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Developed country – New Zealand

1 How much do you know about New Zealand?
   True or False? Write T or F.
   1 ___ New Zealand is in the South Pacific Ocean.
   2 ___ The capital city is Auckland.
   3 ___ The native people are called Aborigines.
   4 ___ New Zealand is a republic.
   5 ___ 10 million people live in New Zealand.
   6 ___ The weather is very cold.

2 Read the text about New Zealand and check your answers to Ex.1. Correct the false sentences.

New Zealand is in the South Pacific Ocean. There are two islands, North and South. The capital city is Wellington, but the largest city is Auckland, with 1.3 million people. The population of New Zealand is 4.2 million.

New Zealand is a multicultural society, with a mix of Polynesian, Asian, and European cultures. The first people to live there were the Maori, who arrived from Polynesia in about 800 AD. In 1642, a European explorer, Abel Janzoon Tasman from Holland, navigated around the islands, but 100 years passed before the next Europeans arrived.

In 1840 the Maori signed a treaty with the British, and Queen Victoria became New Zealand’s queen. Today, New Zealand is a constitutional monarchy and Queen Elizabeth II is the head of state.

New Zealand is 12 hours ahead of Greenwich Mean Time, so it is one of the first countries in the world to celebrate New Year’s Day each year!

New Zealand is famous for its sports and leisure activities, especially rugby. It is also famous for its beautiful countryside, as seen in films such as The Lord of the Rings.

The weather in New Zealand is very diverse. In the north it is often warm and humid, but the south is near the Antarctic and the weather can be very cold.

This climate makes New Zealand one of the most fascinating countries in the world – snowy mountains, tropical rainforests, and beautiful golden beaches, all in one place!

3 What do these numbers in the text refer to?
   a 1.3 million  b 800 AD  c 1642  
   d 100 years  e 1840  f 12 hours

What do you think?
Would you like to visit New Zealand? Why?/Why not?

MINI-PROJECT
Imagine you are on holiday in New Zealand. Do some research and write an email to a friend describing your holiday. Include information about:
- the places you are visiting
- what the weather is like
- what sort of activities you are doing
Developing country – India

1 Put these countries in order of geographical size (1–8), starting with the largest (1).
   ___ India   ___ Russia
   ___ China   ___ United States
   ___ Canada   ___ Brazil
   ___ Italy   ___ Australia

   What is the smallest country in the world?

2 Read the text about India and complete the fact file.

   Fact File: India
   • Capital: __________________________
   • Population: ________________________
   • Main religion(s):___________________
   • Language(s): _______________________
   • System of government: ______________
   • Climate: __________________________
   • Currency: _________________________
   • Mobile phone users: ________________
   • Internet users:_____________________

3 Read the text again. True or false? Write T or F. Correct the false sentences.

   1   ___ India is the seventh largest country in terms of population in the world.
   2   ___ There are 19 official languages in India.
   3   ___ India is a monarchy.
   4   ___ The climate is the same all over India.
   5   ___ New Delhi is famous for its computer industry.
   6   ___ Bangalore is the fastest growing city in Asia.
   7   ___ 670 million people use the Internet in India.
   8   ___ India is a developed country.

MINI-PROJECT

Look at the information about India again. Prepare a similar fact file about Italy. Use the Internet, magazine or newspaper articles to find the information. Then using the information in your fact file, write a short text about Italy.

Glossary:
- billion – miliardo
- overtake – superare
- main – principale
- monsoon – monsone
- currency – valuta
- develop – sviluppare
- conflict – conflitto
- environmental pollution – inquinamento ambientale
The water cycle

1 Choose the correct words to make 5 sentences.

<table>
<thead>
<tr>
<th></th>
<th>Clouds</th>
<th>Lakes</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>is on the surface of the earth.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>are below</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>is above</td>
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<tr>
<td>4</td>
<td>is above</td>
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</tr>
<tr>
<td>5</td>
<td>is above</td>
<td></td>
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</tbody>
</table>

2 Read the text about the water cycle and check your answers to Ex.1.

3 Read the text again. True or False? Write T or F.

Correct the false sentences.

1. The total amount of water in the cycle never changes.
2. Human actions have created changes in the water cycle.
3. Clean water is fundamental for good health.
4. The water cycle does not change naturally.
5. Many water problems are caused by nature.

4 Choose the correct alternative: a, b or c.

1. The water cycle
   a moves very quickly.  b never stops.  c starts in the oceans and finishes in the rivers.
2. Most precipitation
   a forms glaciers.  b evaporates.  c flows back into the sea.
3. We have a water crisis because
   a there are so many diseases.  b we use too much water.  c it doesn’t rain enough.
4. Desalination
   a is a simple process.  b costs a lot of money.  c is the only solution to our water problems.
5. It is important to change our lifestyles because
   a there is enough water.  b if everyone does something small, it can have a big positive impact.  c one person can change everything.

