



JOHN SNOW DEFEATS "KING CHOLERA"

John Snow was a famous doctor in London – so **expert**, indeed, that he **attended** Queen Victoria as her personal **physician**. But he became inspired when he thought about helping ordinary people **exposed to** cholera. This was the deadly disease of its day. Neither its cause nor its **cure** was understood. So many thousands of terrified people died every time there was an outbreak. John Snow wanted to face the **challenge** and solve this problem. He knew that cholera would never be controlled until its cause was found.

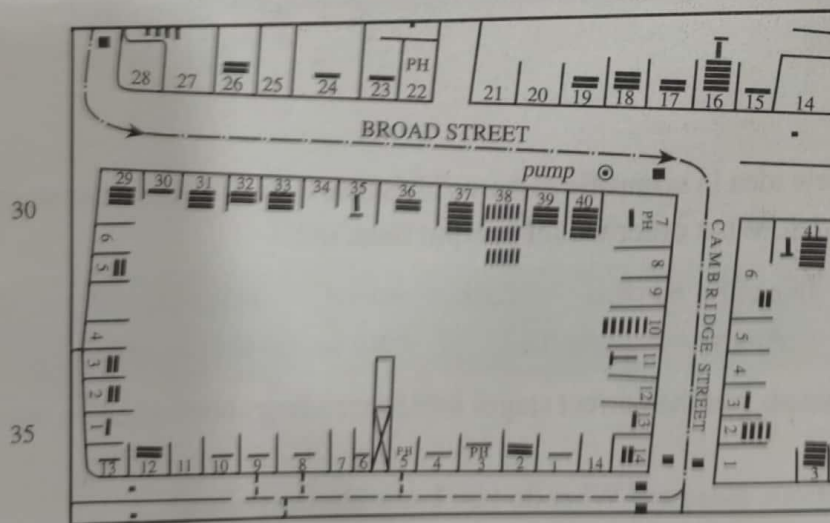
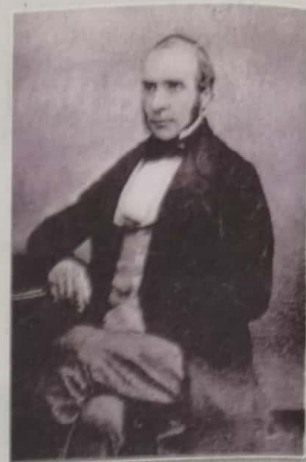
He became interested in two theories that possibly explained how cholera killed people. The first suggested that cholera multiplied in the air. A cloud of dangerous gas floated around until it found its **victims**. The second suggested that people **absorbed** this disease into their bodies with their meals. From the stomach the disease quickly attacked the body and soon the affected person died.

John Snow **suspected** that the second theory was correct but he needed evidence. So when another outbreak hit London in 1854, he was ready to begin his **enquiry**. As the disease spread quickly through poor **neighbourhoods**, he began to gather information. In two particular streets, the cholera outbreak was so **severe** that more than 500 people died in ten days. He was determined to find out why.

First he marked on a map the exact places where all the dead people had lived. This gave him a valuable clue about the cause of the disease. Many of the deaths were near the water **pump** in Broad Street (especially numbers 16, 37, 38 and 40). He also noticed that some houses (such as 20 and 21 Broad Street and 8 and 9 Cambridge Street) had had no deaths. He had not **foreseen** this, so he made further investigations. He discovered that these people worked in the pub at 7 Cambridge Street. They had been given free beer and so had not drunk the water from the pump. It seemed that

the water was to **blame**.

Next, John Snow looked into the source of the water for these two streets. He found that it came from the river **polluted** by the dirty water from London. He immediately told the astonished people in Broad Street to remove the **handle** from the pump so that it could not be used. Soon afterwards the disease slowed down. He had shown that cholera was spread by germs and not in a



Part of Snow's Cholera Map

Note: — : 1 death PH: public house 30, 31, ... : numbers of houses

40 cloud of gas.

