

## TECHNICAL ENGLISH 6° B – D – E

Bibliography: "Technical English" 2A – Student's Book . David Bonamy . Perason Longman (2009)

**Writing 6** Write sentences explaining how to activate or start the devices in 4.

you, the user, the customer, the driver, the passenger

1 You activate / The user activates the accelerator on a motorbike by rotating the handle.

**Reading 7** What can this robot do? How does it work? Discuss with your partner.

**8** Read this magazine article. Write the names of the devices in the chart.

### MURATA BOY

weighs less than 5 kg and is only 508 mm tall, but it can do something that no other robot can do. It can ride a bike. How does it do this?

By means of sensors and wireless technology. One sensor is located in the robot's body. This sensor keeps the robot upright and prevents it from falling sideways.

The robot can look ahead using a small camera in its head. The camera helps the robot to ride in a straight line. Another sensor is located in its chest. This sensor prevents it from hitting a wall or other object. The robot can receive instructions from an external computer by means of a wireless receiver in the box on its back. The computer makes it follow the correct road. Finally, if the road is not flat, another sensor (in the frame of the bike) can feel the movement of the wheel. The sensor allows the robot to ride over bumps in the road.



Murata Manufacturing Co Ltd

Murata Boy can do these things	device	location
(1) It can stay in a vertical position on the bike	sensor	body
(2) It can receive instructions from an outside computer		
(3) It can detect changes in the surface of the road		
(4) It can look straight ahead and move straight forward		
(5) It can detect walls and move away from them		

#### Language

The robot can look ahead

by  
using  
by using  
by means of

a camera in its head.

**Speaking 9** Supply the questions for this interview with the inventor of the robot.

1 A: *What* \_\_\_\_\_?

B: It can ride a bicycle.

2 A: *How* \_\_\_\_\_?

B: It works by means of sensors and wireless technology.

3 A: \_\_\_\_\_?

B: By means of a sensor in the frame of the bike.

4 A: \_\_\_\_\_?

B: By a sensor in its chest.

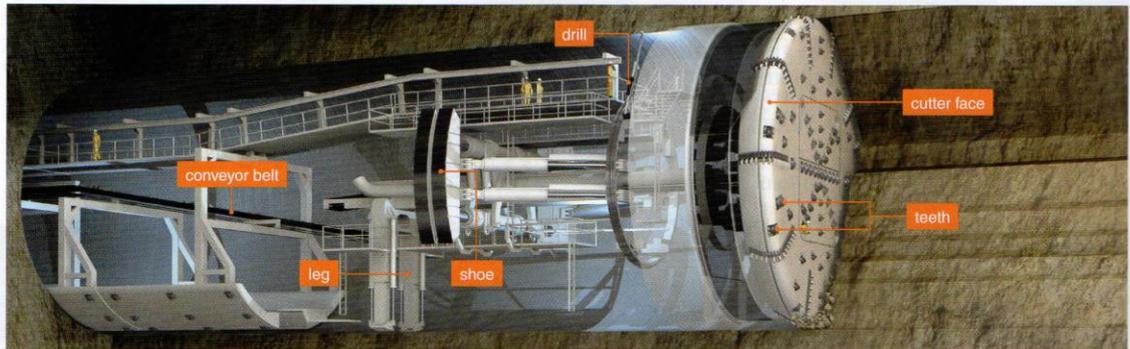
5 A: \_\_\_\_\_?

B: By using a camera.

# 4

## Processes

### 1 Infrastructure



**Start here** 1 What is this? What does it do? How does it work? Discuss with your partner.

**Listening** 2 12 Listen and complete the specifications chart.

**Reading** 3 Read this article and put these headings in the correct place.

MB471/316 Tunnel Drill Specifications	
Length	
Diameter	
Speed	
Manpower needed	
Cost	

Collecting the rocks    Controlling the movement    Moving the cutter  
Cutting the rock surface    Strengthening the roof    Supplying the electricity