What do you think?

1. How much water do you use in a day? What do you use water for?
2. Do you think water should be free?

MINI-PROJECT

Find out some information about the water situation in your region. Where does the local water supply come from? Is the quality good? Are there ever any problems with the water supply? Write a short text about it.

Water

The water cycle is the continuous movement of water on, above, and below the surface of the Earth. As the name suggests, it has no beginning or end. Water can change states from liquid to vapour to solid during the cycle, but the quantity of water on Earth remains constant over time.

This is how it works: the sun heats water in the seas and oceans and causes plants to transpire on the land. The water evaporates into the air as water vapour, and then condenses into water droplets inside the clouds. As air currents move the clouds, the water droplets collide, grow, and fall out of the sky as precipitation in the form of ice and snow crystals, or rain. Some snow stays as ice caps and glaciers on mountains but most precipitation falls back into the sea and onto the land, where it enters the ground. Some water stays under the ground and in lakes, but eventually, by flowing from springs and along rivers in valleys, the water always returns to the ocean, where the water cycle started.

Natural changes occur in the water cycle, but many of the changes we see today – for example melting ice caps, droughts and floods – are the result of human activities. We now have a global water crisis caused by agriculture, industry, the alteration of the chemical composition of the atmosphere, the construction of dams, deforestation, the removal of too much groundwater from wells, taking water from rivers, and urbanization. There is now too much human demand for usable (fresh) water and a lot of our water is polluted. Many people today still do not have access to safe water for drinking and washing, and this is the cause of about 88 percent of all diseases!

Where can we find more water? Ironically, two thirds of the Earth’s surface is covered in water, but the water in the oceans is full of salt and can only be used after desalination – a very complicated and expensive process.

According to the United Nations there is enough water for everyone, but water problems are often the result of bad management, corruption and poor regulation by governments. But one thing is certain – we have to change our habits! So next time you brush your teeth, don’t forget to turn off the tap while you are doing it. Water is precious, and small changes can make a big difference!

Glossary:
above – sopra  below – sotto  droplet – gocciolina  cloud – nuvola  collide – scontrarsi  ice cap – calotta glaciale
flowing – scorrendo  spring – sorgente  melt – sciogliersi  drought – siccità
flood – inondazione  dam – diga  well – pozzo  tap – rubinetto
Rivers

1 Match the words (1–4) to the definitions (a–d).

1 river
2 river bank
3 ford
4 river mouth

a the side of a river
b the place where a river meets the sea
c water that flows to the sea
d part of a river where it’s possible to cross

2 Read the text about rivers. Why have rivers been important?

3 Read the text again. True or false? Write T or F. Correct the false sentences.

1 Many people in Britain like rivers.
2 In Oxford it wasn’t possible to cross the river.
3 All places with the word ‘mouth’ in their name are inland.
4 Rivers were once important for transport.
5 Polluted rivers are a resource for agriculture.

4 Choose the correct alternative: a, b or c.

1 Many cities developed on rivers because
   a it was easy to transport goods on boats.
   b you could get a suntan.
   c they are a relaxing place.
2 The canal system in Britain
   a has given the names to lots of cities.
   b was first created by the Romans.
   c developed very late.
3 A lot of towns and cities
   a have strange names.
   b have meeting places around a river.
   c include a word in their names related to rivers.
4 In the past rivers and canals were especially important
   a for producing raw materials.
   b for the development of the industrial system.
   c to use water for pottery.
5 Today rivers
   a are still useful.
   b are not used anymore.
   c cannot be a resource anymore.

What do you think?

1 Do you live near water (a river, lake or the sea)?
2 What types of activities do people do on the water near where you live?

MINI-PROJECT

Think of a big river in your country, and find out some information about it. Write a short text, including any information about the influence it had on the economy and lifestyle of the local people in the past.

Glossary:
- riverside – lungo il fiume
- suntan – abbronzatura
- founded – fondata
- cross – attraversare
- oxen – [parola antica] buoi
- raw materials – materie prime
- coal – carbone
- pottery – ceramiche
- valuable – prezioso
- environment – ambiente
- goods – merci
Democracy in Ancient Greece

1. What do you know about politics and democracy? Match the words (1–4) to the definitions (a–d).

1. elect  a to have the same opinion as another person
2. citizen  b a person legally belonging to a country or state
3. slaves  c to choose a government or public figure by voting
4. agree  d people who are forced to work without pay

2. Read about democracy in Ancient Greece. How was it different from modern democracies?

Democracy and democratic are two of the most used words in contemporary politics, but do we all know what they really mean?

