

BUILDING VISIONS DVD - Guidance Notes

These guidance notes are to be used in conjunction with the Building Visions DVD. This can be viewed on the CIC website - <http://www.cic.org.uk/BuildVisions/Video.shtml>. This will enable you and your students to explore the clips at your own pace.

Did you know that approximately 1 in 14 of the UK's working population work in the construction industry?

The Construction Industry Council (CIC) in partnership with a variety of built environment organisations and companies¹, have produced a DVD called **Building Visions** aimed at young people to develop their understanding of the construction industry's professional sectors to assist them with making informed career choices.

The Aim

This DVD aims to show some of the creative and inspiring career opportunities available at a professional level in construction. The DVD features interviews with a diverse group of men and women telling us about their projects and explaining how they shape our surroundings.

The Structure

The total length of the DVD is 30 minutes and CIC have developed some quiz questions based on the content which can be used in conjunction with the DVD.

Target Age Group

The DVD and quiz sheets are aimed at students in Key Stages 3 and above.

DVD Options

A. Working with the quiz sheets

The DVD is approximately 30 minutes long and could be shown in its entirety or paused at intervals to aid classroom discussions on the job roles. CIC has developed quiz sheets for students based on the DVD - the questions and answers can be found at the end of these Guidance Notes.

The DVD can be split into seven sections and there are questions relating to each one:

- 1 – Introduction
- 2 – Architecture (Start time – 7:00 minutes)
- 3 – Quantity Surveying (Start time – 11:00 minutes)
- 4 – Civil Engineering (Start time – 14:20 minutes)
- 5 – Structural Engineering (Start time – 17:30 minutes)
- 6 – Building Services Engineering (Start time – 20:35 minutes)
- 7 – Planning (construction) (Start time – 22:00 minutes)

B. Classroom discussion topics

Included below is further information on the job types discussed in the DVD, along with ideas for projects and activities which demonstrate aspects of the various work roles. A discussion on the student's perceptions and understanding of the industry or roles, both before and after the DVD could help with completing the **evaluation form** enclosed with this pack.

I. Architecture

Architects come up with imaginative new designs for buildings which aim to meet the needs of users and the environment, as well as solutions for restoring or reusing old buildings. They often see the design and building process through from conception to completion.

- You could ask students to select their favourite building or space and write or present a piece on why it is important to them.
- Set a spatial design project perhaps to design a room or a family house and ask students to consider how to make their designs specific to the client's needs, while considering the impact on the environment.

- For downloadable images of iconic buildings take a look at RIBAPIX at the following website. <http://www.ribapix.com> for a range of inspiration images of buildings developed by the Royal Institute of British Architects.

- Additional tips - Visit the CABA, the Centre for Architecture and the Built Environment's website at <http://www.cabe.org.uk/education/teaching-resources> for teaching resources or <http://www.cabe.org.uk/publications/green-day> for an built environment and sustainability activity kit.

II. Civil Engineering

Civil engineers focus on large scale connective infrastructure, creating structures that link people and places together. They do this in a variety of ways, for example designing, constructing and maintaining transport connections, like bridges and tunnels, along with waterways, canal, dams and buildings.

¹ If you'd like to know more about the organisations involved please visit the following website <http://www.cic.org.uk/BuildVisions/index.shtml>

- You could provide students with images of different types of bridges and on a separate sheet list the names and structural types of bridges. Students would then match the image to the description.

For example an Arch Bridge (e.g. Sydney Harbour Bridge), Suspension Bridge (e.g. Golden Gate Bridge), a Truss Bridge (e.g. Forth Rail Bridge, Scotland), a Lifting Bridge (e.g. Tower Bridge, London) and a Cable Stayed Bridge (e.g. Millau Viaduct, France).

- Visit the Wikipedia website www.wikipedia.org for images and descriptions of bridges.
- A lesson exploring the water cycle could be followed with a project assessing water usage in your school's building and then exploring various options for reducing use and or waste such as spray taps, reusing grey water for flushing toilets or collecting rainwater.

III. Quantity Surveying

Quantity surveyors (also known as cost consultants) manage and advise on all of the costs of a construction project this would include the cost of plant (vehicles and machines), people (trades people etc), resources (energy used during construction) and materials. Quantity surveyors work closely with the client or the contractors to ensure a project is both efficient, on budget and profitable.

- Construction and cost challenge – Ask students to create a structure (perhaps from an off the shelf product such as KNEX or LEGO). Each structural element is given a nominal price and the students are asked not only to meet the brief (a bridge that can take a small load over a given span) but also be the most cost effective.

IV. Construction Management

Construction site managers run building sites, liaise with architects, planners, engineers, surveyors, trades people and suppliers to ensure that projects are completed safely, on time and on budget.

