

Manufacturing processes



THE MORGAN



Exercise 1.

Watch the video and answer Click [here](#)

1. What sort of cars did the factory make at the beginning?
2. Why are four-fours called so?
3. What is the factory weekly output?
4. Do they make the engines?
5. What is the meaning of “built to order”?
6. What is Morgan’s best known car?
7. What does the presenter say about the order books?

Choose the correct option

1. Morgan first became famous because of its *car racing / modernity*
2. Morgan is different to other car companies because the cars are made by *machines / people*
3. Most of Morgan’s staff come from *all over the world / the surrounding area*
4. The customer orders a car *after / before* it is made
5. The company is most widely recognized for the *Aero 8 / Roadster*
6. It’s rare to find *person-made / hand-made* cars- they are usually made by machines
7. The process in other companies is completely *automated / machined*
8. All of our cars are built to *demand/ order*
9. Our *output / process* is low – only 50 cars a month – but the quality is exceptional.
10. We *put / place* them together once we have received an order.

The story of cork

Exercise 2.

1. Read the text below and answer:

1. Where does cork come from?
2. What is the most important product made from cork?
3. Which country is the world's biggest producer of cork?
4. Why does NASA use cork in rocket engines?

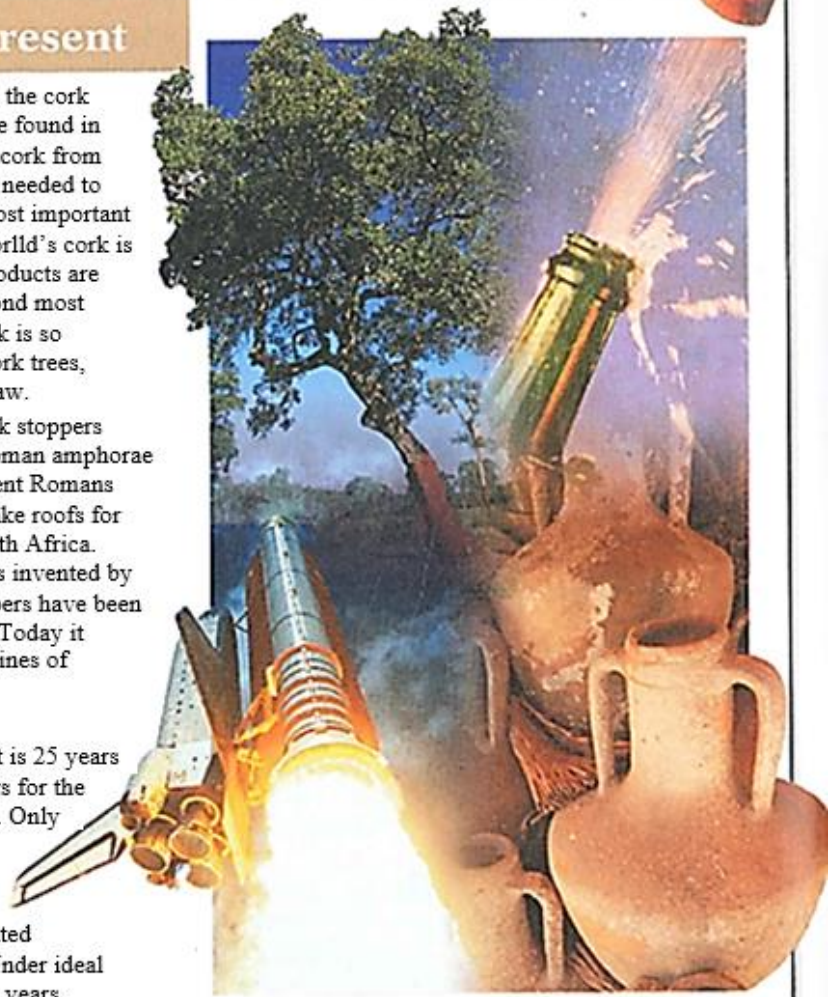
2. Underline all the examples of verbs in the passive voice and identify their tenses: *Present Simple, Past Simple, Present Perfect, Future*

Cork – from past to present

Cork comes from only one tree in the world, the cork oak tree, *Quercus suber*. Cork oak forests are found in Mediterranean and Asian countries but only cork from Mediterranean trees has the quality which is needed to make commercial products, including the most important product – wine stoppers. Over 50% of the world's cork is produced in Portugal and 80% of all cork products are made there. This makes cork Portugal's second most important export after port wine. In fact, cork is so important to the Portuguese economy that cork trees, forests, and farmers are all protected by the law.