In another part of London, he found supporting evidence from two other deaths that were **linked to** the Broad Street outbreak. A woman, who had moved away from Broad Street, liked the water from the pump so much that she had it delivered to her house every day. Both she and her daughter died of cholera after drinking the water. With this extra evidence John Snow was able to **announce** with certainty that polluted water carried the germs.

To prevent this from happening again, John Snow suggested that the source of all the water supplies be examined. The water companies were **instructed** not to expose people to polluted water any more. Finally "King Cholera" was defeated.

Comprehending

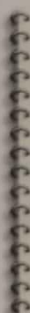
1 Read the passage and number these events in the order that they happened.

- ___ John Snow began to test two theories.
- ___ An outbreak of cholera hit London in 1854.
- ___ John Snow marked the deaths on a map.
- ___ He announced that the water carried the disease.
- ___ John Snow investigated two streets where the outbreak was very severe.
- ___ King Cholera was defeated.
- ___ He found that most of the deaths were near a water pump.
- ___ He had the handle removed from the water pump.

2 Read the passage again and answer these questions.

- 1 John Snow believed Idea 2 was right. How did he finally prove it?
- 2 Do you think John Snow would have solved this problem without the map? Give a reason.
- 3 Cholera was a 19th century disease. What disease do you think is similar to cholera today? Why?

3 Write a short summary of the reading passage. Use the details from Exercise 1 above to help you, as well as the stages for scientific research in Pre-reading.



4 Choose one of the paragraphs of the passage. Read it aloud fluently to show that you understand it very well.

Unit 3

Life in the future

Warming Up

What changes do you expect to see in your life in one thousand years' time? Below are some of the main **aspects** of life today. In groups, choose two of them to have a discussion, then make notes in the table below.

	Present time	In One Thousand Years' Time
Transport		
Work		
Finance and currency		
Languages		
Environment		
Education		
Houses		
Communication		

Prepare to tell your ideas to the class.

Pre-reading

- 1 Make a list of the problems human beings are facing today.
- 2 Which problems do you think people will have overcome in one thousand years?
Which ones do you think will still exist in AD 3008? Give your reasons.
- 3 Skim the reading passage and see whether your ideas are the same as those in the text.

Reading



FIRST IMPRESSIONS

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Dear Mum and Dad,

I still cannot believe that I am **taking up** this prize that I won last year. I have to remind myself **constantly** that I am really in AD 3008. Worried about the journey, I was unsettled for the first few days. As a result, I suffered from "time lag". This is similar to the "jet lag" you get from flying, but it seems you keep getting flashbacks from your **previous** time period. So I was very



nervous and **uncertain** at first. However, my friend and **guide**, Wang Ping, was very understanding and gave me some green **tablets** which helped a lot. Well-known for their expertise, his parents' company, called "Future Tours", transported me safely into the future in a time capsule.

I can still remember the moment when the space **stewardess** called us all to the capsule and we climbed in through a small **opening**. The seats were comfortable

and after a calming drink, we felt sleepy and closed our eyes. The capsule began swinging gently **sideways** as we lay relaxed and dreaming. A few minutes later, the journey was completed and we had arrived. I was still on the earth but one thousand years in the future. What would I find?

At first my new **surroundings** were difficult to **tolerate**. The air seemed thin, as though its combination of gases had little oxygen left. Hit by a **lack** of fresh air, my head ached. Just as I tried to make the necessary **adjustment** to this new situation, Wang Ping appeared. "Put on this **mask**," he advised. "It'll make you feel much better." He handed it to me and immediately hurried me through to a small room nearby for a rest. I felt better in no time. Soon I **was back on my feet** again and following him to collect a hovering **carriage** driven by computer. These carriages float above the ground and by bending or **pressing** down in your seat, you can move swiftly. Wang Ping **fastened** my **safety belt** and showed me how to use it. Soon I could fly as fast as him. However, I **lost sight** of Wang Ping when we reached what looked like a large market because of too many carriages flying by in all directions. He was **swept up** into the centre of them. Just at that moment I had a "time lag" flashback and saw the area again as it had been in the year AD 2008. I realized that I had been transported into the future of what was still my hometown! Then I caught sight of Wang Ping again and flew after him.



