

CONSTRUCTION  
FUTURES



**SCHOOL  
EXCURSION**

PROGRAM

**YEAR 8  
TEACHERS' NOTES AND  
CURRICULUM LINKS**



# TEACHERS' NOTES

The Construction Futures Centre is an interactive venue with a range of exhibits that highlight the careers available in Western Australia’s building and construction industry and demonstrates the industry’s significance to the economic and social wellbeing of the State.

During a visit to the Construction Futures Centre students will have a range of interactive learning experiences that support the Western Australian Curriculum, particularly in STEM areas.

The Centre integrates real life examples of STEM in the Building and Construction industry using virtual reality, augmented reality, videos and games to educate and inspire students about the diverse career opportunities available in the industry and the practical applications of the skills and knowledge they are learning at school.

The exhibits within the Construction Futures Centre can be linked to the following areas of the Western Australian Curriculum.

## LINKS TO THE WESTERN AUSTRALIAN CURRICULUM

### CONTENT DESCRIPTORS

#### Economics and Business

Influences on the ways people work (e.g. technological change, outsourced labour in the global economy, rapid communication changes and factors that might affect work in the future) ([ACHEK031](#))

### GENERAL CAPABILITIES



Critical and creative thinking

### LINKS TO EXHIBITS

- Induction video
- Historical display
  - It all starts with planning
- Civil video stations
- The Cool Trades
- The mobile office
- Apprentice stories
- Movers and Shakers
- Technology showcase
- Desktop simulators
- Augmented Reality (commercial & residential)



# LINKS TO THE WESTERN AUSTRALIAN CURRICULUM

## CONTENT DESCRIPTORS

### Technologies: Design and Technologies





Social, ethical and sustainability considerations, in the development of technologies and designed solutions, to meet community needs for economic, environmental and social sustainability ([ACTDEK029](#))




Development of products, services and environments through the creativity, innovation and enterprise of individuals and groups. ([ACTDEK030](#))



The design of simple solutions using motion, force and energy, to manipulate and control electromechanical and mechanical systems. ([ACTDEK031](#))


The process for the selection and combination of materials, systems, components, tools and equipment ([ACTDEK034](#))

## GENERAL CAPABILITIES

-  Literacy
-  Critical and creative thinking
-  Personal and social capability
-  Ethical Understanding

-  Critical and creative thinking
-  Personal and social capability
-  Intercultural understanding

-  Numeracy
-  Critical and creative thinking

-  Critical and creative thinking

## LINKS TO EXHIBITS

- Induction video
- It all starts with planning
- Civil Construction Interactive
- Civil video stations
- Commercial Design
- The mobile office
- Technology Showcase
- Commercial Building Designer
- Building Designer AR viewer (commercial & residential)
- Environmental Designer/Advisor
- Team Crane
- What's Behind?
- Commercial 3D printed building model



# LINKS TO THE WESTERN AUSTRALIAN CURRICULUM

## CONTENT DESCRIPTORS

### Mathematics

Carry out the four operations with rational numbers and integers, using efficient mental and written strategies and appropriate digital technologies ([ACMNA183](#))

Investigate the concept of irrational numbers, including  $\pi$  ([ACMNA186](#))

Solve a range of problems involving rates and ratios, with and without digital technologies ([ACMNA188](#))



Establish properties of quadrilaterals using congruent triangles and angle properties, and solve related numerical problems using reasoning ([ACMMG202](#))

Develop the conditions for congruence of triangles ([ACMMG201](#))





Choose appropriate units of measurement for area and volume and convert from one unit to another ([ACMMG195](#))




Find perimeters and areas of parallelograms, trapeziums, rhombuses and kites ([ACMMG196](#))