The origin of the word democracy is Greek. It simply means ‘the people’s government’ and it is exactly what happened in Attica, the region of Athens, around the 4th century BC.

Athens’ democracy was direct, so all citizens participated in the government personally and not through representatives, as we do today. However, it was only open to men over 30 and they had to complete their military service before they could have a role in public life. This obviously excluded younger men, women, slaves and foreigners.

In Ancient Greece there was not a government and an opposition. Each individual had the opportunity to propose a law and the Assembly voted using a simple majority system. Usually the Assembly voted by show of hands, but for important votes they introduced the pebbles system. Each voter could use a white pebble to agree with the law and a black pebble to disagree. This practice made counting the votes more accurate – it was easier to count pebbles rather than the hands of hundreds of people!

Public administrators were not elected or nominated, but selected by a lottery system. This was a guarantee against ambition and greed. Of course, not all citizens had the right qualities for the different tasks, but they solved the problem by creating groups of people who worked together and learned from each other. The only elected people were officials with two specific positions: those managing large sums of money and the generals of the army. The first group came from the richest families, an effective strategy to stop people stealing public money; the second came from military ranks because they needed specific experience.

It is interesting to note that our word ‘idiot’ comes from the Greek word ‘idiotes’, meaning a private person, someone who was not interested in politics, and it became an insult because these people were not respected by other citizens.

3. Read the text again. True or false? Write T or F. Correct the false sentences.

1. In Athens all citizens were part of the government. F
2. Women could participate in government. T
3. The government had an opposition. F
4. The pebbles system was more precise. T
5. There weren’t any elected public officials. T

4. Choose the correct alternative: a, b or c.

1. You could not have a role in public life if
   a you did not finish military training.
   b you were 35.
   c you had children.

2. Proposing a law was
   a open only to the majority.
   b open only to some people.
   c open only to the government.

3. Voting by show of hands was
   a restricted to special occasions.
   b a very unpopular system.
   c difficult to count.

4. Some officials were elected from rich families because
   a rich people did not need to steal.
   b they needed experience with money.
   c they knew the right strategies.

5. ‘Idiots’
   a were stupid people.
   b weren’t interested in participating in public life.
   c were not very interesting.

What do you think?

1. Is politics a subject you are interested in? Why? / Why not?

2. Imagine you are the Prime Minister of Italy. What are the first three things you will change?

MINI-PROJECT

How does the democratic system work in Italy? Find out some information about Italian institutions and write a short text about it.
The Norman Conquest

1 Describe what you can see in the picture. Which period of history do you think it is?

2 Read the text and put the sentences (a–d) in chronological order (1–4).

a ___ Harald Hardrada invaded England.

b ___ The Normans won the Battle of Hastings.

c ___ Edward the Confessor died.

d ___ Harold Godwinson became king.

3 Answer the questions.

1 What does the Bayeux Tapestry illustrate?

2 Who were the three kings of England in 1066?

3 Who fought the battle of Stamford Bridge?

4 Where did William’s army land?

5 How did William keep control of England after the Battle of Hastings?

6 What changes did the Norman Conquest bring to England?

What do you think?

1 Why do you think Harold lost the Battle of Hastings?

2 Do you think the feudal system was popular with the English?

Glossary:
tapestry – arazzo
displayed – esposto

conquest – conquista

event – avvenimento

battle – battaglia

fought – combattuto

nobleman – nobile
declared – dichiarò

Viking – vichingo

army – esercito

landed – sbarcò

march – marciare

feudal system – sistema feudale

taxes – imposte, tasse

kept – mantenne
The City of York

1. How old is the town or city where you live? What do you know about its history?

2. Read the text about York and number the historical periods in chronological order (1–7).

   ___ Viking
   ___ Anglo-Saxon
   ___ Victorian
   ___ Medieval
   ___ Georgian
   ___ Roman

What do you think?

1. King George VI said ‘The history of York is the history of England.’ What do you think he meant by this?
2. Which Italian city most reflects the history of Italy?

Welcome to York!

The city of York in the north of England is nearly 2,000 years old. The Romans built a fortress there in 71AD and called it Eboracum. It was one of the most important cities in the Roman Empire. After the Roman armies left in 410, the Anglo-Saxons invaded Britain. They changed York’s name to Eoferwic, and it became an important religious centre with the spread of Christianity.

In 866, Vikings captured the city and made it their capital, renaming it Jorvik. The city was a major river port on the Viking trade network because of its position next to two rivers, the Ouse and the Foss. William the Conqueror came to York in 1069, after the Norman invasion of England. He caused a lot of destruction, killing lots of people and burning the land.

