



UNIT PLAN

Unit Title Our built world and our school	Stage Stage 3 – Year 6
Term Term 4	Strand Built Environments
Duration 15 Hours (900 minutes)	Sub-strand Built Environments meeting the needs of our changing world.

RATIONALE

This unit “Our built world and our school” enhances students’ learning as they discover the notion of how built environments meet the needs of our changing world. In alignment with the NSW K-6 Science and Technology Syllabus (2014) this unit implements a constructivist pedagogy with a focus on social interaction. Students are constantly creating their own meaning in accordance with their prior knowledge and practical activities. This unit adopts the 5E model throughout the 10 lessons and covers all phases: engage, explore, explain, elaborate and evaluate. Included in this unit are 3 types of assessment: diagnostic, formative and summative. This allows teachers to document students’ prior knowledge, check for competence and ensure students have a deep understanding of built environments upon completion of the unit.

Due to the nature of science, it should not be seen as a compartmentalized subject and a certain amount of facts to be taught, but as dynamic and holistic concepts integrated within the context in which it was created (Fleer, 2010). In order to achieve this, this unit of work has been created using Piaget’s constructivist approach to teaching and learning (Campbell & Tytler, 2007). The lessons in this unit incorporate a ‘hands on’ approach and requires students to create their own meaning based on personal experiences and attempts to make sense of those experiences. The students will need to use their five senses and complete practical projects to construct meaning about the built environment they live in. Vygotsky extended the work of Piaget to consider the social settings around and through which learning occurs, this can be referred to as social constructivism (Campbell & Jobling, 2012). The lessons in this unit incorporate numerous opportunities for students to socially interact with their peers in an educational setting, as well as participate in peer teaching and peer assessment. In this unit students are constantly discussing and comparing ideas with each other in addition to inquiring, exploring, predicting, investigating and constructing/building in groups to encourage learning through social interaction.

This terms unit of Built Environments has been created, documented and combined into a single science portal using the webpage Wix. The website has been designed to hold the entire unit of work including instructions, activities, attached documents and media files, and all easily accessible by teacher, student and parent. This science portal has various benefits that we felt were extremely suiting to the stage 3 course, catering for all learning needs and requirements. Primarily, the website ensures premium organization for the teacher, allowing all resources to be in one accessible location. Additionally, the program is a flexible resource for teachers to use, allowing for editing throughout the entire term catering to the levels of learning taking place in the classroom. It also allows for the ‘keep going’ tab – a tab including all of the extension activities and projects for higher achieving students to begin if they are completing their work early. As well as catering for higher



achievers, the website specifically caters for special needs/lower achieving students. As the terms work is present on the website, it allows for students to work through the information at their own pace, referring back to lessons that they need to recap on in their own time, once they are at home with additional family support. Conclusively, the webpage is interactive and engaging. Students will spend the term accessing this page weekly, working through tasks, experimenting, estimating and exploring – meeting outcomes of both working scientifically and technologically.

Throughout the unit, students are exposed to various means of technology. Through various research tasks using the internet, students are challenged to hypothesis about built environments and durability, predict futuristic characteristics of schools and sustainability, and document on solutions to current matters in Australia regarding Built Environments and infrastructures.

This unit of work in this science concept has been designed with thought to the 5 E instructional model. The Engagement, exploration, explanation elaboration and evaluate phases for the instructional model are all present in the sequence of lessons throughout this science unit. The five E model is incorporated into our unit of work as studies of the model have shown positive trends in student interest and proficiency of scientific concepts and outcomes (Bybee et. al, 2006). The unit “Our built world and our school” utilises all of the various stages of the five E model consistently throughout the unit, below it is outlined how each stage is present in the lessons.

Engage: The first lesson introduces the concept of built environments to the class through engaging and hands on activities. Diagnostic assessment is used in the lesson to gauge the student’s prior knowledge of the content being covered in the unit.