Cork has been used since ancient times. Cork stoppers have been found in Egyptian, Greek, and Roman amphorae where wine and olive were stored. The ancient Romans wore sandals made of cork and used it to make roofs for houses, and it is still used in this way in North Africa. Since the 18th century, when champagne was invented by the French monk, Dom Pérignon, cork stoppers have been used for all champagne and sparkling wine. Today it also has a high-tech use – it is put in the engines of NASA's rockets because it is an excellent insulation material against heat.

The cork is not removed from the oak until it is 25 years old. After that it will be removed every 9 years for the next 150 to 200 years, depending on the tree. Only the best quality cork is used to make wine stoppers, and this is not produced until the tree is over 40 years old. When the cork has been removed, a number is painted on the tree to show the year this was done. Under ideal conditions, cork oaks can live for 300 to 400 years.



The passive voice*

Present Simple <ul style="list-style-type: none"> • Cork oak forests are found in Mediterranean and Asian countries. • The cork is not removed from the oak until it is 25 years old. 	Facts, habits.
Past Simple <ul style="list-style-type: none"> • Champagne was invented by the French monk, Dom Pérignon. • Wine and olive oil were stored in Egyptian, Greek, and Roman amphorae. 	Finished actions in the past, with definite time.
Present Perfect <ul style="list-style-type: none"> • Cork has been used since ancient times. • Cork stoppers have been found in Egyptian, Greek, and Roman amphorae. 	Past actions that continue to the present. Past actions with no definite time. (Only time expressions with “since” and “for” can be used.
Future <ul style="list-style-type: none"> • The cork will be removed every 9 years for the next 150 to 200 years. 	Future actions

* **The Passive Voice** is used when the action is important (not the person carrying it out) or when the person is unknown.

The verb **“to be”** determines the tense (present, past, present perfect, future, etc.)

Exercise 3.

1. Complete this description of the process of making cork wine stoppers. Use the Present Simple passive form of the verbs in brackets.

From tree to wine stopper

Cork trees _____ (plant) when they are a year old. Most planting _____ (do) by hand. when the tree is 25 years old the cork _____ (remove) for the first time. After that it _____ (cut) every 9 years for another 150 to 200 years, depending on the tree. The cork _____ (leave) in the forest to dry for about a year. Then it _____ (boil). This process cleans the cork and makes it stronger and more flexible.

After boiling, the cork _____ (cut) into strips and the wine stoppers _____ (make) from the strips. Then the wine stoppers _____ (wash), dried, and checked for quality. At this stage most of the stoppers _____ (transport) to their destination, but some _____ (mark) with the name of the wine producer before they leave the factory.

2. Cross out the incorrect verb form

Plastic wine stoppers – a threat to wildlife?

In about 7% of the market, plastic wine stoppers *have replaced/have been replaced* traditional cork stoppers, especially in the USA, Australia, Chile, South Africa and New Zealand. Their use in all these countries is on the increase.

Plastic wine stoppers *introduced/were introduced* because it *believed/was believed* cork was the cause of problems with wine quality. But studies *have shown/have been shown* there are other causes and the cork industry *has spent/has been spent* a lot of money on improving the product.

Wildlife experts are worried about the growing use of plastic stoppers because the cork forests are an important habitat for wildlife. In some areas cork forests *have destroyed/have been destroyed* and holiday villages and roads *have built/have been built* in their place.

Wildlife organizations *have started/have been started* campaigns to inform people about the problem and *have asked/have been asked* supermarkets to show what type of stopper a bottle has. If the use of plastic stoppers *continues/is continued* to increase, there is a real danger that cork forests and important wildlife habitats *will lose/will be lost* for ever.