- You could try splitting your class into teams and developing a small project. Try and include a time deadline of the end of the class to complete. Give someone the role of manager and ask them to delegate roles to other team members.
- Construction managers have to ensure projects are constructed safely. Perhaps approach a local construction company and ask them to come to the school and give a talk about health and safety or the use of personal protective equipment (clothing) on construction sites.

Where can I find out more information?

If you would like a careers pack to add to your school's library called "A Professional Career in the Built Environment" please contact:



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USEFUL WEBSITES

For more information on study and career paths designed with young people in mind please visit the "bconstructive" website www.bconstructive.co.uk. This site covers the professional, technical and trade careers available.

Alternatively, visit the professional institutions websites for specific information on study and careers information:

- Royal Institute of British Architects - <http://www.architecture.com>
- Royal Institution of Chartered Surveyors - <http://www.rics.org/>
- Institution of Civil Engineers - <http://www.ice.org.uk>
- Institution of Structural Engineers – <http://www.istructe.org>
- Chartered Institution of Building Services Engineers - <http://www.cibse.org>
- Chartered Institute of Building - <http://www.ciob.org.uk/home>
- Chartered Institute of Architectural Technologists – www.ciat.org.uk

BUILDING VISIONS DVD QUIZ

Watch the DVD carefully and see if you can answer all of the 20 questions correctly!

INTRODUCTION

1. Which multi-purpose stadium is featured in the first part of this DVD?
2. A site (or piece of land) needs to be analysed before a building or structure can be built on it, name one reason for this?
3. What parts of the building does a building services engineer deal with?

ARCHITECTURE

4. Which degree did Samir study at university?
5. What does Samir believe is so special about being an architect?

QUANTITY SURVEYING

6. What is another word that can be used to describe a surveyor?
7. Name two benefits of becoming a *chartered* surveyor?

8. Name two of the job titles which make up part of a design team?

9. By what name are the trusses at the McAlpine stadium also known as?

10. In which African country did Joanne gain work experience?

CIVIL ENGINEERING

11. What does Rishmilla believe is the best thing about being a civil engineer?

12. Name two of the 5 project types Rishmilla says that civil engineers might work on?

13. In which Emirate state did Rishmilla do some of her work experience?

STRUCTURAL ENGINEERING

14. How many storeys will the high rise building that Geraldine is working on have?

15. What is a 'coffer dam'?



BUILDING SERVICES ENGINEERING

16. Which hotel has Elaine worked on?

17. Which Caribbean island did Elaine travel to for a site visit?

CONSTRUCTION PLANNING

18. Adio studied a 'sandwich course', what does this mean?

19. What does Adio believe to be the most important factor in completing a building?

20. Adio worked on Westminster tube station – how deep into the ground is the station?



BUILDING VISIONS DVD – Quiz sheets answers

INTRODUCTION

Time elapsed from start to end of introduction is 6 minutes and 55 seconds (6:55)

1. Which multi-purpose stadium is featured in the first part of this DVD?

The Millennium Stadium in Cardiff, Wales

2. A site (or piece of land) needs to be analysed before a building or structure can be built on it, name one reason for this?

- To find out what is in the ground and work out the soil conditions.
- It will allow engineers to design the foundations to support a building.

3. What parts of the building does a building services engineer deal with?

They deal with the lighting, heating, electrical and everything that makes a building come to life including information technology.

ARCHITECTURE

(Start time - 7.00 minutes)

4. Which degree did Samir study at university?

He studied a Bachelor of Science in Architecture.

5. What does Samir believe is so special about being an architect?

He believes that architecture is the only subject that allows you to have a voice while contributing to society and enriching people's lives.

QUANTITY SURVEYING

(Start time - 11.00 minutes)

6. What is another word that can be used to describe a surveyor?

The 'economist' of the construction industry.

7. Name two benefits of becoming a *chartered* surveyor?

Being chartered enables you to set up your own business.

Gain a better salary. It's easier to take a career break and return to the industry afterwards.

8. Name two of the job titles which make up part of a design team?

Either:

- surveyor
- engineer
- architect
- planner
- contractor

9. By what name are the trusses at the McAlpine stadium also known as?

Banana trusses

10. In which African country did Joanne gain work experience?

South Africa

CIVIL ENGINEERING

(Start time - 14.20 minutes)

11. What does Rishmilla believe is the best thing about being a civil engineer?

The variety of work and that you can specialise in whatever area you like.