Explore: The early part of this unit gives students physical hands on activities to give them experience in this science unit to assist them with their learning throughout the unit. Teacher will be recording students work throughout these lessons as formative assessments.

Explain: The teacher provides the students will scientific concepts and terms to assist the students in developing explanations for what they have been learning about the built environment. There is formative assessment in this part of the unit to assist the teacher in understanding the students’ progress though the unit.

Elaborate: Towards the end of our unit students are given the opportunity to apply what they have learnt throughout the unit and apply it in new contexts. These lessons will task the students will creating and presenting a research task and designing their own built environment they will be working scientifically and technologically. The works that these students produce will act as summative assessments for the unit.

Evaluate: The final lesson of our unit gives students an opportunity to reflect on what they have learn throughout the unit and compare it to the thoughts and ideas they had at the beginning of the unit. Th also be a summative assessment.



GOALS

KLA – Science & Technology

Outcomes & Performance Indicators

ST3-14BE Describes systems in built environments and how social and environmental factors influence their design.

ST3-5WT plans and implements a design process, selecting a range of tools, equipment, materials and techniques to produce solutions that address the design criteria and identified constraints.

- Selecting and using research techniques appropriate to the task.
- Developing design criteria that considers, where relevant, function, aesthetics, social and environmental considerations.
- Selecting and using techniques to investigate the suitability of materials.

ST3-4WS investigates by posing questions, including testable questions, making predictions and gathering data to draw evidence-based conclusions and develop explanations.

- Collaboratively and individually selecting suitable methods for gathering data and information first-hand and from reliable secondary sources.
- Working individually and collaboratively in conducting a range of appropriate investigation methods, including fair tests, to answer questions or solve problems.
- Drawing conclusions and providing explanations based on data and information gathered first-hand or from secondary sources.

ST3-2VA Demonstrates a willingness to engage responsibility with local, national and global issues relevant to their lives, and to shaping sustainable futures (working scientifically).

ST3-5WT Plans and implements a design process, selecting a range of tools, equipment, materials and techniques to produce solutions that address the design criteria and identified constraints (working technologically).

KLA - English

Outcomes & Performance Indicators

Uses and describes language forms, features and structures of texts appropriate to a range of purposes, audiences and contexts.

-Investigate vocabulary typical of extended and more academic texts and the role of abstract nouns, classification, description and generalisation in building specialised knowledge through language.

EN3-2A composes, edits and presents well-structured and coherent texts.

- Plan, draft and publish imaginative, informative and persuasive texts, choosing and experimenting with text structures, language features, images and digital resources appropriate to purpose and audience.
- Use a range of software, including word processing programs, learning new functions as required to create texts.

EN3-1A Communicates effectively for a variety of audiences and purposes using increasingly challenging topics, ideas, issues and language forms and features (communicates through speaking, listening, viewing and representing).

- Plan, rehearse and deliver presentations, selecting and sequencing appropriate content and [multimodal](#) elements for defined audiences and purposes, making appropriate choices for [modality](#) and emphasis.
- Discuss and experiment with ways to strengthen and refine spoken texts in order to entertain, inform, persuade or inspire the audience.

EN3-8D - identifies and considers how different viewpoints of their world, including aspects of culture, are represented in texts



<p>KLA – Creative Arts Outcomes & Performance Indicators</p> <p>VAS3.1 Investigates subject matter in an attempt to represent likenesses of things in the world.</p>	<p>KLA – Mathematics</p> <p>Outcomes & Performance Indicators</p> <p>MA3-14MG Identify, visualise and quantify measures and the attributes of shapes and objects, and explore measurement concepts and geometric relationships, applying formulas, strategies and geometric reasoning in the solution of problems.</p>
<p>KLA – H.S.I.E Outcomes & Performance Indicators</p> <p>ENS3.5 Demonstrates an understanding of the interconnectedness between Australia and global environments and how individuals and groups can act in an ecologically responsible manner (patterns of place and location).</p> <p>HT3-2 - describes and explains different experiences of people living in Australia over time</p> <p>HT3-3 - identifies change and continuity and describes the causes and effects of change on Australian society</p>	



