

The Channel Tunnel

Before you read!

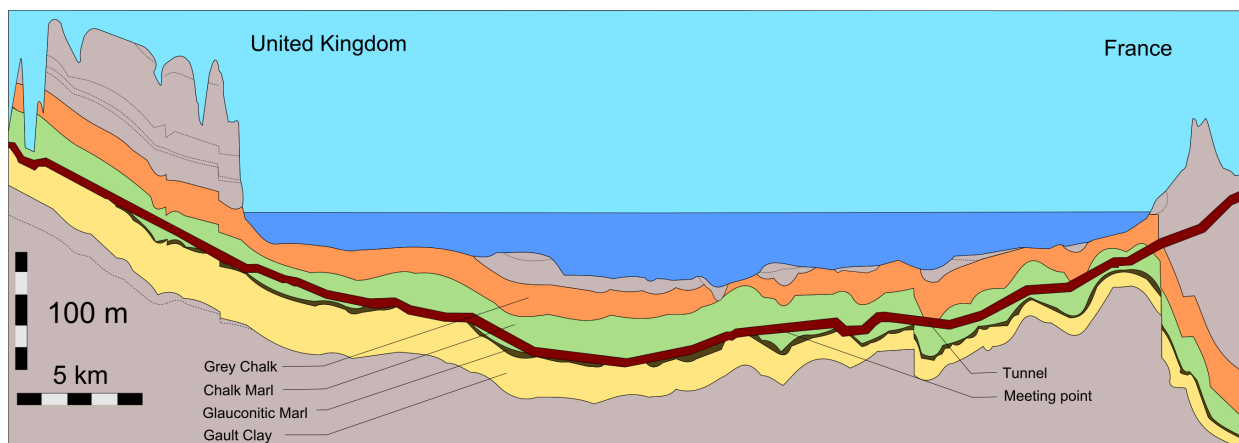
Discuss in class.

1. Discuss how you most prefer to travel.
2. Have you ever driven through a long tunnel?
 - Where was it?
 - What did the tunnel go under?
 - How do you feel going through tunnels?
3. Would you like to go through the Channel Tunnel?
 - Would you be nervous that water might come into the tunnel?
4. Describe any interesting, funny or scary experiences you have had whilst travelling.

A Channel Tunnel – a brief history

A tunnel under the English Channel (or *La Manche* as it is called in France) was first suggested in 1802, but it took almost another two hundred years before Britain could be connected to the continent. The Channel Tunnel (or “Chunnel”) was finally opened 20 years ago in 1994. The main reason for the almost 200-year delay was not the difficulty of building a long tunnel under the sea (the first one was built under water over 4000 years ago under the Euphrates River in Babylonia). Politics kept it from being built until the 20th century. The French engineer Albert Favier first suggested building a tunnel. He was backed by the French leader Napoleon Bonaparte, but when Favier asked for support and permission from the British, they refused. They believed that Napoleon wanted a tunnel under the Channel so that he could invade Britain. Maybe they were right – the Napoleonic Wars started a year later when Napoleon decided to invade much of Europe.

Over the next 170 years many other engineers and politicians made proposals for a tunnel under the Channel and in 1881 the Anglo-French Submarine Railway Company actually started digging. They started in England and in France simultaneously and dug a total of over 3.5 km under the Channel. The digging was stopped again because the British believed that a tunnel to the continent would make Britain easier to invade.