The city slowly recovered, and by the Middle Ages it was a profitable centre of trade, particularly for wool. The people of York rebuilt the cathedral, York Minster, and the defensive stone walls around the city, which still exist today. York was the second biggest medieval city in England, and many kings and queens visited it.

York became a social and cultural centre in the Georgian period, with the construction of its racecourse, public meeting places, and many elegant houses. Its development continued with the growth of factories, banks, and offices during the Victoria era, and it became a famous railway centre. Over 5,500 people worked on the railway there at the end of the 19th century.

In 1968, the city’s historic centre was designated a conservation area. Today it is a major tourist destination and attracts more than 7 million visitors each year.

Answer the questions.

1. Who called the city Jorvik?
2. What are the names of York’s rivers?
3. How did William the Conqueror destroy York?
4. What was the main industry in medieval times?
5. How did the city grow during the Georgian period?
6. How many tourists visit York each year?

Glossary:
- built – costruirono
- fortress – fortezza
- major – importante
- trade network – rete di commercio
- burning – incendiando
- recovered – si riprese
- profitable – proficuo, lucroso
- wool – lana
- stone wall – muro di pietra
- racecourse – ippodromo
- factories – fabbriche
- development – sviluppo
- railway – ferrovia

MINI-PROJECT

Choose an Italian city and write a similar short text. Include information about its history, development and monuments.
Kouros and Kore

1 Put the words in the box in the correct columns.

<table>
<thead>
<tr>
<th>The human body</th>
<th>Sculpture</th>
</tr>
</thead>
<tbody>
<tr>
<td>clay</td>
<td>thin</td>
</tr>
<tr>
<td>healthy</td>
<td>metal</td>
</tr>
<tr>
<td>statue</td>
<td>sporty</td>
</tr>
<tr>
<td>stone</td>
<td>sculptor</td>
</tr>
<tr>
<td>musculature</td>
<td>model</td>
</tr>
<tr>
<td>anatomy</td>
<td>anorexic</td>
</tr>
</tbody>
</table>

2 Read the text about the Greek sculptures called Kouros and Kore. What did they represent?

3 Read the text again. True or false? Write T or F. Correct the false sentences.

   1 __ Greek art has not always been an inspiration for Western art.
   2 __ Kouros and Kore represented Gods.
   3 __ The first Korai bodies were not very realistic.
   4 __ Later human figures were more realistic.
   5 __ Modern models of beauty are similar to ancient Greek models.

4 Choose the correct alternative: a, b or c.

   1 The Kore  
   a were naked.  b were enormous.  c wore a short dress.
   2 Archaeologists now say that Korai are the image of  
   a deities.  b young people.  c older people.
   3 In later statues Greek sculptors changed the  
   a pose and muscles.  b smile.  c clothes.
   4 For thousands of years Greek sculptures have been  
   a considered too thin.  b ignored.  c a model for artists.
   5 Today’s fashion requires  
   a a healthy look.  b an excessively thin body.  c an athletic body.

What do you think?

1 Who is your idea of a perfectly beautiful person?
2 Does ‘objective’ beauty exist?
3 How important is beauty to you?

MINI-PROJECT

Beauty is not only associated with people. Think of an object or animal that you find beautiful and describe it. Add a photo if you can.

KOUROS and KORE: human perfection

The civilization of the ancient Greeks is the basis of all Western culture. The Greeks created images of human perfection in clay, metal, stone, and paint, and they have remained an inspiration and a model for later Western art.

From the seventh century to the end of the sixth century BC, monumental sculptures were in the form of the Kouros, a nude boy, and Kore, a girl wearing the typical short, Greek dress. When they first found these statues, archaeologists thought that they represented Gods. We now know that they represent proud, confident, smiling mortals. This demonstrates the fundamentally human orientation of Greek art: ‘Although there are many marvels in this world,’ wrote Sophocles in Antigone, ‘the greatest marvel of all is man.’

The first Korai (Greek plural) were not very accurate anatomically, and the impression you get when looking at these statues is one of absolute immobility. In later periods of Greek art, human figures became more realistic. Sculptors observed real human forms to better understand anatomy and they introduced small variations in pose and musculature in the kouros figures, to create a more convincing human figure.

The Kouros and Kore have continued to be models of human proportion and beauty for thousands of years and today we still admire the perfection of their forms. However, a lot has changed in our concept of what a beautiful young person looks like. Today’s models are characteristically very thin, almost anorexic, and teenagers find it difficult to copy them and eat healthily. Instead of trying to become like today’s models on a catwalk, perhaps we should start looking at Greek models again, and follow a healthier and sportier lifestyle.

Roman mosaics in Britain

1 What different kinds of Roman art can you think of?

2 Read the text about Fishbourne Roman Palace in England and write the paragraph headings in the box in the correct spaces (1–4).