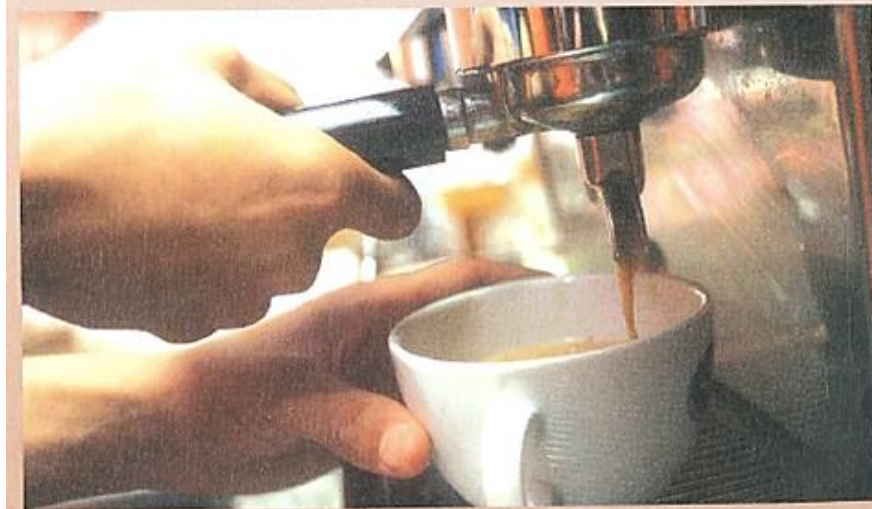
Exercise 4.

1. Complete the following list of facts about coffee using the correct tense in the passive voice.

Coffee facts

Did you know ...?

- Coffee is the most popular drink in the world.
400 billion cups of coffee _____¹ (consume) each year.
It's the world's second most important commodity after oil.
- About 8,000 coffee beans _____² (use) to make a kilo of coffee.
- The world's first coffee house _____³ (open) in Constantinople in 1475.
- Coffee _____⁴ (import) into Europe since 1600, when it arrived in the port of Venice for the first time.
- The first commercial espresso machine _____⁵ (manufacture) in Italy in 1905.
- Instant coffee _____⁶ (drink) since 1938 when it _____⁷ (invent) by Nescafé.
- The USA is the world's largest importer of coffee. About 30% of total production _____⁸ (export) to the USA.
- Scandinavia has the highest per capita consumption of coffee. On average seven kilos of coffee _____⁹ (buy) every year by Europeans, but in Finland, Denmark, and Sweden the figure is twelve kilos or more.



Describing a process

Exercise 5.

Click [here](#) to listen 10.7.

Click [here](#) to listen 10.8.



1 10.7 Listen to Eric Carlin interviewing Javier Pérez, a sherry producer in Spain. Tick T (true), or F (false).

- 1 Sherry is produced in several different areas of Spain.
- 2 Nearly three-quarters of the production is exported.
- 3 Britain is the biggest export market today.
- 4 Most of the big sherry companies are Spanish-owned.
- 5 The sherry producers want to attract younger markets.

T	F
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
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2 10.8 Listen to a later part of the interview. Answer the questions.

- 1 In which row of barrels in the *solera* is the oldest wine?
- 2 How long does it take for a premium sherry to progress through the *solera* system?

3 Use the verbs in the box to complete the following extract from the interview. Use the appropriate passive form of the verb for describing a process.

add
fill
keep
need
reach
take
take on
top

When wine _____¹ for bottling, it _____² from the barrels on the bottom row, and these barrels _____³ with an equal amount of wine from the next row up. Then, the barrels on that row _____⁴ up with wine from the row above and that process continues until the top row _____⁵. Finally, at the end of the process, new wine _____⁶ to the barrels on the top row. In this way, the characteristics of the older wine _____⁷ by the younger wine and the quality of the wine _____⁸ consistent.

Exercise 6.

Number the stages below to show the correct order in which olive oil is made. Then write the sentences in the passive.

The making of olive oil

- ☐ a After that we take the olives to an olive press. Before pressing the olives we wash them and remove the leaves.
- ☐ b We spread a large net or canvas sheet under the olive tree, and we shake the tree to make the olives fall.
- ☐ c Then we collect the olives and put them into large baskets.
- ☐ d We harvest the olives at the end of autumn.
- ☐ e We make virgin olive oil from the first pressing. To qualify as virgin olive oil, we have to press the olives within seventy-two hours of harvesting.
- ☐ f We use two types of olive press: the preparatory press, which we use to extract the first oil from the olives, and the final press, which we use to press the olives more thoroughly.
- ☐ g We refine and blend the oil which we obtain from the final pressing, and then sell it as blended olive oil.