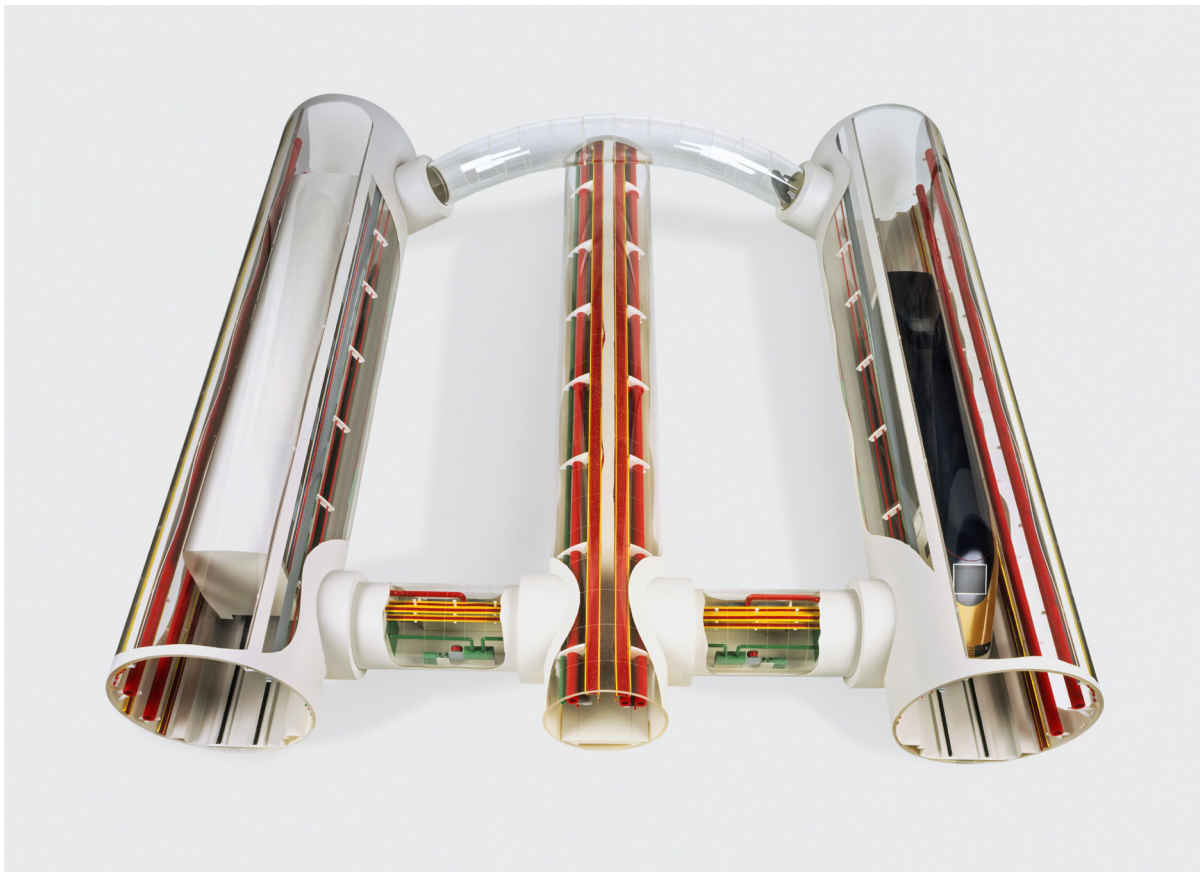


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B The construction of the Chunnel

Eventually, in 1981 the British and French Governments together invited proposals for a rail or road connection between France and England. Four proposals were considered, including a bridge across the Channel and a road tunnel under the sea. Most of the public wanted to be able to drive under the sea, but this idea was eventually rejected because of fears about safety and air pollution in the tunnel itself. The proposal for a rail tunnel by a group called the Channel Tunnel Group/France-Manche was accepted in the end.

French and British construction companies started digging the tunnel in 1988, each from their own side. As such a project had never been completed before, there were serious worries about whether everything would go according to plan, so there was a big celebration when the two halves finally met in December 1990. Hundreds of workers climbed through the hole to celebrate – England and France were linked by rail for the first time in their history. Building the Channel Tunnel was a major engineering achievement and for that reason it was voted one of the Seven Wonders of the Modern World by the American Society of Civil Engineers.



One unusual feature of the tunnel is a system which had to be designed and installed to stop animals, for example rats or foxes, from travelling from France to England. The reason for this was that Britain, unlike France, was totally free of rabies [Tollwut]. The British were worried that rabid animals could find the way through the tunnels and cause major problems in Britain.