#### THE MB471-316 TUNNEL DRILL – one of the largest hard-rock drills in the world

- |  |   |
|--|---|
| <p>1 _____<br/>The face of the cutter has 85 teeth. Each tooth is 60 cm long. The cutter face rotates about seven times a minute. When it rotates, the teeth cut large circles into the surface of the rock.</p>   | <p>4 _____<br/>Fifteen electric motors supply the machine with 6,375 horsepower. The power is connected to the cutters by means of a 13,800-volt cable.</p>   |
| <p>2 _____<br/>Pieces of rock fall to the ground. They are collected by large scoops. They are then dropped into chutes. When the cutter face rotates upwards, the rocks fall onto conveyor belts. They are then carried to the rear of the machine.</p> | <p>5 _____<br/>There are two drills attached to steel arms. These are located immediately behind the cutters. When the machine moves forwards, holes are drilled into the roof of the tunnel. Then the holes are filled with bolts and cement. This strengthens the roof.</p> |
| <p>3 _____<br/>Hydraulic cylinders push the body of the cutter slowly forwards. As it moves forwards, steel shoes move outwards and grip the tunnel walls. At the same time, two legs push down and lift the machine off the floor.</p>                  | <p>6 _____<br/>The machine operator sits in a cabin at the heart of the machine. Here he/she controls its speed and direction. Video cameras monitor the cutter and the tunnel.</p>   |

**Vocabulary** 4 Make a list of all the names of parts of the body and clothing in the text in 3.  
5 List other technical contexts where the items in 4 are used.

*Example: 'teeth' are also found on gears.*

**Language** In an active sentence, the subject = the agent. The subject does the action.

Subject = agent	Active verb	Object
Hydraulic cylinders	push	the cutter.
Large scoops	collect	the rocks.

In a passive sentence, the subject is NOT the same as the agent. The subject does not do the action. The agent does the action to the subject.

Subject	Passive verb		Agent
	be	Past participle	
The cutter	is	pushed	by hydraulic cylinders.
The rocks	are	collected	by large scoops.

- 6 Change this set of instructions into a description of a process, using the passive and the words in the box.

finally first next now then

## How to change the oil in a car

1 Run the engine for a few minutes.	5 Put the oil drain plug on
2 Switch off the engine.	6 Take off the oil filler cap.
3 Take off the oil drain plug.	7 Pour in the new oil.
4 Empty the old oil into a container.	8 Put the oil filler cap back on.

*Begin: First the engine is run for a few minutes. Then it is switched off. Now the ...*

- 7 Make a set of instructions about a process you know about. Then rewrite it as a process description in the passive.

*Examples of processes: food manufacture, steel making, canning, assembling computer components, manufacturing a CD, dairy processing.*

- 8 Fill in the gaps, using the correct form of the verbs in brackets.

- Large drills \_\_\_\_\_ (make) holes in the roof of the tunnel. Then the holes \_\_\_\_\_ (fill) with bolts and cement.
- A large propeller \_\_\_\_\_ (push) the hovercraft forwards. The propeller \_\_\_\_\_ (drive) by a powerful engine.
- Hot water \_\_\_\_\_ (flow) from the engine into the radiator. Here it \_\_\_\_\_ (cool) by the fan.
- The robot \_\_\_\_\_ (monitor) by a computer. This computer also \_\_\_\_\_ (control) all the other robots in the building.
- First, the rusty machine parts \_\_\_\_\_ (bring) into the factory. Then they \_\_\_\_\_ (clean). Then the rust \_\_\_\_\_ (remove). Next the parts \_\_\_\_\_ (paint). Finally, they \_\_\_\_\_ (take) out of the factory again.

- 9 Make a list of headings for the main stages of a process you know about. Make each heading begin with a verb ending in **-ing**, like the ones in 3.

*Example: Moulding and shaping steel – 1 Melting the steel; 2 Casting; 3 Cooling; 4 Rolling the steel; 5 Straightening; 6 Cutting.*

- 10 Give a short talk to the class explaining your process. Use your headings.

**Reading 4** Read this website of a car company and check your answers to 2 and 3.

**Assembling a car**

First, the parts are delivered by truck or rail to the *delivery area* of the car assembly plant. From here, some parts are taken to the body shop, and other parts are transported to the chassis line. The parts are carried around the plant by forklift trucks or conveyor belts.

In the *body shop*, the panels are welded to the frame to form the body of the car. This is done by more than 400 robots.

Then the body is taken to the *paint shop*. Here it is cleaned and painted by robots. Special clothing is worn by the robots to protect the paint. After this, the body is checked by human workers to look for faults.

Next, the painted body moves along a conveyor belt to the *trim line* and many parts are added to it. For example, the instrument panel, the air conditioning system, the heating system and the electrical wiring are all installed here. The windscreen is inserted by robots using laser guides.

