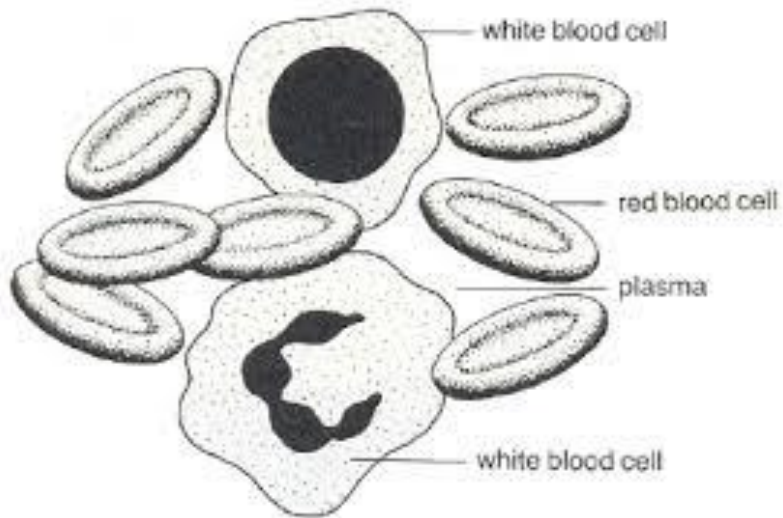
B cells produce antibodies. Each cell watches out for a particular germ, and when that germ arrives, the cell starts to produce more antibodies which begin the process of killing that germ. Antibodies attach themselves to the germs so that other cells can recognize that these germs need to be destroyed.

T cells look for cells in your body that are hiding invaders (germs) or body cells that are different to normal healthy cells (such as cells that could develop into a cancer) and kill them.

List the three types of white blood cells and briefly explain what they do.

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The difference between red blood cells and white blood cells



The red blood cells are donut shaped and regular. They carry oxygen around the body.

The white blood cells are all different shapes because there are different types. They kill bacteria and viruses in your body.

1. Copy the diagram including the labels.
2. What is the difference in the function of red and white blood cells?

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How does your immune system know which cells to attack?

Your body has lots of friendly bacteria around it which help your body work properly, e.g. some bacteria inside your bowel help you to digest your food and break it up into the different things that are needed in various parts of the body.

These friendly bacteria live on the surfaces of the body, such as on our skin or inside the bowel. They do not try to invade the body, so the immune system does not try to get rid of them.

Other germs which cause illness, try to enter the body.

Antibodies, which are made by the lymphocytes, attach to the invaders so that the other white blood cells can destroy them. They 'tag' them so they can be easily noticed.

As well as attacking germs, your immune system recognizes and destroys other cells which do not belong in your body. The cells in your own body are marked with a special system called *antigens*.

Your immune system can recognize these markings as 'you'. Any cells which do not have the right markings are 'not you' and are therefore attacked. This happens if, for example, you have a blood transfusion with the wrong types of blood cells. Your body's immune system recognizes that these cells do not belong in your body, so it destroys them.

1. What do antibodies do?
2. What do antigens do?

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How you know your immune system is working

You know your immune system is working:

- if you get better after you are sick
- if cuts heal without getting infected
- if you don't catch the same diseases over and over again
- when you get swollen glands
- when you get swelling and soreness around a cut.

Your immune system is in there working to get rid of any infection.

Sometimes the immune system will make a mistake.

It may attack your own body as if it were the enemy. This happens when a person has an allergy.

Allergies are caused by the immune system over-reacting to something that is not really a threat, like when pollen triggers hay fever or asthma.

When the immune system is damaged, they get lots of infections and are much more likely to get serious illnesses. Their body cannot recognize the infection or abnormal cells very well and the immune system does not destroy them as well as usual.



How do you know if your immune system is working well?

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How to build a strong immune system

A strong immune system is an immune system that is working well. This means that when an invader comes into your body, it can be destroyed very quickly. It may mean that you catch a cold sometimes, but you will be able to get better quite quickly. It may also mean that you don't catch the cold in the first place because your immune system destroys the germ as soon as it enters your body.

To stay healthy, we should wash our hands before eating and after the toilet, so that we don't get germs coming into our mouths when we handle food or put our hand to our mouth.

To build a strong immune system there are certain foods we should eat. These are fruits, vegetables and other foods from nature. Fruits containing Vitamin C are particularly good. Examples of these are oranges, lemons, apples and pineapples.

The foods that make our immune systems weak are foods containing high sugar and salt, like processed snack foods in packets, sweets, cakes and biscuits.

Make a list of things we can do to build a strong immune system.