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C The longest tunnel in the world?

The Chunnel is now the longest rail tunnel in the world which goes under the sea. It is about 51 km long and 38 km lies under the seabed. (The Seikan Tunnel in Japan is the longest in the world at over 53 km but with only 23 km under the seabed.) The Chunnel actually consists of three tunnels. The first carries trains going to France and a second is for trains going to England. Between these two is a service tunnel which is used by workers for carrying out repairs and maintenance and is also used for evacuation. If there is a problem on one of the trains, the passengers can leave the train and go into the fireproof service tunnel.

It takes about 20 minutes to travel through the Tunnel and you do not really feel as though you are moving downwards. This is because the sea is only 55 metres deep at its deepest point and the tunnel was built about 40 metres below the seabed. The steepest gradient is therefore less than 2% – that is two metres down for every 100 metres you travel.

Safety was a big issue when designing the Chunnel. It was important for it to be built so that no accidents would happen. It is quite straight but trains can only travel at about 160 km/h in the tunnel as opposed to 300 km/h outside it. If there is an accident, people can be evacuated quickly and easily. There are doors every 375 metres so that people can leave the train and go into the service tunnel if, for example, there is a fire. There are also two crossovers. At the crossovers the trains can leave one tunnel and go into the other if the track ahead is blocked.

D The trains

There are three different types of trains that travel under the Channel: the Eurostar, Le Shuttle and freight trains. The Eurostar is a passenger train that connects London to Brussels and Paris. There are also stops at Lille-Europe and Calais-Fr ethun in France and Ashford and Ebbfleet International in England. The trains do not usually stop at all the stations, however, and the journey time from London St Pancras to Paris Gard du Nord takes about two hours and fifteen minutes. It takes about 3 hours to travel to Brussels from London.

Le Shuttle carries cars and lorries from Calais/Coquelles in France to Folkestone in Britain. The journey takes 35 minutes, during which drivers can leave their vehicles and walk around the train. You cannot travel on Le Shuttle without a vehicle.

E Problems ... and success!

Only two years after the Chunnel was built, disaster struck. A fire broke out in a lorry on the Shuttle and the train had to stop halfway between France and England. Smoke filled the train and the tunnel itself was badly damaged. The safety features, however, proved successful. Everybody was quickly evacuated from the train and nobody was seriously injured. The part of the tunnel that was damaged had to be closed for six months for repairs but trains could continue running through the other.

In December 2009 disaster hit again. Five Eurostar trains got stuck in the Tunnel at once! The weather had been unusually cold in northern Europe and there had been a lot of snow, which got into the Tunnel and melted. This caused the trains' electric circuits to stop working so the trains eventually stopped. Three trains were towed out and the other two were evacuated. Although nobody was seriously injured, it was a traumatic experience for many passengers who had to spend up to fifteen hours on the trains, partly without lighting and with little to eat or drink.

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Although there have been problems in the Channel Tunnel, these have been minor compared to every other form of travel to Great Britain. At present about ten million people travel under the Channel every year and the Channel's future seems assured.

F All aboard for London!

The Eurostar is very comfortable and though you do have to check in at least thirty minutes before you leave – just as if you were flying – you can get to the centre of London quickly and easily. Some people do not like the thought of travelling under the sea, but you don't notice you are under the sea at all. However, some people become claustrophobic in the Tunnel. For residents of Germany this form of travel is about to become more attractive still. *Deutsche Bahn* has been given permission to drive the ICE through the Tunnel. Soon you will be able to board a train in Cologne or Frankfurt and get off in London. Frankfurt to London should take about five hours. See you there!

