

# Challenge: Design a bus for the future!

Engineers are problem solvers. They invent and design lots of things including:

- New ways to power vehicles that are better for the environment
- Features to keep us safe when we travel
- Buses that carry more people as London gets busier

## Can you design a bus for the future?

1. Print and cut out the template on the next page, making sure to cut along the dotted lines. If you don't have a printer at home, can you find a box or bottle in your recycling bin that you could transform into a bus?
2. If you are using the printed template, follow the instructions to fold along the lines and stick each side together using glue or tape to make your 3D bus.
3. Gather some supplies from around the house to help you design your bus. You could look for:
  - Colouring pens/pencils or paint
  - Scraps of different coloured paper, card or fabric
  - Craft materials like pipe cleaners or lolly pop sticks
  - Milk bottle tops or other loose parts from your recycling bin that you can cut up or stick onto your design.
4. Finally, use the information below or look at the [museum website](#) to find out about London's buses in the past and present.
5. Now you are ready to design your bus for the future! Here are some things to think about to get you started:
  - How will you make your bus safe and accessible for everyone to travel on?
  - How will your bus be environmentally friendly?
  - How will the design of your bus make people excited to travel on it?

*Send us your completed bus designs by tagging @ltmuseum on Instagram or Twitter!*

## What were buses like in the past?

Buses have changed a lot over the last 150 years.

Look at the buses from the past on the next page. Can you cut them out and put them in order from the oldest to the newest?

- What is different?
- What is the same?
- How are they powered?
- Which can carry the most passengers?
- Where does the bus driver sit?
- What are the wheels like?
- What would it feel like to be a bus driver?



## Can you match each description to a bus?

### Omnibus 1829

The first ever London bus was the omnibus. 'Omni' is Latin for 'all' – this was a bus for everyone, unlike private horse carriages. But it was still rather expensive! When the omnibus went up steep hills a third horse could be hitched to the front to help. What do you think the streets would be like with so many horses?

### B-type bus 1913

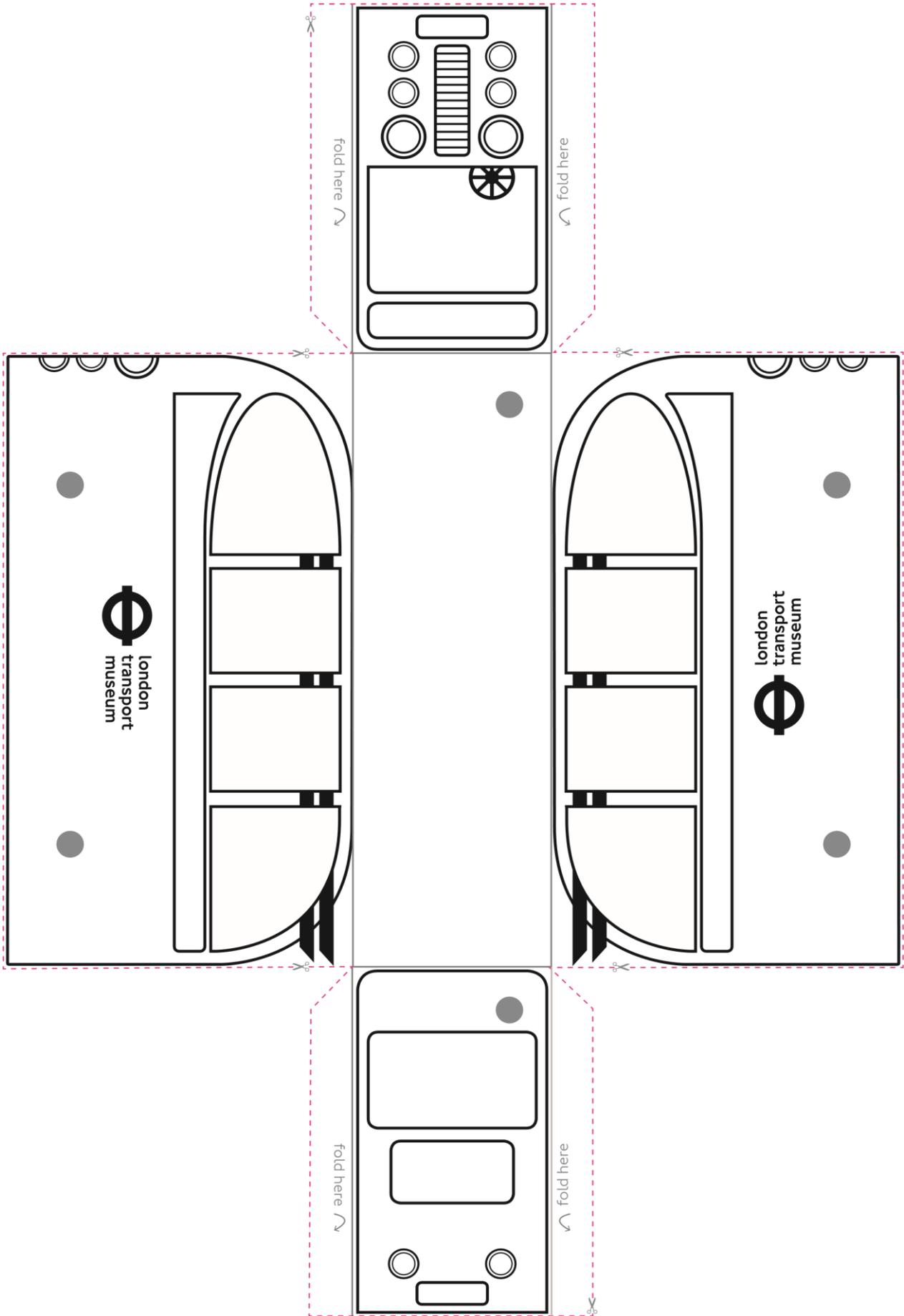
About 100 years ago engineers invented the first ever petrol bus. The wheels are solid with rubber around the outside – how do you think it would feel to be a passenger on the bumpy roads? How do you think the driver feels sitting outside?

### Routemaster 1954

The Routemaster is the most famous London bus. As well as the driver there was also a ticket conductor who would sell tickets and help passengers. Where do you think passengers get on and off? This bus has pneumatic tyres – this means they are rubber tyres filled with air, like the tyres we use today.

### Modern Routemaster

Have you travelled on a bus like this? It has three sets of doors and you can enter or exit at any of them. We don't have a ticket conductor any more, instead we use Oyster cards or bank cards to 'touch in' and pay for our journey.



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