GOALS

Assessment – formative (during learning engagements)

- Observation throughout each lesson
- All lessons begin by showing the students the outcomes and indicators that are going to be met this lesson. This syllabus document is then re-visited at the end of each lesson, and the children discuss whether they feel confident that they have met those outcomes in today's lesson.
- Diagnostic assessment, Mind map to gauge students understanding prior to starting the unit of work.
- Looking the shelters that student create and recording them for purposes of understanding student thinking through the lesson.
- Observational sketches are recorded and viewed by the educator for assessment purposes and report writing (also summative)
- The student's presentations are recorded and PowerPoints collected to be used as evidence for student development through the unit (also summative assessment).

Assessment – summative (at the end)

- Peer assessment, students to evaluate peer presentations using a PMI (plus, minus, interesting) chart. If students can critique peer presentations it reveals a deep understanding on the topic and also allows the teacher to determine how much students know about the topic.
- Teacher assessment: Teacher to give each group a mark out of 20 and written feedback using a rubric that was explained to students in lesson 8.
- Students will complete an online survey that focuses on their learning and understanding throughout the unit.

Unit Evaluation:

- Was the unit "Our built world and our school" successful? Were all outcomes achieved?
- Did the student's enjoy the unit?
- Was the allocated time for each lesson enough to complete all the activities?
- Were the lessons an adequate challenge for the students?
- Was the work that the students completed reflect the outcomes that the unit hopes to achieve
- Did the unit successfully cater to the students with different learning needs in the class?
- Were expectations clear to students?
- Were students given ample opportunity to self-assess their learning along the way?



STUDENTS

Number – 28 Students

Differentiation needs

- 1 ESL student
- 2 Aboriginal students
- 1 lower ability student.
- 3 high ability students.

- Lesson 1 - Teacher's aide works one on one with special needs students and learning difficulties, she has a sound knowledge of the student's background and helps them to engage and participate in the hands on activities. Students will be grouped in mixed learning abilities to ensure peer learning is achieved. Gifted and talented students will be provided extra activities to extend them in each activity. Extension students - acceleration: promoting a student to a level of study beyond their age group

- Lesson 5 – High needs students be allocated into a group of 5 people and the teacher's aide will be there to assist those students. The students who are low IQ and ESL students will be also allocated to a 5 person group that includes a gifted student.

- Lesson 8- Students with additional needs such as ESL students or students with learning difficulties will be grouped with more competent students. A teacher's aide will be working with these students assisting them while they are in their group of 4. This lesson consists mostly of practical activities, images and concrete materials which will suit the learning style of ESL students and students with learning difficulties. Students who are highly competent will be given an extension task to encourage critical thinking, research on

Skills, interests and prior knowledge

- Knowledge in sustainability, students have done this in HSIE.
- Awareness in peer assessment, students have conducted PMI (Plus, minus and interesting) charts on peer previously.
- Prior to lesson 5 students will have a lesson about finding reliable sources using the internet and avoiding un-reliable sources (such as the onion.com)



the class iPads the positives and negatives of sustainable buildings and write a few notes in their science books.

- Lesson 9- ESL students and students with special needs will be working with a teacher's aide in their group of 4 to create their 'speech' for the presentation. These students will be required to talk about one element of the model. More competent students will focus on 2-3 elements each. Competent students who researched the positives and negatives of sustainable buildings in the previous lesson will be required to discuss this aspect in their group presentation as a form of peer teaching to those who did not complete this extension task.

LEARNING MATTER

Essential understandings

Students will learn about...

- The concept that systems in built environments are designed to meet the needs of people.
- Social and environmental factors influencing the design of built environments.

Essential skills

Students will learn to...

