The Immune System

1 What is the immune system?
The immune system is the way your body protects you from disease. Every day lots of germs enter your body. You do not always become ill because your immune system fights these germs and protects your body. Your immune system is similar to an army inside you. Your immune system can also recognise germs that entered your body in the past. It is then able to destroy them, so that you don’t become ill again.

Lots of different parts of the body work together to form the immune system. For example, the skin helps to stop germs from entering the body. Liquids in the body, for example saliva and tears, catch germs and carry them out of the body.

2 What are white blood cells and why are they important to your immune system?

In your blood you have red blood cells and white blood cells. White blood cells are important because they make antibodies. When a germ enters the body, these antibodies fight it and try to destroy it. The next time the same kind of germ tries to attack the body, the antibodies are there to stop it.

3 What is a vaccination and how does it help your immune system?

A vaccination is an injection that contains a weak form of a disease. Doctors usually give you vaccinations to help your immune system fight that disease. Because the injection is a weak form of the disease, your immune system can fight it easily. It will also remember exactly how it destroyed that disease. Later, if that germ tries to attack your body again, the immune system will stop it and you won’t get the disease.

But vaccinations cannot protect you from all diseases. This is because diseases can change and become stronger. Cold germs/viruses are constantly changing. This means that your immune system cannot fight against cold germs. This is why you can catch colds more than once.

Glossary

<table>
<thead>
<tr>
<th>English</th>
<th>Italian</th>
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<tbody>
<tr>
<td>immune system</td>
<td>sistema immunitario</td>
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<td>protect</td>
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<td>weak</td>
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<td>catch a cold</td>
<td>prendere un raffreddore</td>
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</table>
1 Leggi il brano. Abbina i termini scientifici alle definizioni corrette.

1 immune system b a an injection containing a weak form of a disease
2 germs — b your body’s protection against germs
3 white blood cells — c the part of your blood that fights germs
4 vaccination — d things which can cause disease

2 Rispondi alle domande. ES

1 What is your immune system similar to? __________________________
2 How can your skin and body liquids help fight against germs? ________________
3 What do antibodies do to protect the body? __________________________
4 How can a vaccination stop you from getting a disease? ________________
5 Why do people get colds more than once? __________________________

3 Leggi il brano su Edward Jenner e rispondi alle domande. ES

Edward Jenner (1749 – 1798) was an English doctor. In those times, there was a serious disease called smallpox. Smallpox killed a lot of children. Jenner noticed that the women in his town who milked cows rarely caught smallpox.

He thought that this was because they often caught a weaker form of the disease, called cowpox, from their cows. In 1796 Jenner injected a weak form of cowpox into a healthy boy. The boy did not catch smallpox. Jenner continued with his research and even used his own children in his experiments. He invented the word vaccine from the Latin word for cow – vacca.

1 Who was Edward Jenner? __________________________
2 Which disease was he trying to fight? __________________________
3 Which people did he think were immune from this disease? __________________________
4 Which disease did he inject into a boy in his experiment in 1796? __________________________
5 Where does the word vaccine come from? __________________________

Glossary
milk (v) mungere cowpox vaiolo bovino
rarely raremente healthy sano

Presentazione orale

4 Project Prepara una presentazione orale su un famoso scienziato italiano.
Prendi degli appunti usando le seguenti domande per aiutarti. Parla per circa 2 minuti. ES

• Where was he/she born?
• What do you know about his/her family and education?
• What work did he/she do?
• What important discoveries did he/she make for science?
Volcanoes

The earth has three layers: the crust (at the top), the mantle (in the middle) and the core (at the bottom and closest to the centre of the earth).

The crust is very thin and it consists of large, thin pieces of rock, called plates. These plates are constantly moving, and they lie on the hotter, softer material under them, called the mantle.

There are 16 main plates. Volcanoes usually form when the plates push against or pull away from each other. When this happens, one plate slides ‘under’ the other one. The plate melts and forms a hot liquid called magma.

The heat inside the earth causes a lot of pressure. Because the plates are always moving, holes or cracks sometimes form in the crust. If there is a lot of pressure, the hot liquid magma will explode through the cracks. This explosion is called a volcanic eruption. When magma comes out of the earth, it is called lava. The temperature of lava can be 700° – 1,200° C.

Volcanoes are mountains. They form over thousands of years. They can be different shapes, but inside they are all the same.

The magma chamber (the area at the bottom that is full of magma) has a tube or pipe leading from it up to the top of the volcano. The magma escapes out of the earth’s crust through the opening at the top, called the vent.

We can divide volcanoes into three groups, according to their phase of activity.

