

BUILD A TOWER FACILITATOR'S ACTIVITY NOTES

SUMMARY OF ACTIVITY

- Students work in teams to compete to construct the tallest tower, using paper and sticky tape
- For an additional challenge with older students, consider stipulating that the tower should hold the weight of an object such as their roll of tape.

LEARNING OBJECTIVES

- To work co-operatively as part of a team
- To construct the tallest free-standing tower
- To understand the importance of trial and error/using prototypes
- To engage with some of the principles of construction such as planning, design and counteracting forces – using building techniques such as different shapes, fastenings and wide bases...

AGE GROUP

14–19

GROUP SIZE

Up to 40 students, divided into 5–8 groups of 4–6 students.

LENGTH

20–25 minutes

PREPARATION

- Decide whether to use stiff paper or newspapers – the latter are cheaper to supply but more challenging to use
- Find or purchase rolls of masking tape – at least one of each per group
- Find or purchase 1 measuring tape – per presenter or group.

RESOURCES

- Enough paper for 5–8 groups i.e. one newspaper per group – give each group the same sized paper and amount
- At least one roll of tape per group – masking tape is easier to handle and it can be ripped, so no need for scissors
- A tape measure per presenter or group
- PowerPoint slide with instructions.

SKILLS

Co-operation / Communication / Experimentation / Leadership

CONSTRUCTION SECTOR LINKS

Roles of planning and design / Project management / Awareness of and response to the physics of forces / Evaluating and making adjustments

BUILD A TOWER

SUGGESTED TIMINGS

2 – 5 MINS

INTRODUCE/SET UP THE ACTIVITY

- If the class has not been divided into small groups then organise this
- Explain that their aim is to build the highest tower in the time limit (for additional challenge with older students, it should hold the weight of an object such as their roll of tape)
- Reveal the resources available and rules/expectations i.e. group work and whether to allocate roles and/or have a project manager...

10 MINS

TIMED BUILDING ACTIVITY

- Make sure all groups understand the task and objectives and are ready to start when you set your timer
- Walk about the room stopping at each table to view, question and encourage without intervening
- Give time checks at 5 minutes, 2 minutes, 1 minute, 10 seconds, finish!

8 – 10 MINS

DETERMINE WINNER AND FEEDBACK

- Measure each tower to determine the winner
- Optional: check whether it can take an extra load such as the roll of tape
- Announce the winner and show the group.

Points for discussion:

- How did the groups approach the task?
- How much planning did they do (if any) before jumping into the task?
- What roles did people play?
- What worked in terms of building a solid structure?
- What slowed them down in building the structure?
- What would they do differently next time?

Optional:

Get permission (in advance from teacher and students) and take photos of the towers and post to your Instagram channel tagging @meconstruction or send to CIOB for posting on @meconstruction. NB: If the young people are under 16 you cannot take their photos without parental permission.

Reference:

Adapted from 'The sky's the limit: An activity for teaching project management: an experiential learning activity', John R. Olson University of St. Thomas, Minnesota, 2006 <http://ir.stthomas.edu/ocbopmtpub>