- Identify elements that work together as a system to serve and support built environments and how they are designed to meet the needs of people, eg transport systems that provide access for people to get to work or systems that provide electricity to sites
- Draw a plan of, or model, a built environment that includes a range of systems to meet the needs and wants of a specific group of users, eg shade for a playground
- Consider ways that the design or use of places and spaces have changed over time and the social and/or environmental



	<p>factors that have influenced these changes, eg changes in the design and use of a library due to technological developments or the design of buildings after an earthquake</p> <ul style="list-style-type: none">○ Generate and develop ideas about how built environments might be designed and constructed in the future to incorporate sustainable environmental practices, eg the use of recycled materials, natural lighting and solar energy○ Develop designs and solutions to meet specific social or environmental needs of users, eg an energy-efficient building or high-traffic airport terminal/train station○
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RISK ASSESSMENT

Lesson:	Risk:
1	<ul style="list-style-type: none">● Online research will need to be supervised for students to ensure appropriate websites are used However school filters should block inappropriate content.
2	<ul style="list-style-type: none">● The use of materials such as scissors, glue, sticky tape etc needs to be monitored to ensure they are being used in a safe manner.● Materials used to build students shelters needs to be supervised by the class teacher at all time to avoid unsafe behavior. As students are in year six they should be able to work in a responsible manner under teacher supervision.
3	<ul style="list-style-type: none">● Teachers will need to ensure appropriate weather is in place for this outdoor activity
4	<ul style="list-style-type: none">● Teachers will need to ensure appropriate weather is in place for this outdoor activity
5	<ul style="list-style-type: none">● Students researching on the internet can sometimes discover inappropriate material. However, school filters should block this content.
8	<ul style="list-style-type: none">● Scissors are a hazard if not used appropriately. Sticky tape cutters also contain sharp metal. However, students in year 6 are capable with this equipment and there is teacher supervision.● Permanent markers create a toxic fume. However a well-ventilated room will manage this.



LEARNING SEQUENCE

	Learning engagements	Resources and preparation	Outcome	Sign off
1	Introductory Lesson to Built Environments (Engage)	<p>Resources:</p> <ul style="list-style-type: none">• IWB• Bill Nye YouTube clip• Pictures of various built environments• Ipads• Steel• Sandstone• Clay• Timber <ul style="list-style-type: none">○ Built environments will be introduced in general on a worldly scale in the first two lesson, after we are 'experts' at looking at the characteristics of built environments lets focus our attention to the built environments we encounter everyday (schools). Year 6 will begin with a brainstorming/ mind map activity. Students will have the opportunity to discuss and share their knowledge on built environments. Students are also encouraged to list the characteristics of the built environments; the five W's as used in English will also be used.○ Students will be asked to use the IWB to write their ideas as a class.○ Once students have completed this task the built environments website will be shown and quickly summarized for students. This website will act as a stimulus and motivating resource that provides students with links to appropriate websites, videos, relevant information and so on. www.wix.com.au○ Bill Nye YouTube clip will also act as a 'hook' for students.○ Students have now contributed ideas and seen images and various information on built environments.○ The teacher will now allocate a built environment activity where famous built landmarks from around the world are given to students in groups of four, laminated images of built environments will be	ST3-14BE ST3-4WS EN3-8D HT3-2 HT3-3	



		<p>handed out to each group. Group 1 <i>Steel</i> – Golden Gate Bridge San Francisco, Group 2 – <i>Sandstone</i> – Pyramids Egypt, Group 3- <i>Clay</i>- Aboriginal hut, Group 4 – <i>Timber</i> – average home. By working in groups of four peer learning can take place. Students will be doubling up on materials as these materials are cost effective and easy to access.</p> <ul style="list-style-type: none">○ Students will then be allocated time to use the iPad to research their built environment and material and find out the purpose, materials used etc.○ Students will be asked to observe, explore and document their findings on their various materials which are used to build their built environments/ structures, whilst describing their material and discuss among their group how these built icons have been made? and why? Students will then be asked to journal their findings in their science books, using appropriate metalanguage.○ http://www.sciencekids.co.nz/sciencefacts/engineering/buildings.html○ Interactive game as an extension http://www.landcom.com.au/mini-sites/my_neighbourhood/index.htm		
2	Building a shelter (explore)	<p>Resources:</p> <ul style="list-style-type: none">● Foam Cups● Water● Small pebbles● Paddle pop sticks● Clay● Twigs● Bark● Foil● Paper● Plastic bottles● Cling Wrap● Sticky tape● Stapler● Scissors● Glue● Rubber bands● Lego or Jenga blocks <p>○ Students will begin this lesson by recapping and adding onto their mind map for built environments, with their new found knowledge on various</p>	ST3-14BE EN3-1A EN3-2A HT3-2 HT3-3	