- **the active phase** An active volcano erupts regularly, or has erupted recently.
- **the dormant phase** A dormant volcano has not erupted for many years, but there is still some activity inside it, and future eruptions are possible.
- **the extinct phase** Scientists do not think that these volcanoes will ever erupt again, because there is no more lava inside the volcano.

There are more than 1,500 active volcanoes on earth. The largest one is Mauna Loa in Hawaii. Its lowest part is at the bottom of the sea. From the bottom to the top, it is about 8,700 metres tall, taller than Mount Everest.

1 Completa il diagramma con le parole del riquadro.

| lava | magma chamber | pipe | vent |

2 Rispondi alle domande.

What is the difference between…?

1. the earth’s crust and the earth’s core
   **The crust is the top and the core is the centre.**

   1. magma and lava
   2. the pipe and the vent of a volcano
   3. a dormant volcano and an extinct volcano
Mount Vesuvius is a dormant volcano, but has erupted in the last 100 years. It erupted in 1906, 1929 and 1944, but its most famous eruption was in AD 79. On 24th and 25th August that year, when Vesuvius erupted, 2,000 people died in the Roman towns of Pompeii and Herculaneum. There were two phases of the eruption. In the first phase, ash and rocks covered the towns. Then a cloud of gas, ash and rock poured down the side of the mountain. The temperature of the cloud was 350°C, so it killed everyone in its way. When Vesuvius last erupted, in 1944, there was just a flow of lava. No one died but the volcano destroyed the towns of San Sebastiano and Massa.

Glossary
- mainland: continentale
- cover (v): ricoprire
- side: fianco
- ash: cenere
- flow (n): flusso

1. How many times did it erupt in the 20th century?
2. When was its last eruption?
3. When was Pompeii destroyed?
4. What damage did Vesuvius’s last eruption cause?

Presentazione orale

Project
Cerca le seguenti informazioni sull’Etna e completa il factfile.

Location: _______________________
Height: _______ m
Active/dormant/extinct?: ____________
Date of first known eruption: ____________
Date of most destructive eruption: ____________
Damage from this eruption: ____________
______________________________
Date of last eruption: ____________
Damage from last eruption: ____________
______________________________

Prepara una presentazione orale sull’Etna. Usa le informazioni della tabella nell’es. 4 per aiutarti. Parla per circa 2 minuti.
The Industrial Revolution

The period between 1760 and 1890 in Britain is called The Industrial Revolution. It was one of the most important periods of change in British history. At the start of this period, Britain was a rural country. Towns were small. There were some large cities, but not many. Most people lived and worked on farms.

But British farms were changing. Richer farmers with lots of land began to take over the smaller farms. This caused a lot of unemployment in the countryside. At the same time, towns were growing bigger. Unemployed farmers left the countryside and tried to find work in towns.

Many towns grew because of factories. Factories were large buildings which contained machines. These machines produced goods very quickly and much more cheaply than before. Instead of one person making something in their home, for example, the factory could make many more objects, much more quickly, because there were so many workers to share the work.

But conditions in the factories and the workers’ houses were very bad. Factory workers worked thirteen hours every day for very little money. Two-thirds of them were children, and the youngest were only six years old. They had to do dirty and dangerous jobs. Lots of people lived together in a small space and diseases could spread easily. Eventually, people in government began to realise how terrible the conditions were for factory workers, and reforms began to take place. A new law, The Factory Act of 1833, meant that children under the age of 13 could work no more than nine hours a day. They also had to go to school for three hours a day. As reforms took place, slowly conditions began to get better for workers.

In the second half of the 19th century and early 20th century, inventions such as the railway, the telegraph, the telephone and the car helped Britain’s trade and industry enormously. Britain became the most important economic power in the world. The Industrial Revolution spread throughout Western Europe and North America and changed the rest of the world forever. But it did not happen without a lot of suffering for many people.

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1 Leggi il brano e rispondi alle domande. ES

When was the Industrial Revolution in Britain? 

**It was between 1760 and 1890.**

1 Why did unemployed farmers go to the towns?

2 Why could factories produce more goods, more cheaply and quickly?

3 How many of the factory workers were children?

4 How old were the youngest children?

5 What were their working conditions like?

6 When were shorter working hours introduced for child workers?

7 Which countries did the Industrial Revolution spread to?
Coketown was a town built on Fact. It was a town of machines and tall chimneys, and of red brick, blackened by years of endless smoke and dirt. The streets were all like each other, and people, all the same, went in and out at the same time every day. High buildings, full of windows, shook all day long with the noise of their great machines, and every week, every year, was just the same as the one before.