## GENERAL CAPABILITIES

-  Numeracy
-  ICT capability

-  Numeracy

-  Literacy
-  Numeracy
-  Critical and creative thinking
-  ICT capability

-  Literacy
-  Numeracy
-  Critical and creative thinking

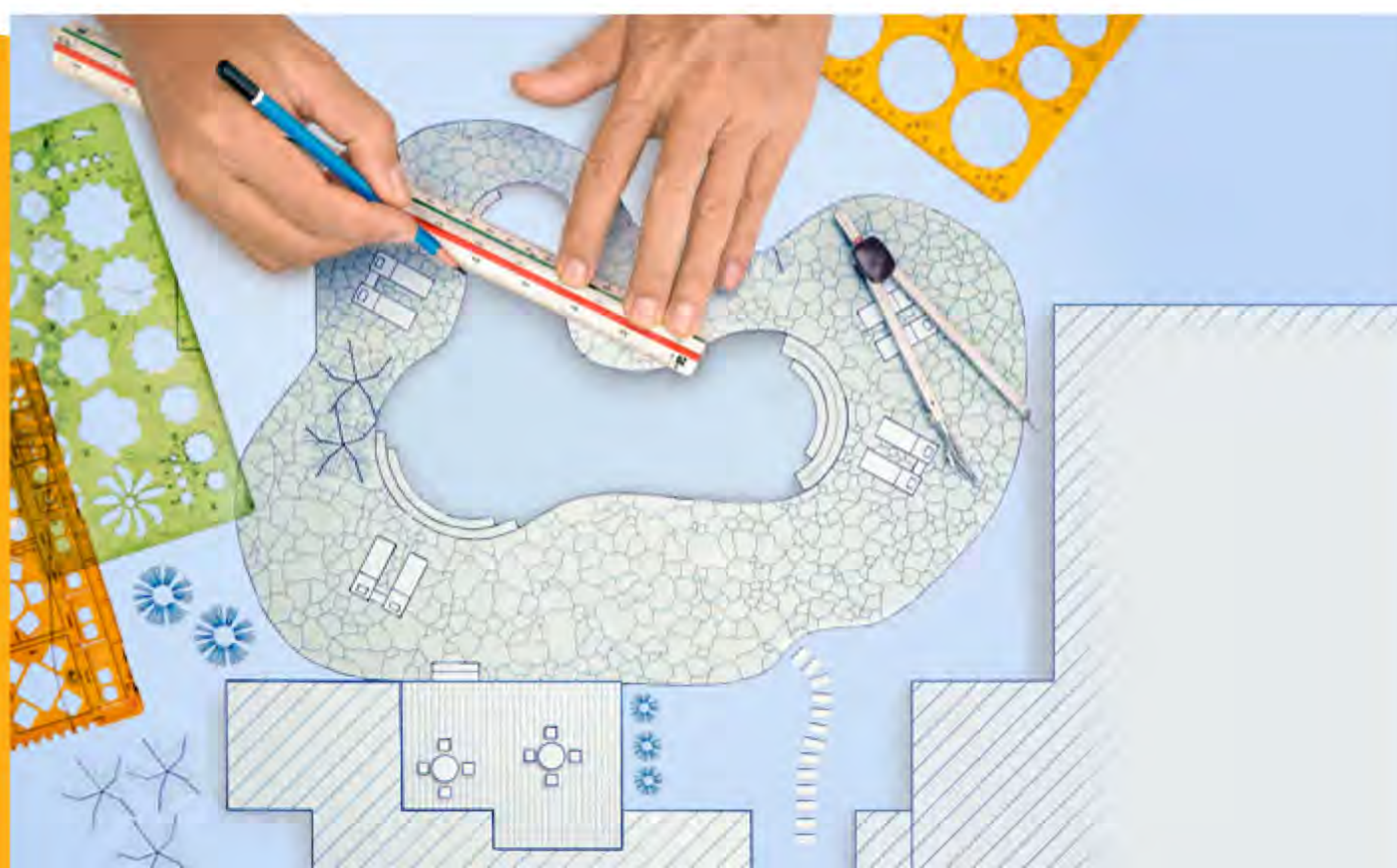
-  Numeracy

-  Numeracy

-  Numeracy

## LINKS TO EXHIBITS

- It all starts with planning
- Civil Construction Interactive
- Civil Construction videos
- 3D Commercial building model
- Team Crane (VR Crane & Dogman/Rigger)
- Maths in Construction
- Mix it Up
- Creative Brickwork
- The mobile office
- Water you doing?
- Refrigeration/Air Conditioner
- Technology Showcase
- Commercial Building Designer
- Building Designer
- Residential Drafter
- Environmental Designer/Advisor
- Estimator
- Scheduler
- Accounts Officer
- Apprentice stories



# LINKS TO THE WESTERN AUSTRALIAN CURRICULUM

## CONTENT DESCRIPTORS

### Science

Chemical change involves substances reacting to form new substances ([ACSSU225](#))

Sedimentary, igneous and metamorphic rocks contain minerals and are formed by processes that occur within Earth over a variety of timescales ([ACSSU153](#))

Solutions to contemporary issues that are found using science and technology, may impact on other areas of society and may involve ethical considerations ([ACSHE135](#))

People use science understanding and skills in their occupations and these have influenced the development of practices in areas of human activity ([ACSHE136](#))

## GENERAL CAPABILITIES

 Ethical understanding

 Ethical understanding

## LINKS TO EXHIBITS

- Mix it up  
Civil section including cross section of a road
- Civil Construction interactive
- Commercial Design area (3D printed model & AR viewer)
- Team Crane (VR Crane & Dogman/Rigger)
- Residential set
- Water you doing?
- Technology showcase
- Environmental Designer/Adviser
- What's Behind a Wall?
- Occupations Oracle  
3D Commercial building model





©School Curriculum and Standards Authority. (2017).

Year 8 HASS Syllabus: Year level descriptions retrieved 25 May 2020 from <https://k10outline.scsa.wa.edu.au/home/teaching/curriculum-browser/humanities-and-social-sciences#year-8-syllabus>. Year 8 Technologies Syllabus: Year level descriptions retrieved 25 May 2020 from <https://k10outline.scsa.wa.edu.au/home/teaching/curriculum-browser/technologies/design-and-technologies2#year-8-syllabus>.

Year 8 Mathematics Syllabus: Year level descriptions retrieved 25 May 2020 from <https://k10outline.scsa.wa.edu.au/home/teaching/curriculum-browser/mathematics-v8#year-8-syllabus>. Year 8 Science Syllabus: Year level descriptions retrieved 25 May 2020 from <https://k10outline.scsa.wa.edu.au/home/teaching/curriculum-browser/science-v8#year-8-syllabus>.

Reproduced with permission of the School Curriculum and Standards Authority.

# CONSTRUCTION FUTURES