3 Now read the text about Roman mosaics. What is the most famous mosaic at Fishbourne?

4 Match the words (1–6) to the definitions (a–f).

5 Answer the questions.

Fishbourne Roman Palace

1 __________ The Romans built the palace around 80 AD on the site of a military base in Sussex, England. It was rediscovered in 1960.

2 __________ It is the biggest single building ever found by archaeologists in Britain. It covered an area the size of Buckingham Palace and had approximately 100 rooms. Today, it is possible to visit parts of the original palace, the museum, and gardens.

3 __________ Most of the rooms in the palace had mosaic floors, built at the time of the palace’s construction. Visitors can still see some of the original mosaics. The mosaic collection at Fishbourne is famous because it is one of the largest and oldest in Britain.

4 __________ The palace is open to school groups all year. During school holidays, students can participate in workshops such as Roman Textiles, Making Mosaics and Roman Plants and Gardens.

3 Roman mosaics often contained scenes of everyday domestic life, such as people and animals. Battles, religious subjects, and geometric designs were also popular. The creation of a mosaic was slow and complicated. A similar process is used today. First, an artist draws the design. Then he passes it to the craftsman who produces the individual pieces, called tesserae, to make the design. In Roman Britain, common materials used for this were chalk, limestone, and slate. Next, the craftsman prepares the surface with cement, limestone, and water. Finally, he lays the mosaic in position and finishes it with a border.

The most famous mosaic at Fishbourne Roman Palace is Cupid on a Dolphin. It is 8.32m x 8.75m and contains approximately 360,000 tesserae! Artists usually write their name on their work, but Roman mosaic artists used a special symbol instead. In Cupid on a Dolphin this symbol is a small black bird.

Glossary:

built – costruirono building – costruzione
found – trovato size – grandezza, dimensioni
decorate – decorare guests – ospiti
draw – disegnare craftsman – artigiano
chalk – gesso limestone – calce slate – ardesia
surface – superficie lay – disporre border – bordo

MINI-PROJECT

Roman mosaics often contained scenes of everyday domestic life, such as people and animals. Battles, religious subjects, and geometric designs were also popular. Design a 21st century mosaic for your home. Write a brief description of it and include the following information:

• subject • materials • colours • location
Ovid and Virgil

1 Match these historical figures (1–5) to their descriptions (a–e).

1 ______ Ovid and Virgil
2 ______ Brutus
3 ______ Octavianus Augustus
4 ______ Julius Caesar
5 ______ Cleopatra

a Queen of Egypt
b poets
c General and dictator
d Emperor
e adopted son of Julius Caesar

2 Read the text about Ovid and Virgil. What was the main difference between the later years of their lives?

3 Read the text again. True or false? Write T or F. Correct the false sentences.

1 ______ Antony and Cleopatra won the battle against Augustus.
2 ______ Ovid’s parents weren’t poor.
3 ______ Ovid and Virgil studied law together.
4 ______ Ovid never married.
5 ______ Virgil loved the countryside.

4 Choose the correct alternative: a, b or c.

1 Ovid and Virgil have in common the fact that
   a they had lots of students.
   b they worked together.
   c they wrote in the same period.

2 Ovid
   a studied law.
   b was a middle child.
   c was very polite.

3 Ovid was exiled
   a with his family.
   b for unknown reasons.
   c three times.

4 Virgil’s family
   a was interested in philosophy.
   b had property in the countryside.
   c owned a lot of books about nature.

5 The Aeneid is a book about
   a a hero escaping from a war.
   b life in the countryside.
   c the Emperor Augustus.

What do you think?

1 Do you read a lot?
2 What kind of books do you like?
3 Which don’t you like?

MINI-PROJECT

The poet Horace wrote in the same period as Ovid and Virgil. Find out some information about his life and write a short biography.

GLOSSARY:

battle – battaglia
hero – eroe
will – volontà
fought – combatterono
achieve – ottenere
lawyer – avvocato
seduction – seduzione
imitated – copiati
verses – versi
exiled – esiliato
family – famiglia
studied law – studiò diritto
be a middle child – essere il mediano
owned a lot of books – possedeva molti libri
characters – personaggi
trip – viaggio
The novel – War of the Worlds

A sudden chill came over me. There was a loud shriek from a woman behind. I half turned, keeping my eyes fixed upon the cylinder still, from which other tentacles were now projecting, and began pushing my way back from the edge of the pit. I saw astonishment giving place to horror on the faces of the people about me. I heard inarticulate exclamations on all sides. There was a general movement backwards. I saw the shopman struggling still on the edge of the pit. I found myself alone, and saw the people on the other side of the pit running off, Stent among them. I looked again at the cylinder, and ungovernable terror gripped me. I stood petrified and staring. [War of the Worlds, Chapter 4]

1 Do you believe in aliens? Is this your idea of what an alien might look like?
2 Read the introduction to War of the Worlds and complete the factfile.

