

Activity Brief Sheets

Railway Bridge

Task

The City of London has approved the construction of a temporary bridge that will span a damaged section of the rail bridge between Imperial Wharf and Clapham Junction, while a more permanent solution can be found.



The purpose of the bridge will be to carry passenger trains across the 50 metre section between the two support columns. The temporary section will need to be built off site, shipped down the river on a cargo barge, and lifted into place using cranes.

Your task is to build a 1:100 scale model of the bridge that can be lifted into place and span the gap between the two tables. You can chose which materials you use, but you have to pay for them out of your budget.

Conditions

- The bridge cannot be attached to the table.
- Once the bridge is lifted into place, it cannot be moved.
- You can only use the materials provided.
- The bridge must have an area that the train can fit into.
- You must record each item you use in the building process.

Scoring Criteria

1. Does the bridge support its own weight?
2. Does the bridge have room for the train?
3. Can the bridge support a half laden train load?
4. Can the bridge support a crush laden train load?
5. What was the cost of the bridge?

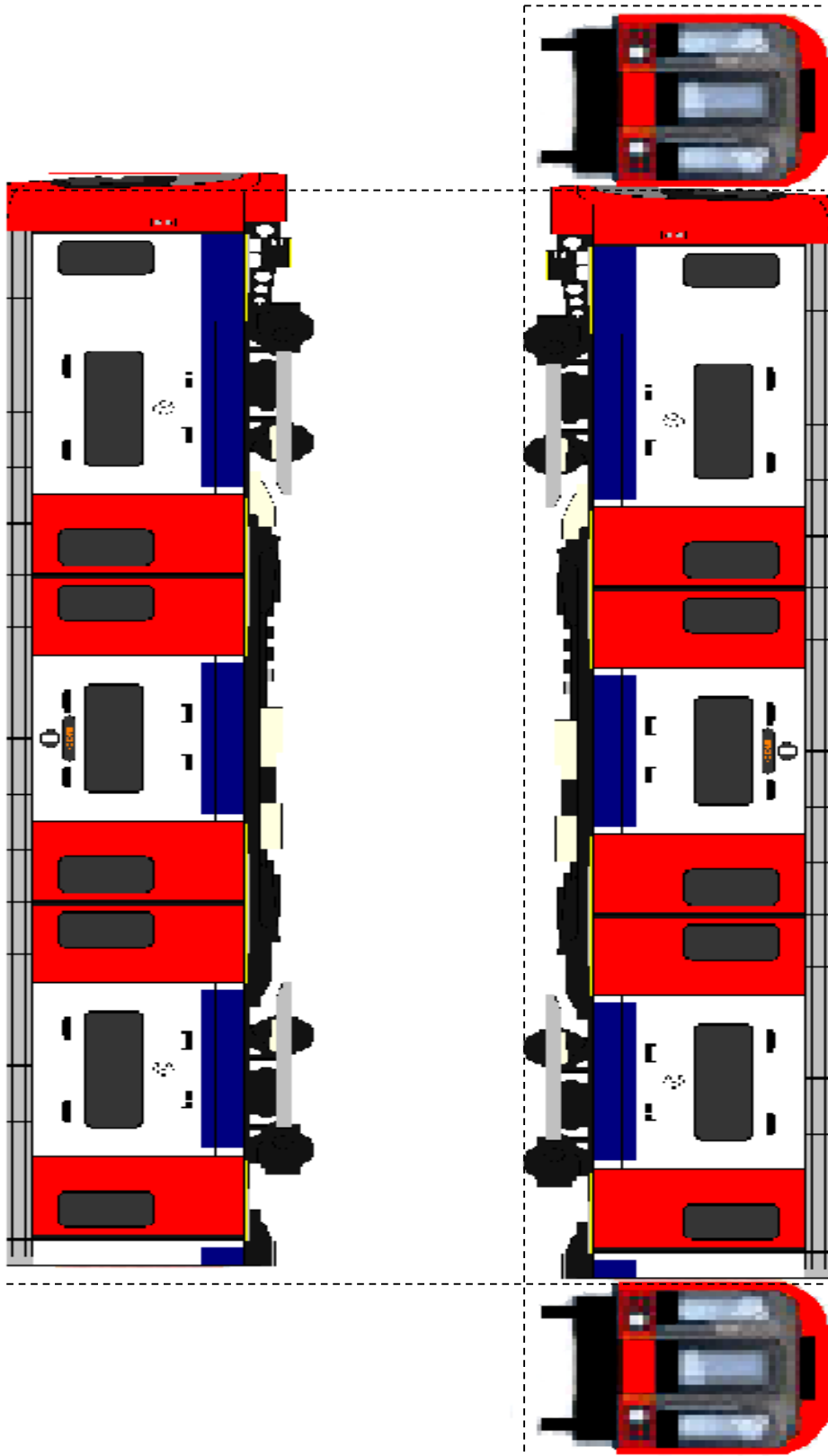
Materials

Each of the below costs 1 credit each:

- 5 x Spaghetti
- 2 x Sheets of A4 Paper
- 50cm of Sellotape
- 50cm of String

Time

- 10 minutes to design
- 30 minutes to build
- 10 minutes to test

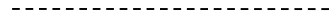


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