Arriving at a strange-looking house, he showed me into a large, bright clean room. It had a green wall, a brown floor and soft lighting. Suddenly the wall moved – it was made of trees! I found later that their leaves provided the room with much-needed oxygen. Then Wang Ping



flashed a switch on a computer screen, and a table and some chairs rose from under the floor as if by magic. "Why not sit down and eat a little?" he said. "You may find this difficult as it is your first time travel trip. Just relax, since there is nothing planned on the **timetable** today. Tomorrow you'll be ready for some visits." Having said this, he spread some food on the table, and produced a bed from the floor. After he left, I had a brief meal and a hot bath. Exhausted, I **slid into** bed and fell fast asleep.

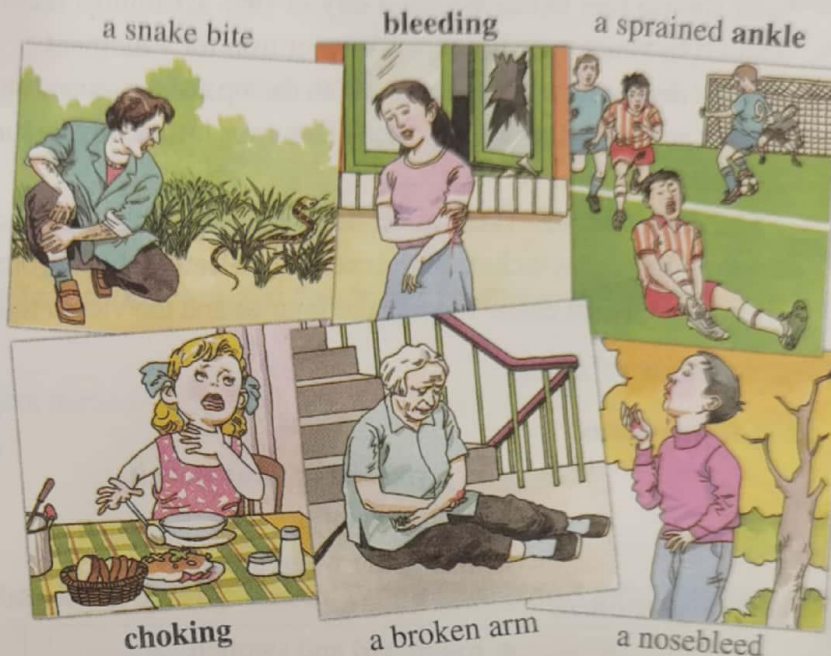
More news later from your loving son,
Li Qiang

Unit 5

First aid

Warming Up

First aid is a **temporary** form of help given to someone who suddenly **falls ill** or gets injured before a doctor can be found. Often the illness or **injury** is not serious, but there are other times when giving first aid quickly can save lives. In groups look at the pictures and discuss what has happened in each one. If possible, discuss what kind of first aid you should give in these situations.



Pre-reading

- 1 Look at the picture. What is on the **cupboard**? What has happened to the little girl?
- 2 What kind of first aid would you perform in this situation? Make a list of your ideas.
- 3 Now quickly read about "First Aid for Burns" taken from a book called *First Aid for the Family*. See whether your ideas were correct.



Reading



FIRST AID FOR BURNS

The **skin** is an essential part of your body and its largest **organ**. You have three layers of skin which act as a **barrier** against disease, **poisons** and the sun's harmful **rays**. The functions of your skin are also very **complex**: it keeps you warm or cool; it prevents your body from losing too much water; it is where you feel cold, heat or pain and it gives you your sense of touch. So as you can imagine, if your skin gets burned it can be very serious. First aid is a very important first step 5 in the treatment of burns.

Causes of burns

You can get burned by a **variety** of things: hot **liquids**, steam, fire, **radiation** (by being close to high heat or fire, etc), the sun, electricity or chemicals.