Meanwhile, in the *chassis line*, components are added to the chassis. First, the chassis is turned upside down, to make the work easier. Then the fuel system, the transmission, the suspension, the exhaust system, the axles and the drive shaft are all installed. Next the chassis is turned over (rightside up). The engine is lowered into the chassis and connected to it.

Now the chassis and the body move simultaneously to the *final assembly line*. Here the body is attached to the chassis, and all the final parts are added. The tyres and the radiator are added here. The hoses are connected, and the radiator and air conditioner are filled with fluid. The car's central computer is also installed here.

Lastly, the finished car and all electrical systems are tested. The car is filled with fuel and the engine is started for the first time. The car is put on special rollers to test the engine and the wheels. If it passes the test, the car is finally driven out of the assembly plant.

**Language** *to* + verb is used to talk or write about the purpose of an action.

*Why do you paint the car body? To protect it from rust.*

*The car body is painted to protect it from rust.*

**Speaking 5** Match actions with their purposes. Refer to the text in 4.

<b>action</b>	<b>purpose of action</b>
1 workers weld thin metal sheets to a frame	a) to check the movement of the wheels
2 they turn the chassis upside down	b) to make the car body
3 the robots wear special clothes	c) to inspect it for faults in the paint
4 they turn the chassis rightside up	d) to protect the wet paint from dust
5 workers put the finished car on rollers	e) to install the fuel system easily
6 workers check the car body by hand	f) to lower the engine into it

**6** In pairs, ask and answer the questions in 5. Use the passive form in the question.

A: *Why are thin metal sheets welded to a frame?*

B: *To make the car body.*

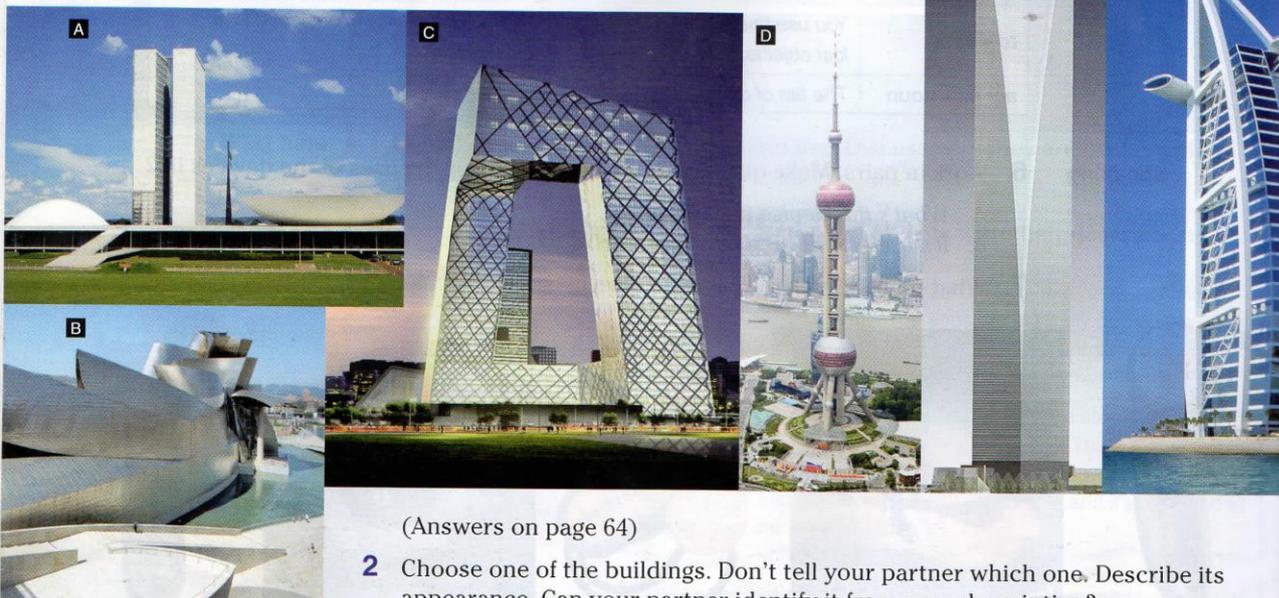
**7** Ask questions to get these answers. Refer to the text in 4.

