

A photograph of two construction workers on a roof. They are wearing white hard hats and high-visibility yellow vests over dark clothing. They are standing on an orange metal scaffolding or walkway. The roof is covered with blue and purple corrugated metal sheets. In the background, there is a white wall with red 'Tyvek' branding. The sky is a clear blue. There are some decorative geometric shapes on the left side of the image: a small red square, a larger red square, and a large orange shape.




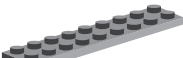
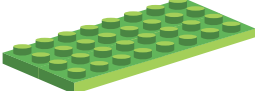
# BRICK TOWER CHALLENGE PARTICIPANT BRIEF



## The planning phase (30 minutes)

- Your team is working as a construction company.
- A client requires a tower to be built which will have both retail and residential use (shops and apartments). Using the Lego bricks provided, your company must plan, design and tender for this work.
- You can build your tower to any design, but it must be free-standing and stable enough to be measured.
- Give your company a suitable name.

1. Check the materials that have been delivered to you. You should have the following quantities and types of bricks (colours may differ):

	40	2x4
	50	2x3
	100	2x2
	10	2x10
	1	8x16 base brick

*The base brick is free and does not need to be accounted for on the tender.*

2. Discuss and try out various designs of tower within your team.
3. Use the profit graphs to help you maximise your company's profit.
4. Draw your final plan.
5. Complete the tender sheet
6. Dismantle all building work, making sure that no bricks are still connected and that they are not touching each other.

## The construction phase (5 minutes)

- Under controlled conditions, and in front of a judge, your team will build the tower according to your plan and tender. The tower must remain standing for sufficient time for it to be measured.
- The judge(s) will note each company's performance and report it to the client.
- The company making the maximum profit will win the contract.

## Penalty/bonus clause

- In any construction project, the time in which the contractor promises to complete the work is very important.
- Following health and safety regulations and safe systems of working is very important. On a real construction project, the Health and Safety Executive (HSE) can issue a notice to stop work or start legal proceedings that may result in a fine.

- The following penalty and bonus clauses will come into operation after the final construction phase:

### Penalty

For every 30 seconds over the estimated completion time, a penalty of £1,000 will be incurred.

A fine of £2,000 will be issued to teams who do not account for all their brick pieces at the end of the build phase (i.e. if any bricks are left over or if there aren't enough to build the planned tower).

### Bonus

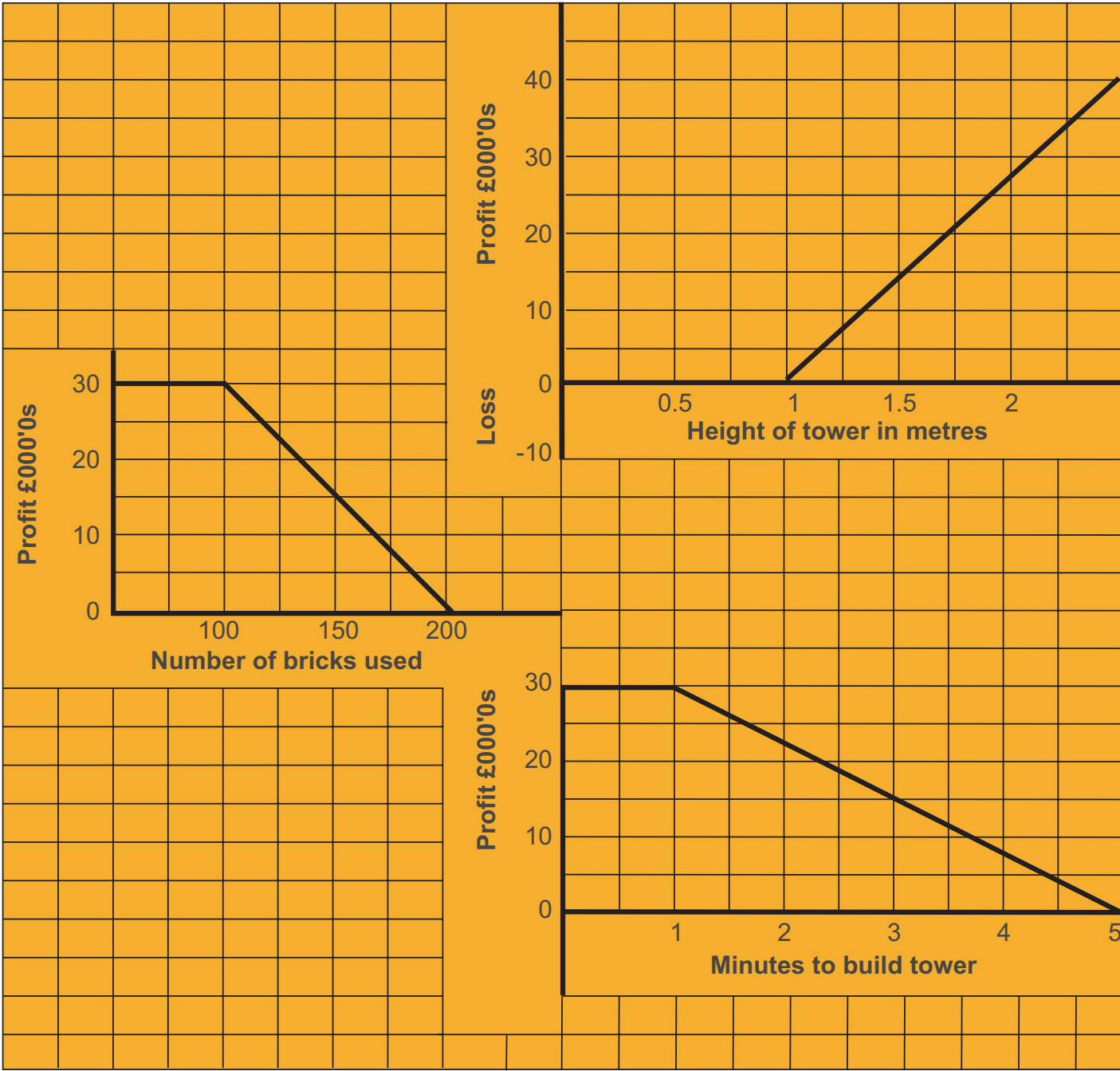
The judge(s) will award a bonus of £1,000 for every 30 seconds the tower is completed under the estimated time.

A discretionary bonus can be given by the judge to those teams who stack their bricks tidily for easy counting at the end of the build phase.





# PROFIT GRAPHS



# TENDER SHEET

Company name

Group number

Number of bricks to be used

Planned profit £

Height (metres)

Planned profit £

Estimated time to be taken

Planned profit £

Total profit planned

£

Please use the space below to draw a rough sketch of your tower.

For judge's use only

Penalty/bonus

+/- £

**Final construction total**

£



# GO

# CONSTRUCT

For more information on construction careers please visit **Get in Touch**

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