Exercise 7.

Active or passive? Write the correct form of the verbs between brackets.

Denim: from cotton to a pair of jeans.

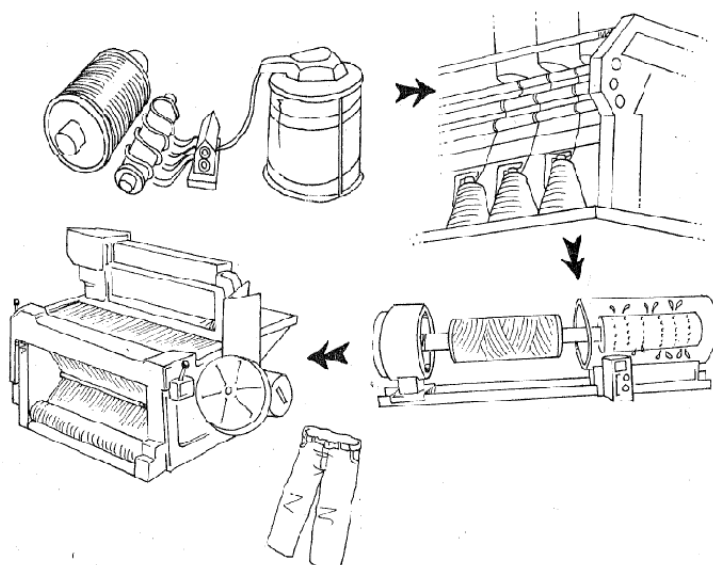
1) Bales of carefully selected cotton (*arrive*) at the denim mill. In the opening stage, baled cotton fibre (*separate*) into small tufts. Different varieties of cotton can (*blend*) together to produce optimal yarn strength.

2) Next, the cotton (*turn*) into a web of fibres which then (*go*) through a process known as carding where short fibres, sticks, leaves and any other dirt (*remove*). The “cards” also (*convert*) the web into a rope-like form called sliver.

3) The drawing process (*produce*) a single, uniform silver from six silvers. This silver (*draw*) out into a thinner yarn. Then, these ropes (*put*) on spinning machines that (*twist*) and (*stretch*) the fibres to make yarn.

4) Large balls of yarn, call ball warps, (*dip*) into an indigo mixture several times. Next, in the beaming process, the dyed rope (*separate*) into individual warp yarns which then (*coat*) in starchy substances to make the threads stronger and stiffer.

5) The yarns finally (*weave*), interlacing the warp -long, vertical blue dyed threads- with the weft –shorter, horizontal white threads- on a large mechanical looms. The denim (*be*) ready for finishing, a term referring to a variety of treatments applied to the cloth like brushing, singeing – burning off stray fibres with a flame- and skewing –used to prevent it from twisting when it (*make*) into clothing. The finished cloth (*be*) now ready to (*roll*) and finally (*sew*) for clothing manufacture.



Exercise 8.



Video "TRAIDCRAFT" Click [here](#)



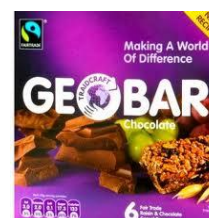
1) Mention 3 developing countries and 3 developed countries.

2) Match each word with its definition:

- | | |
|----------------|---|
| 1. fair | a. Cultivated plants or agricultural produce, such as grain, vegetables, or fruit |
| 2. trade | b. Just; equitable. |
| 3. crop | c. bluish berries which can be eaten. |
| 4. blueberries | d. The business of buying and selling commodities; commerce. |

3) Watch the video about Traidcraft and answer the following questions:

- a) Where are the developing countries mentioned situated?
- b) Crops mentioned which are grown in these regions.
- c) 3 problems the population in these regions have:
 - 1)
 - 2)
 - 3)
- d) How many honey producers belong to APICOOP?
- e) How are Valdivia and Gatehead related through Traidcraft?
- f) Mention 3 ingredients in GEOBAR and their origin.
 -from
 -from.....
 -from.....
- g) What is the money from Geobar sales used to buy for?