12. Name two of the 5 project types Rishmilla says that civil engineers might work on?

- Foundations
- Bridges
- Airports
- Roads
- Structures

13. In which Emirate state did Rishmilla do some of her work experience?

Dubai

STRUCTURAL ENGINEERING

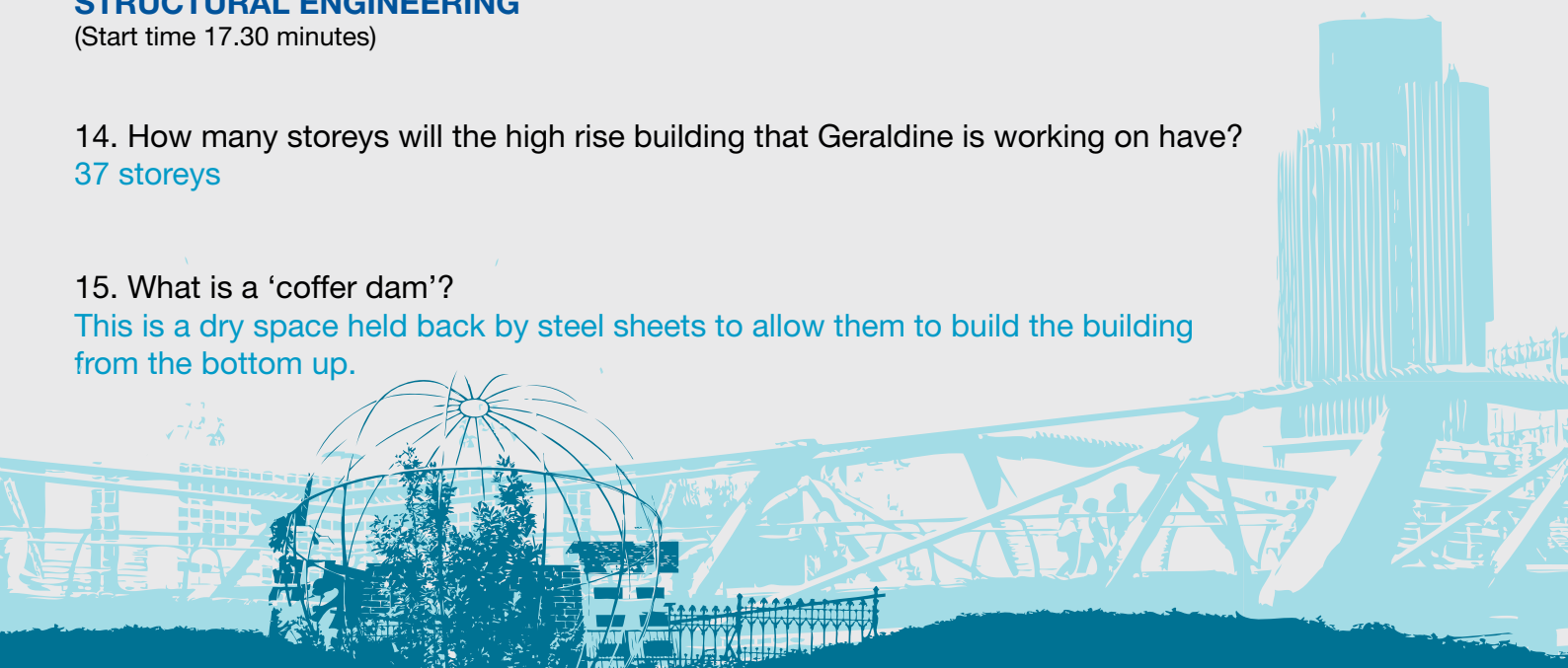
(Start time 17.30 minutes)

14. How many storeys will the high rise building that Geraldine is working on have?

37 storeys

15. What is a 'coffer dam'?

This is a dry space held back by steel sheets to allow them to build the building from the bottom up.



BUILDING SERVICES ENGINEERING

(Start time - 20.35 minutes)

16. Which hotel has Elaine worked on?

The Alton Towers theme park hotel.

17. Which Caribbean island did Elaine travel to for a site visit?

Jamaica

CONSTRUCTION PLANNING

(Start time - 22.00 minutes)

18. Adio studied a 'sandwich course', what does this mean?

On a sandwich course you will spend time studying at university and working in practice.

19. What does Adio believe to be the most important factor in completing a building?

People – they make a project happen

20. Adio worked on Westminster tube station – how deep into the ground is the station?

45 metres



CIC Building Visions DVD – Evaluation

We hope that you have found the DVD and quiz sheets useful. Please complete this short evaluation form as we are always looking for new ways to improve and would value your views on these resources.

School name:					
School address:					
Contact details (Contact name, email address or phone number):					
1. Which key stage are the students in?					
Key Stage 3		Key Stage 4		Other, please specify	
2. Approximately, how many students have watched the DVD?					
20+	30+	50+	100+	200+	
3. How challenging did your students find the quiz sheets?					
Too hard	Hard	Just right	Easy	Too easy	
4. Did the DVD and worksheets change your students' perception of the construction industry?					
Yes		No			
If yes, can you provide details?					
5. What was the general feedback, if any, from your students on the DVD and worksheets?					
Poor		Average		Good	Very good

6. Would you use the DVD again for other year groups?

Yes

No

If not, why?

7. Any other comments?

We appreciate you taking the time to complete this form. Please return your completed form by post, email or fax to:

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