- 1 They're delivered by truck or rail.
- 2 They're welded together in the body shop.
- 3 They're carried by forklift trucks or conveyor belts.
- 4 To look for faults in the paint.
- 5 It's done by human workers.
- 6 It's done using laser guides.

## 2 Appearance

### Descriptions

**Start here** 1 Do you know where these buildings are?



(Answers on page 64)

2 Choose one of the buildings. Don't tell your partner which one. Describe its appearance. Can your partner identify it from your description?

**Reading** 3 Read these newspaper cuttings. Match the descriptions with the buildings.

1 This building looks like a huge ship, an ocean liner, sailing up the river. One part of the building is shaped like three hulls. The other part looks like the decks and the bridge.

2 The building looks like a TV transmitter. It has three spherical structures. The bottom two are connected by a structure which is shaped like a ladder. It looks like three onions on a skewer! The foot of the building has legs, like a tripod.

3 It's triangular at the base, but thin and rectangular at the top. It looks like a huge chisel, with an empty space in the middle of the blade.

4 The skyscraper is shaped like a giant sail. The sail is standing on a short surfboard in the sea.

5 This building is in three parts. In the centre there's a tall H-shaped building. On the left there's the top part of a dome. It looks like an upside-down plate. On the right there's the bottom part of a dome, like a soup bowl.

6 It consists of three L-shaped structures, attached to each other. It looks like a square link in a chain.

**Language** You can describe the *shape* or *appearance* of something in these ways:

- The building **looks like** a TV transmitter.
- The building **is shaped like** a dome. It's a **dome-shaped** building.
- The plan is **in the shape of** an L. It's an **L-shaped** plan.
- The screen is **in the shape of** a circle. It's a **circular** screen.

4 Describe the buildings in the photos in 2. Cover up the texts in 3.

## MODAL VERBS

What are modal verbs?

Modal verbs are a small group of verbs, which are very different from normal verbs.



He **should** go to the doctor.

Which verbs are common modal verbs?

Can, could, may, might, should, must, shall, will, would

How are modal verbs different from other verbs?

- They do not take "s" in the third person: he can, she must, it could
- They use "not" in the negative form: they may not, we should not
- They cannot be used in the past or in the future tenses
- There is no "to" after them: I can do, you must see

Which modal verb do we use and when?

Modal Verb	Use	Example
Can	Capacity Permission/request	I <b>can</b> drive. <b>Can</b> I use your phone please?
Could	Capacity in the past (past of "can") Polite permission/request Suggestion Possibility, low probability or one possibility of many	I <b>could</b> not see him. <b>Could</b> I use your phone please? We <b>could</b> go to the new restaurant. It <b>could</b> rain today. She <b>could</b> be at home.
May	Polite permission/request Possibility, more probable than "could"	<b>May</b> I use your phone please? It <b>may</b> rain today. She <b>may</b> be at home.
Might	Same as "may"	It <b>might</b> rain today. She <b>might</b> be at home.
Should	Advice Rational probability	He <b>should</b> go to the doctor. He <b>should</b> be fine.
Must	Obligation, necessity	You <b>must</b> go to school.

	Very high probability	She <b>must</b> be at home.
Shall	Obligation in legal documents Suggestions Future tense, rare, British	The defendant <b>shall</b> pay a fine of \$200. <b>Shall</b> we begin? Thou <b>shall</b> not kill.
Will	A voluntary action A promise A prediction	I <b>will</b> make dinner. I <b>will</b> call you at 4 pm. The summer <b>will</b> be very hot.
Would	Conditional Past of "will" Repetition in the past	If I had time, I <b>would</b> travel more. He said he <b>would</b> come. When I lived in Paris, I <b>would</b> always go to the Champs Elysees.

Some of these common modal verbs have synonyms we often use.

**Examples:**

must = have to, need to

she **must** leave = she **has to** live = she **needs to** leave

should = ought to

he **should** speak to his boss = he **ought to** speak to his boss

When we speak, we use contractions with some of the modal verbs in the negative form.