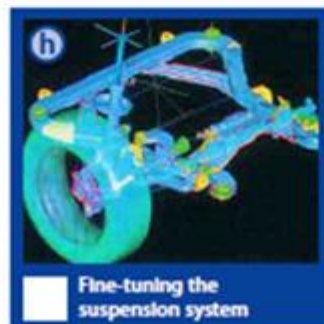
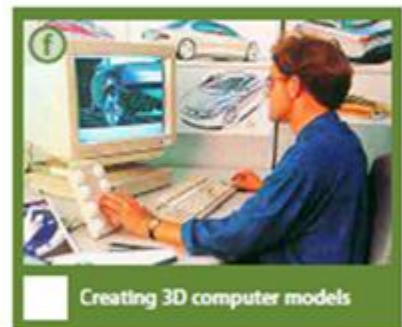
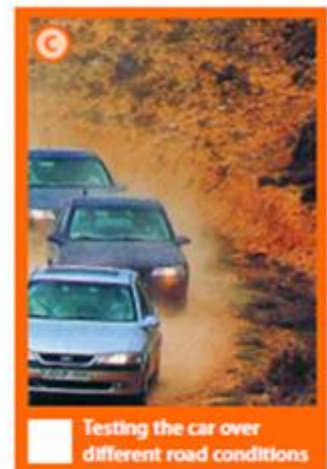
4) Complete the following sentences in PASSIVE VOICE:

- 1) Honey(produce) in Valdivia.
- 2) Traidcraft products(sell) in the UK.
- 3) Goods from the developing world(buy) by Traidcraft.
- 4) Fairtrade(establish) in 1992.
- 5) A fair price(pay) for the products.
- 6) This crop(grow) in Southeast Asia.

Exercise 9.

1. Listen to a project manager describing the process of developing a new car. Number the photos in the right order. Click [here](#)

SHOWING VISITORS ROUND



QUICK WORK STUDENT'S BOOK

2. Listen again and answer these questions:

- a. What kinds of calculations are made by the computers?
- b. Why is clay used to make the first model?
- c. Who is the fibreglass model shown to?
- d. What else is the fibreglass model used for?
- e. Where are the real cars tested and why?
- f. How are the cars built?

KEY VOCABULARY

aerodynamics the study of the way things move through the air

an assembly line a sequence of machines and workers making a product on a moving belt

a buck a piece (informal) a dollar for each one

a bumper a metal or plastic bar at the front and back of a car that protects it in small accidents

CAD-CAM computer-aided design, computer-aided manufacturing

an envelope a paper pocket for sending letters

fibreglass a hard material

made from plastic and glass fibres

to fine-tune to make very small changes to something until it works perfectly

market research the study of what people want to buy and why

prospective buyers people who might buy products in the future

a sketch a quick drawing without much detail

sophisticated advanced and complicated

a stage a group of actions or steps in a process

a step one action in a process

3. Listen to the phrases the manager uses to explain the sequence of the actions in the process. Complete these sentences.

- a. a basic idea – a few sketches on the back of an envelope.
- b. is to make a clay model of the car.
- c.,, we build a fibreglass model.
- d. It's too late to make major changes to the design
- e. Yes, production's

4. Summarize the stages of the process using the passive voice.

LISTENING SCRIPTS

10.7 International Express (intermediate)

E: Eric, JP: Javier Pérez

E: Well, first, Señor Pérez, thank you for welcoming us here today to your *bodega* to talk about the production of sherry. Could I start by asking you about the area of production? Is sherry produced only in this area of Spain?

JP: Yes, That's right. It's produced in the area formed by the sherry towns – that's Jerez de la Frontera, El Puerto de Santa María and Sanlúcar de Barrameda

E: So, all sherry come from this area?

JP: Yes. Since a European Union law in 1966, only wines from this area, which is called "the classified sherry zone", can be called sherry. Wines from other areas, or other countries can't be called "sherry" because it's a protected name, like *champagne* in France.

E: Yes, I understand. Now, I imagine a lot of the sherry that's produced is exported –is that the case?