Types of burns

There are three types of burns. Burns are called first, second or third degree burns, depending on which layers of the skin are burned.

- **First degree burns** These affect only the top layer of the skin. These burns are not serious and should feel better within a day or two. Examples include **mild** sunburn and burns caused by touching a hot **pan, stove** or iron for a moment. 15
- **Second degree burns** These affect both the top and the second layer of the skin. These burns are serious and take a few weeks to heal. Examples include severe sunburn and burns caused by hot liquids.
- **Third degree burns** These affect all three layers of the skin and any **tissue** and organs under the skin. Examples include burns caused by **electric shocks**, burning clothes, or severe petrol 20 fires. These burns cause very severe injuries and the victim must go to hospital at once.

Characteristics of burns

First degree burns

- dry, red and mildly **swollen**
- **mildly** painful
- turn white when pressed

Second degree burns

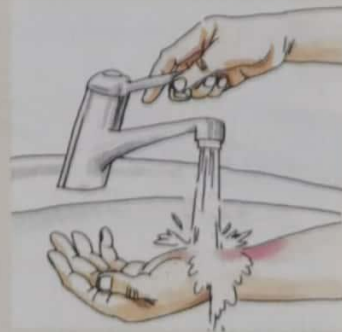
- rough, red and swollen
- blisters
- watery surface
- extremely painful

Third degree burns

- black and white and charred
- swollen; often tissue under them can be seen
- little or no pain if nerves are damaged; may be pain around edge of injured area.

First aid treatment

- 1 Remove clothing using **scissors** if necessary unless it is stuck to the burn. Take off other clothing and jewellery near the burn.
- 2 Cool burns immediately with cool but not icy water. It is best to place burns under gently running water for about 10 minutes. (The cool water stops the burning process, prevents the pain becoming **unbearable** and reduces swelling.) Do not put cold water on third degree burns.
- 3 For first degree burns, place cool, clean, wet cloths on them until the pain is not so bad. For 45 second degree burns, keep cloths cool by putting them back in a **basin** of cold water, **squeezing** the water **out** and placing them on the burned area **over and over again** for about an



hour until the pain is not so bad.

- 4 Dry the burned area gently. Do not rub, as this may break any blisters and the wound may get infected.
- 5 Cover the burned area with a dry, clean **bandage** that will not stick to the skin. Hold the bandage **in place** with tape. Never put butter, oil or ointment on burns as they keep the heat in the wounds and may cause infection.
- 6 If burns are on arms or legs, keep them higher than the heart, if possible. If burns are on the face, the victim should sit up.
- 7 If the injuries are second or third degree burns, it is **vital** to get the victim to the doctor or hospital at once.

Comprehending

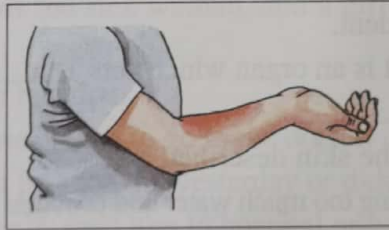
1 In which order are these topics covered in the text? Number them from 1 to 5.

- ___ the three types of burns
- ___ what to do if someone gets burned
- ___ the functions of the skin
- ___ the **symptoms** of burns
- ___ how we get burns

2 Read the text again and then label these pictures *first, second and third degree burns*.



A _____



B _____



C _____

3 Answer the following questions.

- 1 Why should you put cold water on a burn?
- 2 Why doesn't a third degree burn hurt?
- 3 Why do you think clothes and jewellery near burns should be removed?
- 4 If someone has a third degree burn, why might you see tissue?

4 Read the first aid treatments for these burns. If the treatment is right, write **R** in the brackets. If it is wrong, write **W** in the brackets and explain why. Then give the correct treatment.

- 1 Sam knocked over a **kettle** full of boiling water onto his legs. His legs became red, swollen and covered with blisters. Sam broke the blisters and **poured** icy water from the fridge onto the skin. ()
- 2 While ironing clothes, Miss Good accidentally touched the iron. Her **wrist** blistered and became