H.G. Wells wrote the science fiction novel War of the Worlds in 1898. The novel tells the story of a Martian invasion of the Earth at the end of the 19th century. The Martians land in England inside metal cylinders, which create deep pits in the ground with their impact. They build war machines to attack buildings and humans. The army tries to retaliate, but the Martians are too powerful and cause devastation to towns and countryside. In the end, the Martians are killed by tiny microbes because they have no immunity to terrestrial diseases.

Factfile: War of the Worlds

- Author: ........................................................
- Published: ..................................................
- Genre: ........................................................

Setting:
- Where? ........................................................
- When? ........................................................

Glossary:  science fiction – fantascienza
           novel – romanzo  land – atterrare
           deep pits – fosse profonde  ground – terra
           buildings – edifici  army – esercito  retaliate – reagire
           immunity – immunità  diseases – malattie
           setting – scenario  sudden – all'improviso
           chill – brivido  shriek – grido  turned – girai
           fixed – fissati  tentacles – tentacoli
           projecting – sporgendo  edge – bordo, estremità
           astonishment – stupore  backwards – all'indietro
           shopman – commesso  struggling – muovendosi con fatica
           Stent [nome di un personaggio]
           ungovernable terror – terrore sfrenato  gripped – colpi
           staring – fissando

3 Now read the extract above from War of the Worlds and answer the questions.
   1 What is the narrator looking at?
   2 How many people does the narrator mention in the passage?
   3 What do the people on the other side of the pit do?
   4 How does the narrator feel?

4 Underline 5 words in the extract connected with fear.

What do you think?
1 Can you think of books or films in which aliens are friendly?
2 Would humans be friendly if they visited other planets?

MINI-PROJECT
Imagine there is an alien invasion of a city in Italy. Write a brief newspaper article describing the event. Include the following information:
- when?
- where?
- description of the aliens
- damage?
The Eye

1 Match the senses (1–5) to the parts of the body (a–e).

<table>
<thead>
<tr>
<th>Sense</th>
<th>Part of the body</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 sight</td>
<td>a ears</td>
</tr>
<tr>
<td>2 hearing</td>
<td>b eyes</td>
</tr>
<tr>
<td>3 taste</td>
<td>c nose</td>
</tr>
<tr>
<td>4 touch</td>
<td>d tongue</td>
</tr>
<tr>
<td>5 smell</td>
<td>e skin</td>
</tr>
</tbody>
</table>

Which sense do you think is the most important? Why?

2 Read the text. Which are the four most important parts of your eye? What gives our eyes their colour?

3 Read the text again. True or false? Write T or F. Correct the false sentences.

1 The cornea is the most internal part of the eye.
T

2 The iris regulates the light that comes into the eye.
T

3 With myopia you can’t see close to you.
F

4 With hyperopia the light stops in front of the retina.
F

5 With astigmatism you cannot focus properly.
T

4 Answer the questions.

1 What are the two main functions of the cornea?
2 What does the retina do to light rays?
3 Why are the muscles of the iris so important?
4 Why are the eyes sometimes blue?
5 What are the most common eye problems?

What do you think?

1 What is your eyesight like?
2 Why do so many people wear glasses today?
3 Which activities are bad for your eyes?
4 What did people with bad eyesight do in the past?

A window on the Universe


We can admire these marvels of nature because we have eyesight. But how does the eye work?

The human eye is composed of four major parts: the cornea, the lens, the retina and the iris.

The cornea is the clear, round-shaped surface that covers the front of the eye. It helps to protect the rest of the eye from germs and dust. It is like a window that controls and focuses the entry of light into the eye. When light strikes the cornea it bends the light to focus it onto the retina.

The lens helps the light to be focused on the retina by changing shape so that it can focus on objects at various distances and create sharp images. It works just like a camera lens.

The retina converts the light rays into impulses that the optic nerve then sends to the brain, which interprets them as images.

The iris is the coloured part of the eye. The round opening in the centre of the iris is called the pupil. If there is too much light, the muscles of the iris make the opening smaller to limit the light entering the eye. Exactly the opposite happens when there is not enough light. The iris is also responsible for the colour of our eyes. It contains melanin, which reflects the colour brown. When there is insufficient melanin, the iris reflects the colour blue.

Sometimes the incredible mechanism of the human eye does not work properly. The most common eye problems are:

myopia (short sightedness): light entering the eye is focussed in front of the retina, and not directly on it. People with myopia have problems seeing in the distance.

hyperopia (long sightedness): light entering the eye is focussed behind the retina, instead of directly on it. Those with hyperopia usually have problems seeing at a short distance, but sometimes also far away.

astigmatism: light focuses on more than one point in the eye, causing blurred vision.