materials and built environments and landmarks, students will be asked to create their very own built environment (shelter).

- Students will be introduced to Shelters, what is a shelter, what types of shelters are there, what are there purposes? Using the www.wix.com.au website to help us see the instructions for the lesson.
- During this shelter activity students will be introduced to the ideas expressed in the service and needs outcome – Students will be asked to build a shelter out of various materials, incorporating and including aspects of a built environment e.g. durability, strength sustainability etc. Students will be reminded to think of the shelters purpose and how they are going to design and build it successfully with their chosen materials. Students will then be testing their shelters against environmental changes e.g. water, hail, and wind.
- Before students begin making their shelters, as a class we will view on the IWB this website which allows students to see the shelters Aborigines used before technologies advanced to build houses out of steel, timber, concrete etc. Students will be asked to think of the materials their houses are made of whilst comparing the aboriginal shelters.
<http://www.aboriginalculture.com.au/housing.shtml>
- <https://www.youtube.com/watch?v=KJmYAUk5guY> how to YouTube clip may also be shown
- Students will then be asked to plan their shelter with their group in their science books, designing and constructing their shelters to withstand various climates. Students will be asked to predict what would happen if rain, hail or wind came into their shelters path.
- Students will be given ample time to construct their shelter. Teachers and the teacher's aide will assist students in constructing their shelters.
- Once students have completed their shelters, various 'elements' will be handed out to each group. Students will be testing their strength, sustainability and durability against these forces.
- Students will then compare their predictions with



		<p>their experimental findings. How could their shelter have been improved? This will be written in a journal format in their science books.</p> <ul style="list-style-type: none">○ Once students have completed their journals, each group will rotate and view the various materials used, construction, engineering and aesthetic qualities of their peer's shelters○ A class discussion will take place to share predictions and outcomes of this experiment.		
3	Observation sketch and labelling (explore)	<p>Resources:</p> <ul style="list-style-type: none">● IWB / Laptops / devices for class to read through webpage● 1x clipboard per student (24 clipboards)● Led Pencils● Rulers● Erasers● Science book or VA books● Class camera for photographing <p>Begin the lesson by recapping last lessons hands-on activity, and reminding them that moving forward we are going to be looking more closely at schools.</p> <ul style="list-style-type: none">○ To begin, ask the students to organize a led pencil, a rubber, and a ruler from their pencil cases; all other resources needed will be provided during the activity.○ In this lesson students will be observing the built environment of their school, and will be sketching various areas that meet the needs and wants of different groups and users.○ Leading the students, tour the grounds of the school stopping at various spots in the built environment, i.e. shelter, school canteen, classroom and basketball court. Give students ample time to stop at each location, sketch what they see and label each diagram with what they observe. This lesson is about observing what the students see visually.○ This lesson will incorporate PDHE (exercising and walking around the school), Visual arts (sketching and drawing), English (labeling diagrams), Maths (shapes and lines, proportions) and Science (built environments).○ Have the class camera throughout the walk, allowing	ST3-14BE VAS3.1	