**Examples:**

can't = cannot = can not

couldn't = could not

shouldn't = should not

mustn't = must not

won't = will not

wouldn't = would not

**ACTIVITIES**

**A) Complete the sentences with one of the two choices.**

1. You really \_\_\_\_\_ watch TV this much. (shall / shouldn't)
2. She \_\_\_\_\_ be at work, she always works at this time. (must / could)
3. Speak up, I \_\_\_\_\_ hear you! (can't / couldn't)
4. I \_\_\_\_\_ hear a word he said. (can't / couldn't)
5. Andrew \_\_\_\_\_ call his wife urgently. (must / shouldn't)
6. Thank you for calling Zee Company, how \_\_\_\_\_ I help you? (can't / may)
7. If I go to New York, I \_\_\_\_\_ see the Statue of Liberty. (will / would)
8. If I went to New York, I \_\_\_\_\_ see the Statue of Liberty. (will / would)
9. It \_\_\_\_\_ happen, but it is very unlikely. (shall / could)
10. Emma \_\_\_\_\_ go out tonight, her parents said no. (can't / may)

**B) Match the two columns to identify the use of each modal verb.**

- |   |                         |
|---|-------------------------|
| 1. Abe should call Lyla soon after their first date.            | a. obligation           |
| 2. Lyla should be happy to get his call.                        | b. possibility          |
| 3. Abe calls but she doesn't pick up, she must be working.      | c. low probability      |
| 4. No problem, he can call her back later.                      | d. rational probability |
| 5. Later he tells her they could go out to dinner again.        | e. certainty            |
| 6. She says she may be available Friday.                        | f. polite request       |
| 7. Abe asks if he can call her back Friday morning.             | g. permission           |
| 8. She says she could be in a meeting, the afternoon is better. | h. advice               |
| 9. Friday afternoon, Abe asks: May I pick you up at 6 pm?       | i. capacity             |
| 10. He must be on time to make a good impression.               | j. suggestion           |

**C) Complete the sentences with a modal verb from this list, without using the same one twice: can, could, may, might, should, must, shall, will, would**

- Children \_\_\_\_\_ go to school.
- Before you make a decision, you \_\_\_\_\_ speak to a specialist.
- I \_\_\_\_\_ ride a horse, I love horse riding.
- Let's go, \_\_\_\_\_ we?
- Jake \_\_\_\_\_ speak some English before the training.
- \_\_\_\_\_ I please speak to Mrs. Sanders?
- I promise I \_\_\_\_\_ buy you a new phone.
- He \_\_\_\_\_ join us later, he is not sure.
- If I were you, I \_\_\_\_\_ take this opportunity.

**D) Match each sentence to a sentence with the same meaning.**

- |   |   |
|---|---|
| 1. Jack must write a report tomorrow.                               | a. She needs to help him, or the report will not be finished on time. |
| 2. Jack couldn't write it yesterday.                                | b. Jennifer's boss says she is allowed to help Jack.                  |
| 3. Jennifer says she can help him tomorrow.                         | c. Jack will have to write a report tomorrow.                         |
| 4. She has to help him, or the report will not be finished on time. | d. Jennifer says she will be able to help him tomorrow.               |
| 5. Jennifer's boss says she may help Jack.                          | e. Jack wasn't able to write it yesterday.                            |

## MODAL VERBS

### 1) Read the introduction to a booklet on good health from the U.S. government.

#### **How to Be Healthy**

Good health is a wonderful thing, but you can't take it for granted! For good health, you should eat nutritious foods, and you should be physically active each day. You have to be aware of the things that you choose to eat, and you have to make time in your daily schedule for physical activity.

It's important to choose a variety of fruits and vegetables. You should also eat a variety of grains daily, especially whole grains, like whole wheat bread and brown rice. You should include fat-free or low-fat milk and dairy products. For protein, you should eat lean meats, poultry, fish, beans, eggs, and nuts.

You should not have foods with a lot of cholesterol, salt (sodium), or added sugar. You should not eat junk food like cheeseburgers, French-fried potatoes, candy, and soft drinks, even though they may taste very good!

In addition to proper nutrition, you must be physically active. Try to get at least 30 minutes of exercise most days of the week. If you are overweight, you'd better increase the amount of time that you spend in physical activity. You don't have to do boring exercises – you can participate in a team sport or do individual activities you enjoy, like swimming, tennis, or hiking.

Eating right and being physically active aren't just a "diet" or a "program"—they are keys to a healthy lifestyle. With healthful habits, you may reduce your risk of many chronic diseases such as heart disease and diabetes, and you may very well increase your chances for a longer life. You might even live to be more than 100 years old!



*cholesterol* = a chemical substance in blood. Too much may cause heart disease.

