

# 18 - Science and Technology

## *Science and Technology*

Talk about – rozprávajte o:

- ***Inventions in the past*** – vynálezy v minulosti
  - ***The important inventions and research of today*** –dôležité vynálezy a výskum v súčasnosti
  - ***Inventions and technology that we use every day*** – vynálezy a technológia, ktorú používame každý deň
  - ***Inventions that are important to you – why and how you use them*** – vynálezy, ktoré sú dôležité pre teba – prečo a ako ich používaš
  - ***The advantages and disadvantages that the science and technology brought to mankind*** – výhody a nevýhody, ktoré priniesla veda a technológia ľuďstvu
  - ***Famous inventors and scientists*** – slávni vynálezcovia a vedci
  - ***Older people and technology*** – starší ľudia a technológia
- ### ***1. Inventions of the past***

In the pre-historic times, people's lives were very simple – people hunted for food and made primitive tools from stones and simple clothes to protect them from the cold. The only tool which they had was the human hand. People wanted to make their lives easier and more comfortable and so they invented the wheel. They also built windmills to use the wind energy. Important discoveries and inventions came in 15th and 16th centuries – new continents /America, Asia, Africa/ were discovered and sciences such as astronomy, philosophy, medicine and biology were developed. At that time also the printing press /kníhtlač/ was invented in Germany by a man called Gutenberg.

Many important inventions came in the **18th and 19th century** – it was the time of the **Industrial Revolution** /priemyselná revolúcia/:

- **the steam engine** - parný stroj => **James Watt**
- **the electric light bulb** – elektrická žiarovka => **T. A. Edison**
- **the electric motor** – elektrický motor => **Michael Faraday**
- **the 1st petrol driven car** – prvé auto na benzín => **G. Daimler, K. Benz**
- **the electricity** – elektrická energia

Thanks to these inventions, large factories were built and everything started to be produced by machines => the mass production started and many goods became cheaper and so more people could buy them. Also the technologies improved and new and cheaper materials were used:

- **rubber** - guma
- **glass** – sklo
- **leather** - koža
- **paper** – papier
- **plastics** – plasty
- **synthetic materials** – syntetické materiály

Later, in the **20th century**, these inventions came to existence:

- **the airplane**
- **the computer**
- **the mobile phone**
- **the Internet, the TV**
- **the videophone**
- **the integrated circuit** – integrovaný obvod
- **the credit cards**
- **the phone cards**
- **pesticides** – postreky proti hmyzu
- **fertilizers** – hnojivá
- **genetically modified food** – geneticky modifikované potraviny

In the 20th century, scientists made a lot of **medical research** that helps the doctors to save human lives and to cure many illnesses – for example:

- **the laser**
  - **new drugs and vaccines** – lieky a vakcíny
  - **penicillin**
  - **vitamin C**
  - **X-ray** – röntgen
  - **Test-tube babies** – bábatká zo skúmavky
- 3. Inventions and technology that we use every day**

Today we cannot imagine our lives without technology. We use it every day at home, at work, at school and in many other parts of our lives. They are very important to us. There are many inventions that we use every day.

For example **at home** we use these inventions:

- **electric appliances** – elektrické spotrebiče
- **a fridge** – chladnička
- **a washing machine** - práčka
- **a computer /PC/, a TV**
- **an electric kettle** – rýchlovarná konvica
- **a telephone, a mobile phone**
- **an answering machine** - odkazovač

- **a dishwasher** – umývačka riadu
- **a plug** - zástrčka
- **a socket** - zásuvka
- **a microwave oven** – mikrovlnka
- **a vacuum cleaner /a hoover/** - vysávač
- At work** we can use:
- **a telephone**
- **a fax machine**
- **a computer**
- **a laptop /a notebook/**

***- a car...Inventions that are important to you – why and how you use them***

I think that the most important inventions for me are the electricity, the television and the mobile phone /the computer, a microwave.../ I think electricity is very important because it makes our lives much easier and comfortable – many things that I use every day are powered by electricity – TV, radio, computer, a fridge. I can't imagine my life without electricity. Other inventions that are very important to me are the TV, the mobile phone and the computer because I like watching TV and playing computer games. I think that the mobile phone is also very important because I can call my friends and family when I have a problem, when I need help, to arrange a meeting or just when I want to talk to somebody.