People who have these problems wear optical glasses to correct them. However, thanks to scientific progress, it is now possible for many people to have an operation to solve the problem permanently.

MINI-PROJECT

Animals see differently from humans. Do some research on the eyesight of dogs. How is their eyesight better than ours? And how is it worse?

Glossary:
taste – gusto  
sunset – tramonto  
leaves – foglie  
rainbow – arcobaleno  
marvels – meraviglie  
eyesight, sight – vista  
lens – lente  
iris – iride  
dust – polvere  
strike – colpire  
bend – piegare  
focus – focalizzare  
shape – forma  
rays – raggi  
melanin – melanina  
blurred – sfuocato
Physics • Measuring Temperature

1 How many systems are there for measuring how hot or cold something is? What are these systems called?

2 Read the text and check your answer to Ex.1.

3 Read the text again. True or false? Write T or F. Correct the false sentences.
   1 __ 23° F is warm.
   2 __ There are different temperature measurement scales in the world.
   3 __ The first person to invent an international temperature scale was Anders Celsius.
   4 __ The system used in science is the Celsius scale.
   5 __ Today the Fahrenheit scale is only used in the USA.

4 Answer the questions.
   1 Should you wear a T-shirt, a jacket or a pullover at 100° F?
   2 What are the two anchors of temperature scales?
   3 What are the boiling points of the Fahrenheit and Celsius scales?
   4 Why do we use the word ‘centigrade’ when we measure temperature?
   5 What is the temperature on a mild day in the USA and in Italy?

What do you think?

1 What is the normal body temperature of a human being? How much higher can it go before you think you are ill?
2 What is the hottest temperature you have experienced? And the coldest? Where were you?

MINI-PROJECT

There is also a third scale for measuring temperature, called the Kelvin scale. Do some research and find out how it is different from the other two scales, how it works, why it was developed and who developed it.

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Same temperature, different scales

Imagine you are in the USA. You wake up in the morning and hear on the radio that the temperature is going to be 23° today. How do you decide to dress? If you go out in shorts and a T-shirt, then you will get a shock. In the USA they use the Fahrenheit scale to calculate temperature, and 23° Fahrenheit is –9° Celsius. You are going to be very cold!

But why do we have different ways of measuring temperature? And how did they develop? Only 300 years ago, it wasn’t possible to measure temperature with any accuracy. Then scientists invented devices that could do this, so they had to invent a temperature scale too, and different people developed different systems.

In the early years of the eighteenth century, Gabriel Fahrenheit (1686–1736) created the Fahrenheit scale. He set the freezing point of water at 32 degrees and the boiling point at 212 degrees. These two points formed the anchors for his scale.

Later in that century, around 1743, Anders Celsius (1701–1744) invented the Celsius scale. Using the same anchor points, he determined the freezing temperature for water to be 0 degrees and the boiling temperature 100 degrees. This is why we also use the word ‘centigrade’ when we describe temperature. Today the Celsius scale is known as a Universal System Unit, and it is the standard in science and in most countries. Until the 1960’s and 70’s most English-speaking countries used the Fahrenheit scale, but now, apart from the USA, only a few countries, such as Jamaica and Belize, still use it in everyday life.

To avoid the thermal shock we mentioned before, here is a useful conversion table between Celsius and Fahrenheit.

<table>
<thead>
<tr>
<th>°C</th>
<th>°F</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>–18</td>
<td>0</td>
<td>freezing point of water</td>
</tr>
<tr>
<td>0</td>
<td>32</td>
<td>a mild day</td>
</tr>
<tr>
<td>15</td>
<td>59</td>
<td>a warm spring day</td>
</tr>
<tr>
<td>20</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>152</td>
<td>boiler point of water</td>
</tr>
<tr>
<td>100</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>392</td>
<td>inside a hot oven</td>
</tr>
</tbody>
</table>

So if you want to make some bread and your American recipe book tells you to ‘Bake at 390ºF’, don’t worry, you don’t need a special oven. Just set the one you have to 200ºC, and bon appétit!

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Penicillin

1 Match the inventions (1–6) to the person who invented them (a–f).

1 ___ Electricity a John Logie Baird
2 ___ Radio b Orville and Wilbur Wright
3 ___ Telephone c Thomas Edison
4 ___ Television d Tim Berners-Lee
5 ___ Aeroplane e Antonio Meucci
6 ___ World Wide Web f Guglielmo Marconi

2 Read the text about penicillin and answer these questions.

1 Who discovered penicillin?
2 Why was penicillin an important discovery?

3 The following sentences (1–5) are missing from the text. Where do they go? Label them with the correct position (A–E).

1 ___ For example, simply cutting your hand could be fatal!
2 ___ He named this substance penicillin.
3 ___ Fleming was a bacteriologist working at St. Mary’s Hospital in London.
4 ___ An antibiotic can attack, kill, and prevent these bacteria from multiplying.
5 ___ During the Second World War, the medical industries in the USA and Great Britain worked together to produce large quantities of penicillin.