Tasks

1. **Vocabulary.** Find words or phrases in the text which mean the following:

- a) at the same time
- b) to say no
- c) success
- d) (people) were helped/got out
- e) the bottom of the sea
- f) how much a road goes up or down
- g) a catastrophe happened
- h) turned to water
- i) not important

2. Comprehension

Tick the right boxes.

	true	false	not given
1. Britain had never been connected to continental Europe before 1994.			
2. A tunnel was not built before 1994 because the British were scared that enemies would come through the tunnel and invade England.			
3. A bridge was not built over the channel because the distance is too great.			
4. A road was not built under the Channel because the risks of accidents would be greater and the pollution from the engines higher.			
5. Rats and other animals sometimes walk through the tunnel.			
6. The tunnel is less than 100 metres below sea level.			
7. Drivers must stay in their cars when they are transported through the tunnel.			
8. About ten million people travel to England through the tunnel every year.			

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Or answer these questions:

1. When was the first tunnel under a river built?
2. When was the Channel Tunnel opened?
3. Why did they not build a tunnel in the 19th century when it was first suggested?
4. How long did it take to build the Tunnel?
5. How long is the Chunnel?
6. How many tunnels run under the English Channel?
7. Can you drive through it?
8. What record does it hold?
9. Is it the longest rail tunnel in the world?
10. How long does it take to travel from England to France?
11. Have there been any serious problems in the Tunnel?
12. Can you see the fish in the sea?
13. Can you travel directly from Germany?

Teacher's page: The Channel Tunnel

The Channel Tunnel was officially opened on May 6, 1994, by the Queen of England and President Mitterrand of France, and it is now one of the main methods of transport to Great Britain. We hope that the information given here is new and interesting, even for students who have already travelled through it.

The main aim of the text is to be used as a reading comprehension but it also lends itself to be used for an information exchange activity. One way of doing this is as follows:

The students should first discuss what they already know about the Tunnel. The class could then be split up into 12 pairs or small groups. Each small group should read one section of the text and then exchange information with the other groups. This could be done in two concentric circles where groups that have read sections A to F sit in one circle and the other groups sit in the outer circle facing the other group which has read the same part as they have. The outer circle should then move clockwise and each group should exchange information and make notes. After a few minutes the outer circle should move around again and continue until they have found out all the information in the text.

The students can then return to their places and do the tasks.

Tasks

1. Vocabulary

- a. simultaneously
- b. to reject
- c. achievement
- d. evacuated
- e. seabed
- f. gradient
- g. disaster struck
- h. melted
- i. minor

	true	false	not given
1. Britain had never been connected to continental Europe before 1994.	X		
2. A tunnel was not built before 1994 because the British were scared that enemies would come through the tunnel and invade England.	X		
3. A bridge was not built over the channel because the distance is too great.			X
4. A road was not built under the Channel because the risks of accidents would be greater and the pollution from the engines higher.	X		
5. Rats and other animals sometimes walk through the tunnel.		X	
6. The tunnel is less than 100 metres below sea level.	X		
7. Drivers must stay in their cars when they are transported through the tunnel.		X	
8. About ten million people travel to England through the tunnel every year.		X	

Or

1. When was the first tunnel under a river built? – **About 4000 years ago.**
2. When was the Channel Tunnel opened? – **In May 1994.**
3. Why did they not build the tunnel in the 19th century when it was first suggested?
– **The British were worried about being invaded.**
4. How long did it take to build the Tunnel? – **About 6 years.**
5. How long is the Chunnel? – **It's 51 km long.**
6. How many tunnels run under the English Channel? – **Three.**
7. Can you drive through it? – **No! Cars and lorries are transported on trains.**
8. What record does it hold? – **It is the longest rail tunnel under a seabed.**
9. Is it the longest rail tunnel in the world? – **No, the longest rail tunnel is in Japan.**
10. How long does it take to travel from England to France? – **35 minutes on Le Shuttle and about 20 minutes in the tunnel on the Eurostar.**
11. Have there been any serious problems in the Tunnel? – **Yes, there has been at least one fire and five trains once got stuck in the tunnel at one time.**
12. Can you see the fish in the sea? – **No, the tunnel goes under the seabed.**
13. Can you travel directly from Germany? – **Not yet, but it should be possible in the near future.**