*chronic* = a chronic disease or illness that continues for a long time and cannot be cured

*grains* = the seeds of crops such as corn, wheat, or rice

*poultry* = chickens, ducks, etc. that are kept on farms to produce eggs and meat

*protein* = a natural substance in meat, fish, nuts, etc. that makes you strong

*take it for granted* = to believe that something good will always be there

### 2) Answer the questions. Circle a. or b.

1. What is this passage about?
  - a. Cooking healthful food.
  - b. Basic rules to be healthy.
2. Which foods are good for you, according to the passage?
  - a. Fish and chicken.
  - b. Cheeseburgers and French fries.
3. Which sentence is true?
  - a. You should eat just one good kind of bread.
  - b. You should eat many kinds of good food.
4. Which things are things that you shouldn't eat?
  - a. Food that is high in cholesterol.
  - b. Whole grains.
5. How much exercise should a normal person get?
  - a. Half an hour every day.
  - b. An hour a day.
6. Which sentence is true?

- a. You can get exercise when you do activities that you like.
  - b. You have to be in an exercise class to get exercise.
7. What do the guidelines do?
- a. They show the reader the keys to a healthy lifestyle.
  - b. They put the reader on a diet and exercise program.
8. Is this statement true: If you have healthful habits, you may live to be older than 100 - unless you have an accident?
- a. This statement is true.
  - b. This statement is not true.

**3) Underline examples of modal verbs in the text and determine their use.**

## PRESENT AND PAST PASSIVE

### Meaning and use

In English, we can talk about the present and past in both the **active voice** and **passive voice**. The **active voice** focuses on the **agent** or **person or thing doing** the action.

*Alice sent Mary a birthday card.*  
*Many people listen to pop music.*

The **passive voice** focuses on the **receiver** of the action.

*Mary was sent a birthday card by Alice.*  
*Pop music is listened to by many people.*

We use the passive for a number of reasons. We may be **more interested in the action** than the person or thing (agent) performing the action. In this case, it may be **left out completely**.

*First, the onion **was washed** and then **sliced**.*  
*Next, it **was fried** and **mixed** with red peppers.*  
*Finally, it **was added** to the beef and **cooked** for fifteen minutes.*

We may also leave the agent out if it is **unimportant**, **unknown** or **obvious** to the listener.

*The bank robbers were arrested.*  
*David's bike was stolen last week.*  
*No survivors were discovered at the crash site.*

### Form

The **passive** is made with **subject + to be + past participle**. Note that the active voice object becomes the passive voice subject. The verb **to be** is used to express both **present tense** and **past tense**.

#### Positive

*Millions of photographs **are taken** every day.*  
*The internet **is used** by people all over the world.*  
*My sister **was bitten** by a dog.*

#### Negative

*Japanese **isn't widely spoken** outside Japan.*  
*We **weren't seated** until well after nine o'clock.*  
*Our new washing machine **wasn't delivered** on time.*

#### Question

*Were you **given** a name tag when you arrived?*  
*Is your form **filled out** correctly?*  
*Are these fish **caught** locally?*

## Take note: identifying the passive

Unlike in the active voice, the main verb in the passive is **always the past participle**.

If we want to include the agent in a passive sentence, we do with the word **by** after the verb:

The final shuttle flight was launched **by NASA** in 2011.

The robbers were arrested **by Officer Smith**.

## Changing from active into passive

To change a sentence from the active into the passive:

- The **object** of the active sentence becomes the **subject** in the passive sentence.
- The active verb remains in the same tense, but changes into a passive form.
- The **subject** of the active sentence becomes the **agent**, and is either introduced with the preposition **by** or omitted.
- Only transitive verbs (verbs followed by an object) can be changed into a passive.

ACTIVE: Sharon      wrote      a report.  
           **subject**      **verb**      **object**

PASSIVE: A report      was written      by Sharon.  
               **subject**      **verb**              **agent**

## EXERCISES:

1) Decide whether the sentences are written in active or passive voice.

- The grapes are grown in California.
- The police didn't find the robber last week.
- The first fast food restaurants were opened in the USA in 1916.
- We sell cars in the USA.

2) Turn the active sentences above into the passive.

3) Complete the sentences with the present or past simple passive of the verb in brackets.

