CIOB Aspire

Think Construction Toolkit

Careers in construction lessons for students aged 14–19

Plan 4 – Session Facilitator

Fantasy Schools

Year group session - 1 day+

Over **200 million people** work in **construction.**
Construction professionals are **in demand worldwide!**

Resources required:

- Computer and internet access for the students (individually or one between two where possible)
- Paper and pens for each table
- Post-it notes
- Think Construction Toolkit: Construction careers playlist

Learning objectives

Engaging imagination and interest in the construction sector

Understanding the range of factors to consider in a construction project

Appreciating the impact of construction projects on local communities and the environment

Group work, planning and design

Facilitator's notes - 1/4

Summary of activity

This 'Year Group' session contains a series of activities based around a three stage group exercise called "Fantasy Schools" where students work in groups to design their fantasy school, then consider how they would bring the project to life

The lesson plan outlined here could be scaled up or down by addition (or subtraction) of other modules in the toolkit

Apt for subject-specific classes in addition to general careers sessions

Plan Section 1 – Plenary exercise

Plenary brainstorm ideas about construction roles and review against video and membership spectrum

Optional – Industry guest speaker with Q&A session

Fantasy Schools - 1/4	1 Day	Session Facilitator

Introduction:

Each construction project is unique.

30 minutes

Section 1: In plenary (or groups)

- Using Post-it notes, write down **three words** you associate with **CONSTRUCTION**. Stick them to the wall placing similar words together

- Watch the video **Explore construction: Build an exciting future** here
- Watch the video **Why we love construction** here
- Study the **CIOB membership spectrum** here

- How many **different roles** did you identify?
- What did you see or hear to a) **support** and b) **challenge** your first idea about working in construction? Using a Post-it note, stick them to the wall next to the first set of words
- **Review the wall.** What conclusions could you draw from this?

30 minutes

Industry guest speaker AND/OR Case study video [list here]

Q&A

- What's involved in their job?
- What do they like about it?
- How did they get into it?

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- **Review the wall.** What conclusions could you draw from this?

Industry guest speaker OR Case study video [list here]

What can you find out about the following:

- What's involved in their job?
- What do they like about it?
- How did they get into it?

Resources required:

- Computer and internet access for the students (individually or one between two where possible)
- Paper and pens for each table

Facilitator's notes - 2/4

The Green School, Bali

What is the school made of? A note on bamboo

Strength: Bamboo is strong, with the compressive force of concrete and the strength-to-weight ratio of steel

Renewability: With very little attention, a bamboo shoot can become a structural column within three years, and that building could stand strong for a lifetime

Sustainability: With its three-year growth cycle and carbon capture it is a uniquely efficient and responsible resource

Long life: New treatment methods have given it a longer lifespan

Other environmental features of the school

Solar energy: Has a solar photovoltaics (PV) energy system, which contributes 21 kWh to Green School's renewable energy portfolio

Compost station: Uses composting as one of its solid waste management strategies

Water filtration system: Uses a reverse osmosis (RO) water filtration system to meet its drinking water consumption needs and ensure its purity and safety for the community

Fantasy Schools - 2/4	1 Day	Session Facilitator

Introduction:

Each construction project is unique.

15 minutes

Section 2: In plenary (or pre-session activity)

Base session

Subject specific: Design, Technology, Maths, Science and Engineering

Fantasy Schools introduction

- Watch this **video on building skyscrapers** here
- How do they keep from falling over?
- Watch this **video of a building in use** here
- What is it made of?
- Why was this material used?

CIOB

Introduction:

Each construction project is unique.

Introduction

- Watch this **video on building skyscrapers** here
- How do they keep from falling over?
- Watch this **video of a building in use** here
- What is it made of?
- Why was this material used?

Resources required:

- Computer and internet access for the students (individually or one between two where possible)
- Flipchart paper and pens for each table

Facilitator's notes - 3/4

Activity set-up

Flip chart paper/pens/timer/internet access

Groups of 4-6 will each design a new school

They have 30 minutes – count down warnings

In plenary, spokespeople to show and tell their designs. Class votes

Discuss the characteristics of the winning design

Use the winner or another design for the next part of the session: Dreams to reality

* A guest speaker could participate with questions or judging

Fantasy Schools - 3/4	1 Day	Session Facilitator

Introduction:

Each group will design a new secondary school.
The class will vote for the best one.