		<p>students to capture images of the built environment to add to the class science wall, adding an additional element to the lesson.</p> <ul style="list-style-type: none">○ This lesson is a great foundation for students in observing their surrounding built environments, as it follows on to next lessons describing the characteristics of the built environment. The students will be looking at why these built environments have been made, what purpose they serve and who utilizes them.		
4	Treasure Hunt (explore)	<p>Resources:</p> <ul style="list-style-type: none">● IWB / Laptops / devices for class to read through webpage● Question sheet & school map● 1x led pencil per person (28)● 1x clipboard per group (14)● A trundle wheel per group (14)● 1 metre ruler per group (14) <ul style="list-style-type: none">○ The students will be introduced to today's activity in class only briefly. Instructions will be read out from the science web portal).○ Following this, the class will be directed out onto the basketball courts (starting point of today's activity).○ Today's lesson the students, in small groups; will be describing the features of the environment. Each of the small groups will be given a map with mathematical questions on it that need to be answered. Each mathematical question answered correctly will lead them closer to the 'built environment' destinations located around the school that need describing.○ The students will need to work collaboratively for this task.○ Once the students have answered the questions that have directed them to a built environment, e.g. the shelter, students will be asked questions about that Built Environment. Example, what BE are you in? What materials have been used? Why have these materials been used? What does it feel like to touch? Etc.○ The 'treasure hunt' activity will be timed, and it will be a race/competition for students to complete all of	ST3-14BE MA3-14MG	



		<p>the given questions and reach all of the set built locations.</p> <ul style="list-style-type: none">○ Once the lesson has concluded, students and teacher will return back to the classroom and discuss all of their answers, they thoughts on the activity and if they enjoyed the task.		
5	Research Task (Elaborate Lesson)	<p>Resources:</p> <ul style="list-style-type: none">● Computers for each of the students to research on● Laminated Pictures of the different travel methods (used to assign groups in the lesson)● Science Unit Wix Website <ul style="list-style-type: none">○ Class discussion asking questions focusing on○ What various ways do the students get to school?○ What other methods of transport would students use to get to school?○ What does the word infrastructure mean?○ What different kinds of transport infrastructure do we use in Australia?<ul style="list-style-type: none">▪ Students will be told they are undertaking a research and presentation task over the next two weeks. This will involve the students answering questions, making a PowerPoint and presenting to the classroom in lesson 6. The task set to the students available here http://stefraco.wix.com/science-3-b#!lesson-5/cbgs○ Students will be allocated groups in the class and assigned a type of travel infrastructure.○ Once students have been allocated groups they can access the website and the tab for lesson 5 and find their page for their assigned travel infrastructure with more instructions.<ul style="list-style-type: none">▪ http://stefraco.wix.com/science-3-b#!lesson-5/cbgs○ Students will have the rest of the lesson as well as two 30 minute sessions throughout the week to work on their presentations.○ The students will also have been made aware that for their presentation they will have to present as if they were a news team presenting on the evening	T3-14BE ST3-5WT ST3-4WS EN3-2A	



		<p>news.</p> <ul style="list-style-type: none">○ It will also be made clear that the students are to use their own words when making their PowerPoints.		
6	Presentation (Elaborate Lesson)	<p>Resources:</p> <ul style="list-style-type: none">• IWB• Camera (for teacher to record the presentations) <ul style="list-style-type: none">○ Students will present their power-points to the class○ There will be two half an hour times throughout the week for students to present to the class.○ The groups presentations have a set day to present on found at http://stefraco.wix.com/science-3-b#!lesson-6/c7r2○ Each student from the group will have to present to the class.○ The students watching the presentations will have a chance to ask questions and give feedback at the end of each groups presentations.○ The teacher keeps a record of the student's power-points and records the presentations for assessment purposes.	EN3-1A	
7	Before and After Built Environments (Explain)	<p>Resources:</p> <ul style="list-style-type: none">• IWB• Website• “My Place” – Book <ul style="list-style-type: none">○ Students will revise features; characteristics and differing built environments that have been discussed in prior lessons.○ Students will be asked to view the class wix website to view pictures of a schools from past and present aspects.○ Allowing students to think back to their English book ‘My Place’ and the changes that have occurred throughout the book overtime, to apply those same ideas to the built environment of a school.○ A YouTube clip and various images will be available on the wix for students to explore and view. https://www.youtube.com/watch?v=u7H9wtZ08nM○ Students will be asked to predict and make inferences how schools have changed over time – Comparing and contrasting the images in a class discussion.	ST3-14BE EN3-1A EN3-2A HT3-2 HT3-3	