- How many newspapers ..... (print) in Britain every day?
- Who .....(this play / write) by?
- German ..... (speak) in Germany, Austria, and part of Switzerland.
- The royal wedding .....(watch) by millions of people in 2011.
- Nowadays, a lot of computers .....(make) in Korea.
- The *Harry Potter* films .....(not direct) by Steven Spielberg.
- How much .....(paper / recycle) in Poland each year?
- In the UK, alcohol .....(not sell) to anyone under 18. It's against the law.

4) Write down the passive form of the verbs. Use the tense in brackets.

- He ..... (tell) to wait outside. (Past tense)
- I ..... (not pay) for the work. (Past tense)
- Policemen ..... (often ask) the way. (Present tense)
- Their lawn ..... (cut) once a week. (Present tense)

5. The towels ..... (not use). (Past tense)
6. They ..... (teach) French. (Present tense)
7. The fire brigade ..... (phone) soon after the fire had broken out. (Past tense)
8. All the fruits ..... (eat up) by the guests. (Past tense)
9. The best cookies ..... (sell) here. (Present tense)

5) Fill in the present or past tense.

1. He ..... (offer) a new job last week.
2. The bridge ..... (blow up) yesterday.
3. This novel ..... (write) by Hemingway.
4. Flies ..... (catch) by spiders.
5. All the trees ..... (cut) down yesterday.
6. We ..... (tell) to go home now.
7. Their purse ..... (steal) yesterday night in the disco.
8. Rain ..... (hold) up by fog.
9. He ..... (throw) out of the bar a week ago.
10. Pigs ..... (use) to find truffles.
11. The old theatre ..... (reopen) last Friday.
12. She ..... (ask) about the accident by the police yesterday.
13. Eggs ..... (throw) at him last month in Bristol.
14. Mice ..... (catch) by cats.
15. I ..... (often / ask) for her address.

6) Rearrange the words in the boxes to form a passive version of each sentence.

1. After the final performance, the judges chose the winner.  
chosen      After   the   winner performance ,   was   the   final
2. When did someone invent the microchip?  
the   was   invented   when ?   microchip
3. If you don't water the plants regularly, they will die.  
will   the   watered   regularly,   plants   If   die   aren't   they
4. Someone told me that the bus leaves at 10 o'clock.  
was   that   10 o'clock   the   bus   I   at   told   leaves
5. Do people process new applications here?  
? new here   processed   are   applications
6. The police caught the robbers this morning.  
robbers   were   this   arrested   The   morning

## Passive voice : examples from the news

1 *Underline the examples of the passive voice and determine the tense.*

The shipping industry says it's been hit by the global financial crisis and the recent spate of piracy attacks off Somalia. The chairman of the Hong Kong Ship Owners Association and chief executive of the Anglo-Eastern Group, Peter Cremers said ships are wary of sailing through the Gulf of Aden which has boosted costs as vessels are diverted. (2)

Analysts polled by Reuters news agency say they believe China's economy grew by just seven per cent in the last quarter of last year. If borne out by official data, this would be the worst figure in a decade. The Chinese authorities believe a minimum growth rate of eight per cent is needed to avoid severe unemployment and social disruption. China's manufacturing sector has been badly hit by recession in its main export markets. (2)

Temperatures over Hong Kong dipped on Sunday morning with the mercury plunging to minus one degree Celsius in Ta Kwu Ling. A spokesman for the Observatory said it was the lowest temperature recorded in Ta Kwu Ling since a weather station was set up there more than two decades ago. The Observatory says the average temperature which was recorded in the urban areas was 10 degrees. But, it was considerably colder in some parts of the New Territories. (2)

2 *Complete the texts with a passive or active form of the verb in brackets in an appropriate tense.*

The Secretary for the Environment, Edward Yau, says the government will come up with a basket of proposals on ways to put together a new air pollution index later this year. Mr Yau said a public consultation \_\_\_\_\_ (begin) later this year. He said the exercise would decide when a new index would be put in place; and what measures \_\_\_\_\_ (need) to achieve that. Mr Yau \_\_\_\_\_ (admit) that the current index, which \_\_\_\_\_ (measure) using standards established 21 years ago, is obsolete.