During the Industrial Revolution, factory workers had to/didn’t have to work very hard. They worked long/short hours. Lots of factory workers were children/old people. Some were only four/six years old. Their jobs were often dangerous/exciting. There was lots of disease/food. The children didn’t go/went to school.

The Industrial Revolution and Victorian literature

Many authors from the Victorian Age wrote about the social problems of the Industrial Revolution. In their novels, they described the poor conditions in factories and houses. Charles Dickens’ novel *Hard Times* (1854) tells the story of a town in the north of England called Coketown. Here money and work are more important than love and imagination.

1. When was *Hard Times* written?
2. What does Dickens mean when he describes Coketown as a town built on Fact?
3. What effect has the smoke and dirt had on the appearance of the brick buildings?
4. What is making the buildings shake?
5. What are these buildings?

**Presentazione orale**

4. **Project** Prepara una presentazione orale su un importante scrittore italiano del diciannovesimo secolo. Leggi il factfile su Verga e scrivi quali sono le opere più importanti che ha scritto. Usa le informazioni per aiutarti nella presentazione. Parla per circa 2 minuti.

Name: Giovanni Verga
Born: 2nd September 1840, Catania, Sicily
Education: Studied law at the University of Catania
Military life: Catania National Guard (1860–64)
Lived in: Florence, 1869; Milan, 1872; Catania 1894
Most important works: 

Became a senator: 1920
Died: 27th January 1922
In 1933, Adolf Hitler won the German elections and became the Chancellor of Germany. The name of his political party was the National Socialist German Workers’ Party. In German, people used the short name—the Nazi Party.

The Nazis believed that only their party should control Germany. They destroyed all other political parties. The Nazis were also anti-Semitic. This meant that they hated Jews, so Hitler made laws against the Jews. Jews had to wear yellow stars so that everyone could see that they were Jewish. They couldn’t teach in schools or own businesses. The Nazis sent the Jews to prison camps, called concentration camps. Life in the camps was hard and there was no food. Many people died from exhaustion and hunger. But this was not enough for Hitler. He built gas chambers and thousands more Jews died from the poison gas. The largest concentration camp was Auschwitz in Poland.

The Nazis built it in 1940, and in the five years until the end of the war in 1945, more than one million people died there. In total, around 6 million Jewish people died because of the Nazis. This destruction of human life is called the Holocaust.

Today many countries have a Holocaust Memorial Day, including Britain, France, Germany, Italy and Israel. Israel has its own special memorial day. The first international Holocaust Memorial Day was in 2001. Every year it is on 27th January, the day that the Soviet army liberated the concentration camp at Auschwitz. On Memorial Day people remember the crimes against humans in history, and make promises to accept everyone—of any race, religion, language or colour—in future.

1 Osserva le foto. Che cosa sai sull’Olocausto? Leggi il brano e controlla se le tue conoscenze sono corrette.

2 Rispondi alle domande. ES

1 When did Hitler become Chancellor of Germany?

2 Why did he make laws against the Jews?

3 Why did the Jews have to wear yellow stars?

4 What was life like in the concentration camps?

5 Why did Hitler build gas chambers?

6 How many Jews died at Auschwitz?

7 Which countries have a Holocaust Memorial Day?

8 What is the reason for having an international Holocaust Memorial Day?
The Diary of Anne Frank

The Frank family were German Jews. They moved to Holland in 1933 to escape from the Nazis, but in 1940 Germany invaded Holland. The Frank family hid in secret rooms in a house in Amsterdam for two years.

The 13-year-old daughter, Anne, wrote a diary which is now very famous. In 1944, soldiers discovered Anne and her family and took them to Bergen-Belsen concentration camp. The whole family, apart from Anne’s father, died there. Anne died only a month before the Allies liberated Belsen in 1945.

1. What nationality was Anne Frank?

2. Why were the family in Holland?

3. When did Anne die?

4. Why does someone ‘knock on every door’?

Presentazione orale

4. Project Prepara una presentazione orale sul Giorno della Memoria dell’Olocausto. Prendi degli appunti usando le seguenti domande per aiutarti. Parla per circa 2 minuti.

- What did your school or community do on Holocaust Memorial Day?
- Did you find out anything new about the Holocaust that day? What?
- Do you think there should be an international Holocaust Memorial Day? Why, or why not?
- What other similar holocausts do you know about, in more recent history?

Glossary

discover scoprire
vehicles mezzi, veicoli
\textit{to cruise} passare, girare per
\textit{knock (v)} bussare
whether se

If so se è così
spare risparmiare
\textit{to march} condurre a forza
courage coraggio
invasion invasione