JP: Oh, yes, certainly. Today about 70% of total production is exported. And in fact exports of sherry represent a quarter of all Spanish DO wine exports.

E: Er... by "DO wine" do you mean wine produced in classified areas?

JP: Yes, in Spanish it's *Denominación de origen*, it's like *appellation contrôlée* in French, so yes, wine from an area where quality is controlled.

E: I see. Thank you. And which countries are your main export markets?

JP: Historically, Britain has always been our most important export market but today Holland is our number one export market, with Britain next, and Germany third. They're our three big markets. Then come the USA, other European countries, and Canada.

E: So, if 60% of sherry is exported, then only 30% is actually drunk in Spain?

JP: Yes, That's right. And Spanish tastes are different. In Spain we prefer the dry, lighter sherries, whereas the export markets prefer the medium and sweet sherries, although tastes are beginning to change.

E: You say tastes are beginning to change. Could you explain in what way?

JP: Well, a lot of changes have taken place in the sherry industry in the last decade or so. Most of the big sherry companies are now part of multinational drink groups, although there are still some Spanish-owned sherry producers. The traditional markets for sherry are in decline so we want to give sherry a more youthful image that will attract the younger market. We're promoting the dry, lighter sherries for this market, and it's showing definite signs of work.

10.8 International Express (intermediate)

E: Could we talk about the final stage of production now? Earlier, on our tour of the *bodega* you referred to the *solera* system and said it was the system used for maturing the sherry and for maintaining a consistent quality. Could you describe how the *solera* system works?

JP: Yes, by all means. A *solera* is several rows of barrels, usually four or five rows. One on top of the other. In a *solera*, the oldest wine is in the barrels at the bottom and the youngest wine is in the barrels at the top. When wine is needed for bottling, it's taken from the barrels on the bottom row, and these barrels are filled with an equal amount of wine from the next row up. Then the barrels on that row are topped up with wine from the row above and that process continues until the top row is reached. Finally, at the end of the process, new wine is added to the barrels on the top row. In this way, the characteristics of the older wine are taken on by the younger wine and the quality of the wine is kept consistent.

E: And how long does it take for the wine on the top row to progress through the *solera* system?

JP: The minimum period is three years. For a good sherry it will be longer –five to six years, and for a premium sherry it's likely to be eight years or longer.

E: Well, thank you very much, Señor Pérez. It's been most interesting.

JP: It was my pleasure. Now you must come and try some of our sherries.

2.3 Quick work

- A: It all starts with a basic idea –a few sketches on the back of an envelope.
- B: Really?
- A: Sure, well, kind of. We work the sketches up into a full-size drawing and then we move it over on to these computers.
- B: Do you use CAD-CAM programs?
- A: Yes. We have some very sophisticated computers here to create 3-D models and what's really great is they can make all kinds of early calculations, like how the car will perform in a crash.
- B: I see. And what happens next.
- A: The next step is to make a clay model of the car. Come over here, I'll show you one...
- B: Why do you use clay?
- A: It's easy to build up and take off, so we can experiment.
- B: And you try to improve the aerodynamics?
- A: Yes. Aerodynamics is the key thing. It has to cut through the air.
- B: So these clay models aren't life size?
- A: No, they're about one-fifth of the real size, but that's big enough to test in a wind tunnel.
- B: OK.
- A: Then, after that, we build a fiberglass model and that's full size.
- B: I see. And do you show it to prospective buyers?
- A: Yeah. We use the fiberglass model for market research, and we use it for more tests, too. We put it in a wind tunnel again. Come with me and I'll show you... It's too late to make major changes to the design by this stage. But we can improve things like mirrors, wheels, bumpers...
- B: To improve the aerodynamics?
- A: That's right. We also work on the suspension system, fine-tuning it to make sure the car will be comfortable and hold the road well. Then after that, we produce a real car and test that.
- B: Do you have a test track here?
- A: No, we have one in Death Valley in California. We can test the car over different road conditions there.
- B: Before it goes into production?
- A: Yes, production's the final stage.
- B: And tell me, do you use a lot of robots on the assembly line?
- A: Yeah, these days the cars are all built by robots. There are very few people on the assembly line and they're usually checking quality.