4 Complete the sentences with words from the text.

1 Fleming observed a blue-green __________ , which destroyed bacteria.
2 _______ create infection, which penicillin can kill.
3 _______ was important in saving the lives of soldiers.
4 Penicillin is an important ____________.

What do you think?

1 Which of the inventions in Ex.1 do you think was the most important? Why?

MINI-PROJECT

Think of another discovery or invention and find out more about it using the Internet. Write a short text about it. Include information on:
• when?
• who?
• where?
• why?

Penicillin was the first antibiotic used to treat bacterial infections successfully. A bacterial infection is caused when bacteria multiply in the body. (A) __________

Before the discovery of penicillin, many people suffered and died from bacterial infections that are not considered dangerous today. (B) __________

Alexander Fleming discovered penicillin in 1928. (C) __________ He noticed that a blue-green mould was growing on a plate culture of the bacteria, Staphylococcus. The mould was dissolving bacteria around the plate. He decided to grow the mould and found that it produced a substance which could kill bacteria. (D) __________

In 1939, a group of scientists at Oxford University developed Fleming’s research and realized the importance of penicillin as a life-saving drug. (E) __________ Penicillin made a big difference in the number of deaths and amputations caused by infection. In 1945 Alexander Fleming was awarded the Nobel Prize for his discovery.

Glossary:
cut – tagliare prevent – prevenire
treat – curare multiply – moltiplicarsi
mould – muffa plate culture – coltura
dissolve – disciogliere
Rugby

1 What do you know about the game of rugby? Answer the questions.
   1 What are some of the differences between rugby and football?
   2 Have you ever watched a game?
   3 Do you know anyone who plays it?
   4 Do you know the names of any Italian players?

2 Read the text. What physical and mental characteristics do you need to play the game?

3 Read the text again. True or false? Write T or F. Correct the false sentences.
   1 The game was invented at a school.
   2 In rugby you can pick up the ball and run with it.
   3 You have to be big to play rugby.
   4 Rugby is not a professional game.
   5 The Six Nations tournament is played every year.
   6 New Zealand won the World Cup in 2000.

4 Answer the questions.
   1 When was rugby invented?
   2 Name two types of positions in a rugby team.
   3 What is important to be a successful team?
   4 Why is it so important to respect the rules?
   5 What are the All Blacks famous for?

What do you think?

1 Why do you think rugby is becoming more popular?
2 At which sports events do you think the atmosphere is friendly? At which do you think it is aggressive?
3 Which sports do you like watching? Why? Which sports do you hate watching? Why?

MINI-PROJECT

Make a poster about 2 or 3 national rugby teams, showing their names, their nicknames, their national symbols, and the colours they play in. Write a paragraph next to each team with any other interesting information about them.

A DIFFERENT KIND OF FOOTBALL

Rugby was invented ‘accidentally’ in the 19th century, at Rugby School in England, when a schoolboy called William Webb Ellis picked up the ball in a game of football and ran with it. It is now one of the most popular contact sports in the world. In a great game of rugby you can see fast running, courageous tackling, players passing the ball quickly in every direction, and lots of points – it is quite common for there to be more than 50 points scored in a game.

You may think that rugby is only for enormous, strong men, but in fact anybody can play the game because you need different skills for different types of play and positions. The ‘forwards’ must be strong and determined, the ‘backs’ have to be fast at running and changing direction rapidly. However, there are no real ‘stars’ like in other sports, the secret to winning is ‘team spirit’. Part of this spirit is respect for the rules of the game. This is especially important because rugby can be dangerous.

The sport is now played all over the world by men and women, amateurs and professionals, and new exciting national teams are now emerging. The Italian team, for example, joined the famous Six Nations annual championship since in 2000. But the most famous team in the world is probably the New Zealand All Blacks. They are famous for performing the ‘haka’ before each match, and they won the Rugby World Cup in 2011.

The atmosphere at international rugby matches is fantastic. They are happy occasions for all the family, and fans from both sides are always friendly to each other.

So next time you are in the park with your friends, instead of the usual game of football, pick up the ball and run with it like William Webb Ellis did nearly 200 years ago! But watch out for tackles!

Glossary:
- picked up – prese in mano
- tackling – placcaggio
- skills – abilità
- amateur – dilettante
- watch out – fare attenzione a