30 minutes

Section 3: In groups: Fantasy Schools part one – Create!

- **Draw any aspect of your idea** e.g. floor plan, exterior front or side view; **whatever gets your design across best**
- There are no design limits so **let your imagination run wild!**
- Write down **two things** you will say about your design to the class
- Identify **one person** to feed back

Prompts:

- What will the walls be made of?
- What will the roof look like?
- Where will students learn, exercise and eat?

Tips:

- What are its special features?
- Structure? Design? Materials?
- Why will students enjoy going there?

30 minutes

In plenary: Feedback

- Describe your design to the class
- How would it work **in reality?**
- What would be its a) strengths b) drawbacks?
- Vote on the design you like best

Optional:

Guest speaker asks questions and comments on the designs

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Introduction:

Each group will design a new secondary school.
The class will vote for the best one.

Task 1: Create!

- **Work in groups**
- **Draw any aspect of your idea** e.g. floor plan, exterior front or side view; **whatever gets your design across best**
- There are no design limits so **let your imagination run wild!**
- Write down **two things** you will say about your design to the class
- Identify **one person** to feed back

Prompts:

- What will the walls be made of?
- What will the roof look like?
- Where will students learn, exercise and eat?

Tips:

- What are its special features?
- Structure? Design? Materials?
- Why will students enjoy going there?

Task 1 - Feedback:

- Describe your design to the class
- How would it work **in reality?**
- What would be its a) strengths b) drawbacks?

Vote on the design you like best

Resources required:

Paper and pens for each table

Facilitator's notes - 4/4

Activity set-up

The winning design or another design

Groups of 4-6 will each take one of four themes to consider for this design:

Logistics/Users/Community/Sustainability

They have 30 minutes – encourage note-taking

In plenary, teams to feed back on their design in turn

Each group to visit/review each building's adaptations and consider what adaptations they would make

* A guest speaker could participate with questions or judging

Introduction:

Each group will design a new secondary school.
The class will vote for the best one.

30 minutes

Section 4: In groups: Fantasy Schools – Dreams to reality

Each group has one theme to consider for their design:

Logistics How will you choose a site for your school? How will you get access without disruption?	**Sustainability** What environmentally friendly features will your building have? How will they help?
Users Who will use your school? What will they need from the new building?	**Community** How will your building benefit the community? What will be different?

Identify **one person** to feed back

Notes or sketches may help you

30 minutes

In plenary: Feedback

- Feed back your considerations to the class
- In groups, visit each building design in turn and consider what further adaptations you would make
- Vote again on the design you like best

Introduction:

Each group will design a new secondary school.
The class will vote for the best one.

Task 2: Dreams to reality

Each group has **one theme** to consider for their design:

Logistics How will you choose a site for your school? How will you get access without disruption?	**Sustainability** What environmentally friendly features will your building have? How will they help?
Users Who will use your school? What will they need from the new building?	**Community** How will your building benefit the community? What will be different?

Identify **one person** to feed back

Notes or sketches may help you

Task 2 - Feedback:

Work in groups

- Feed back your considerations to the class
- In groups, visit each building design in turn and consider what further adaptations you would make
- Vote again on the design you like best

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Additional video sources used:

- Go Construct (5 Dec 2023) Explore construction: Build an exciting future. Available at:

  https://www.youtube.com/watch?v=fckscx38Ohw (Accessed: June 2024)

- Build in Brief – The B1M in partnership with Bluebeam (16 Dec 2020) How amazing people in technology drive construction forward. Available at:

  https://blog.bluebeam.com/why-we-love-construction/ (Accessed: July 2024).

- The CIOB (26 Jul 2022) CIOB membership spectrum. Available at:

  https://www.youtube.com/watch?v=0JD7f--JXOw (Accessed: June 2024)

- Interesting Engineering (18 Sept 2020) How are skyscrapers built? Available at:

  https://www.youtube.com/watch?v=sNKKlO17ynk (Accessed: July 2024)

- Green School Bali (15 Jun 2015) What school do you want? Available at:

  https://www.youtube.com/watch?v=eaUVA8EtdNU (Accessed: July 2024)

Further information can be found at:

www.ciob.org/think-construction

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