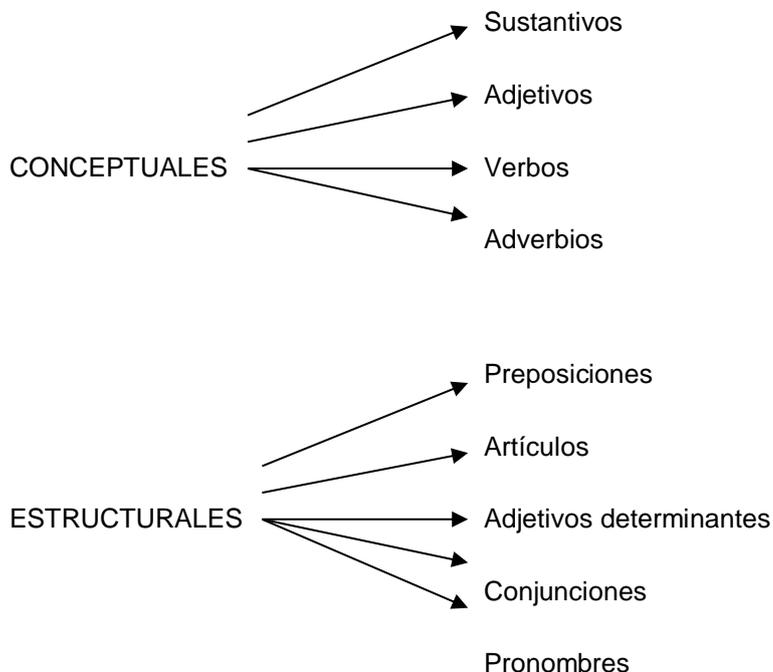
Somali pirates \_\_\_\_\_ (release) a Hong-Kong registered cargo ship, chartered by Iran, which \_\_\_\_\_ (hijack) in the Gulf of Aden in November. Iran's state broadcaster \_\_\_\_\_ (report) that the vessel, named Delight, \_\_\_\_\_ (release) on Friday evening and was sailing towards the Iranian coast. It said that all 25 members of the crew \_\_\_\_\_ (be) safe, but did not say whether any ransom \_\_\_\_\_ (pay). Pirates \_\_\_\_\_ (seize) the Delight as it headed for the Iranian port of Bandar Abbas, carrying 36,000 tons of wheat.

Hong Kong Airlines, a local airline serving mainly Asian cities, \_\_\_\_\_ (lay off) about 50 staff. The Confederation of Trade Unions said the workers \_\_\_\_\_ (receive) their severance notice by post, but \_\_\_\_\_ (not / tell) of the reason.

## TÉCNICA DE TRADUCCIÓN

### Primera Etapa: Estudio Semántico.

- Diferenciación de palabras en *conceptuales* y *estructurales*.



- Bloque nominal (núcleo: sustantivo)
  - Bloque verbal (núcleo: verbo)
- Pasos a seguir:
- a- Señalar las palabras estructurales.
  - b- Delimitar bloques significativos.
  - c- Determinar el tipo de bloque significativo.

### Segunda Etapa: Estudio Morfológico-Sintáctico.

#### Estudio Morfológico

- Terminaciones (sustantivos en plural, verbos conjugados, etc.)
- Derivaciones (Prefijos, sufijos, flexiones: número, género, caso, grado, tiempo y persona, modo)
- Composiciones (Palabras compuestas: sustantivos, adjetivos, adverbios, verbos compuestos)

#### Estudio Sintáctico

- Clasificación sintáctica de las palabras.
- Bloque nominal:
  - ¿Cómo se reconoce un sustantivo? (Vía morfológica y vía sintáctica)

- Bloque verbal:
  - ¿Cómo se identifica un verbo? (Vía morfológica y vía sintáctica)
  - Verbos conjugados (Acompañantes del verbo: estructurales, verbos especiales, adverbios, adjetivos predicativos)
  - Identificación sintáctica de los verbos no conjugados (infinitivo, forma –ing y participio pasado)

### **Tercera Etapa: Manejo del diccionario**

- Diccionarios bilingües.
- Diccionarios Inglés-Español, Español-Inglés
- Diccionarios técnicos

### **Cuarta Etapa: Organización conceptual del texto**

- Conectores (Relaciones lógicas: adición, listado y enumeración, información adicional, resumen y generalización, alternativa, contraste, resultado, consecuencia, inferencia, razón/causa, propósito, condición, clarificación, ejemplificación)
- Referentes (Pronombres personales y sus derivados, palabras como “that”, “which”, “who”, auxiliares)