



Clean, Green Trains

- Think about these four ways of improving rail services in Britain
- Put the four ideas in order of importance, with the one you think is the best idea at the top and the others in order after it.
- Think about why you've put these in the order that you have – you should be able to explain why you think that some of the ideas are better than others.

Idea 1: MagLev



MagLev, or magnetic levitation, trains use magnetic fields for support.

Think of a pair of magnets with 'opposing poles' so that they repel.

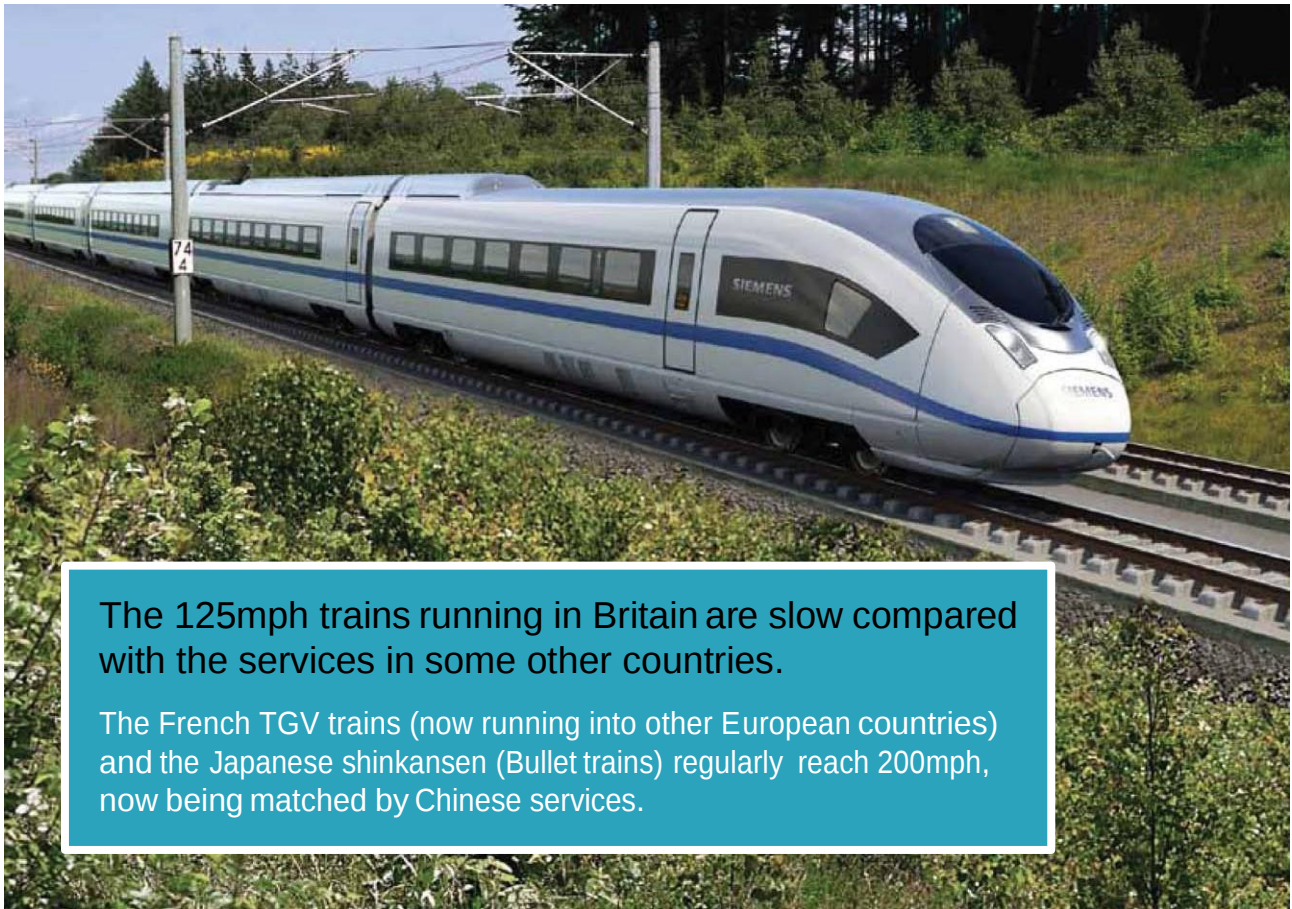
This means there is no friction, so the ride is very smooth and it takes little force to move the train along. MagLev trains have been tested in several different countries and one system ran at Birmingham Airport for eleven years. Explain that the advantages of Maglev trains include a smooth ride, low fuel requirements and the potential of high speed services. However they need a special track, and any existing routes need to be converted before MagLev trains can run on.





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Idea 2: High Speed Trains



The 125mph trains running in Britain are slow compared with the services in some other countries.

The French TGV trains (now running into other European countries) and the Japanese shinkansen (Bullet trains) regularly reach 200mph, now being matched by Chinese services.



The HS2 (High Speed 2) project is intended to link London with first Birmingham and then cities in the North of England, including Leeds and Manchester, with trains running at 200mph. The intention is for over half of the line to be in tunnels or cuttings to avoid affecting existing buildings and spoiling views. The line would provide a fast and reliable link between major cities and release pressure on crowded lines. However it will be tremendously expensive to build; it has been argued that cutting 20 to 30 minutes from existing journeys isn't good value.



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Idea 3: Driverless trains



Britain already has trains that don't need drivers.

Driverless trains (or Automatic Train Operation) are used in urban areas where there are trains arriving every few minutes and the speeds are relatively low. The trains are controlled by a centralized computer system, which makes sure that the system is safe runs as quickly as possible and at a low cost.

Driverless trains are a good way of making sure that a complicated system with lots of trains runs quickly and smoothly. However some driverless systems still use train crews to control doors and ensure safety. They may not be as suitable for long distance high speed services yet.





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Idea 4: Street trams



A hundred years ago, most cities had tram systems

These were gradually replaced with buses and trains until only one was left (in Blackpool). However they have been returning in a modern form to places such as Manchester, Sheffield, Newcastle and South London.

Trams provide a convenient service through the streets with stops in convenient places. They can connect suburbs with places in the city centre, enabling people to travel into places of work or leisure without having to change from one form of transport to another.

Trams provide a good way of linking parts of a city to each other and to the suburbs. However the routes are more expensive to build than bus services are to provide and they can't completely avoid congestion in city centres.