***The advantages and disadvantages that the science and technology brought to mankind***

The development of science and technology brought to people many advantages but also many disadvantages. **Advantages:**

- it made our lives easier and more comfortable
  - sometimes science can help to make a human life longer – for example new medicine /penicillin/ and medical technology was developed /X-ray/ => many people can be cured
  - science and technology help us to learn new information about our life, the life of animals, our world and the space – people can travel to space, search the oceans and the jungle because we have the technology for it – we can measure, weigh very precisely
  - science and technology helps us to overcome the distance /prekonať vzdialenosť/
  - for example the telephone – we can talk to and see people who are far away from us, even on the other side of the world
  - it helps us to make transactions easier – we use credit cards, phone cards...
  - it can help us to protect our environment – to find some alternative sources of energy – for example the wind power, the solar power...
- Disadvantages:**
- the science has brought some ethical problems – for example the cloning of

animals and people – some people think that it is right, some people think it is wrong

- science and technology can endanger people – we can be destroyed by the new inventions – ballistic missiles, laser and nuclear weapons, H-bomb
- pollution of the environment – on the one hand the science can help us to protect it, on the other hand, we can destroy it by fertilizers, pesticides...
- we spend less time talking to our family and friends – we prefer sending messages, using mobiles and we communicate with computer, not with real people.

- we should use the technology wisely so that we can improve our lives and don't destroy it.

### ***Famous inventors and scientists:***

- **Isaac Newton** – English mathematician, physicist, astronomer – he invented the law of gravitation
- **James Watt** – he was a Scottish engineer – he invented the steam engine
- **Charles Darwin** – an English scientist – he developed the modern theory of evolution
- **Thomas Alva Edison** – an American inventor – he invented the electric bulb, the telephone transmitter
- **Alexander Graham Bell** – Scottish inventor – he invented the telephone
- **Albert Einstein** – he developed the theory of relativity
- **Sir Alexander Fleming** – Scottish bacteriologist – he discovered the first antibiotic drug – penicillin
- **James Dewey Watson** – American biologist – discovery of a structure for DNA

### ***Older people and technology:***

Many older people don't like using computers, mobile phones or credit cards. The technology and many new inventions, such as computers, microwaves or dishwashers didn't exist when they were young and they don't know how to use it.

They are afraid of technology and they don't trust it. They think that technological inventions are expensive and difficult to use.

**Vocabulary: the past** – minulosť **in the pre-historic times** – v predhistorickom období

**simple** - jednoduchý **hunt for food** – loviť kvôli jedlu

**tools** – nástroje **stone** – kameň, kamenný **to protect from** – ochrániť pred

**comfortable** - pohodlný **invent** - vynájsť **invention** – vynález **inventor** - vynálezca

**the wheel** - koleso **windmill** – veterný mlyn **important** - dôležitý

**discovery** - objav **discover** - objaviť **science** - veda **scientist** – vedec

**scientific** - vedecký **such as** - ako **develop** - vyvinúť **the printing press** - kníhtlač

**to be called** – volať sa, byť nazývaný **thanks to** – vďaka (thanks to new inventions – vďaka novým vynálezom)

**produce** – produkovať, vyrábať **goods** - tovať **become** /min. č. **became**/ - stať sa **improve** – zlepšiť, vylepšiť **use** -

používať **century** - storočie **research** - výskum **medical research** - výskum v medicíne **to save human lives** – zachrániť ľudské životy **to cure many illnesses** – vyliečiť mnohé choroby **today** - dnes **imagine** – predstaviť si **without** - bez **part** - časť **electricity** - elektrina **powered by electricity** – poháňaný elektrinou **to call friends** – zavolať priateľom **need** - potrebovať **to arrange a meeting** – dohodnúť stretnutie **bring** /min. č. **brought** / - priniesť **mankind** – ľudstvo **develop** – vyvinúť, rozvinúť **development** – vývoj, rozvoj **comfortable** - pohodlný **the space** – vesmír **the jungle** - džungľa **search the oceans** – prebádávať oceány **measure** - merať **weigh** - vážiť **precisely** - presne **to overcome the distance** - prekonať vzdialenosť **far away** - ďaleko **even** - dokonca **to protect our environment** – ochrániť životné prostredie **alternative sources of energy** – alternatívne zdroje energie **the wind power** – veterná sila, veterná energia **the solar power** – solárna energia **ethical problems** – etické problémy **the cloning of animals and people** – klonovanie zvierat a ľudí **right** - správne **wrong** - nesprávne **endanger** - ohroziť **destroy** - zničiť **ballistic missiles** – balistické strely **laser weapons** – laserové zbrane **nuclear weapons** – nukleárne zbrane **H-bomb** – vodíková bomba **pollution of the environment** – znečistenie životného prostredia **on the one hand** – na jednej strane **on the other hand** – na druhej strane **to spend less time** – stráviť menej času **prefer** - uprednostňovať **send messages** – posilať správy **wisely** - múdro **so that** - takže **improve** – zlepšiť, zdokonaľiť **famous** - slávny **the law of gravitation** – gravitačný zákon **the theory of relativity** – teória relativity **the antibiotic drug** – antibiotikum, antibiotický liek **structure for DNA** – štruktúra DNA **such as** – ako /taký ako/ **to be afraid of technology** – báť sa, obávať sa technológií **trust** - dôverovať **expensive** - drahý **difficult to use** – ťažký na používanie