		<ul style="list-style-type: none"> ○ Students will journal in their science books the differences between the built environments from past and present– pictures may also be drawn to help explain. Role play – Jobs – Architect, builder, electrician, Foreman. 		
<p>8</p>	<p>Planning and designing a futuristic and sustainable school (Elaborate phase)</p>	<p>Resources:</p> <ul style="list-style-type: none"> ● Department of housing documents ● Example of a building plan ● About your local council brochure ● A3 paper ● Permanent markers ● Aluminum foil ● Paddle pop sticks ● Clay/play dough ● Sand ● Cardboard ● Glue ● Cling wrap ● Plastic bottles ● Toilet paper rolls ● Scissors ● Sticky tape ● Play dough <ul style="list-style-type: none"> ○ Incursion: Council member to visit and discuss: <ul style="list-style-type: none"> ○ -Where new roads and houses should go. ○ -The number of buildings that can be built in a certain area. ○ -Councils must approve plans for new buildings before they are built. ○ -What makes a building plan approval worthy? ○ *Teacher must be familiar with brochure: <i>About your local council</i>. If the council member cannot attend, teacher will conduct the discussion. ○ Teacher directed class discussion: What is a sustainable building? View and discuss documents from the Department of Housing: <ul style="list-style-type: none"> ○ -Sustainable buildings ○ -Top tips for constructing a sustainable building ○ Rubric: Discuss assessment criteria with students. ○ Building plan: Discuss positives and negatives of 	<p>ST3-14BE ST3-2VA ST3-5WT ENS3.5 EN3-1A</p>	



		<p>the plan, what aspects would you change and keep in your plan?</p> <ul style="list-style-type: none"> ○ Group brainstorm/planning time: <ul style="list-style-type: none"> ○ -Draw a floor plan. ○ -List what materials will be used for the different parts of the buildings and why? ○ Construction time: Students build a futuristic and sustainable school in groups of 4. 		
9	<p>Student presentations and summative assessment (Elaborate phase)</p>	<p>Resources</p> <ul style="list-style-type: none"> ● Department of housing documents ● Example of a building plan ● About your local council brochure ● A3 paper ● Permanent markers ● Aluminum foil ● Paddle pop sticks ● Clay/play dough ● Sand ● Cardboard ● Glue ● Cling wrap ● Plastic bottles ● Toilet paper rolls ● Scissors ● Sticky tape <ul style="list-style-type: none"> ○ Construction time: Students to finish constructing before presenting. ○ Group presentations: Teacher to ask open-ended questions: <ul style="list-style-type: none"> - Why did you choose those materials? - What are the sustainable features of your school? - What would you change if you had to build this model again and why? ○ Peer assessment: Students to evaluate peer presentations using a PMI (plus, minus, interesting) chart. If students can critique peer presentations it reveals a deep understanding on the topic and also allows the teacher to determine how much students know about the topic. ○ Teacher assessment: Teacher to give each group a mark out of 20 and written feedback using rubric that was explained to students in previous lesson. 	<p>ST3-14BE ST3-2VA ST3-5WT ENS3.5 EN3-1A</p>	
10	<p>Presentations and Discussion (Evaluate)</p>	<p>Resources:</p> <ul style="list-style-type: none"> ● Mind map from Lesson one ● Website 	<p>EN3-1A T3-14BE ST3-5WT</p>	



Lesson)	<ul style="list-style-type: none">• Survey-Monkey (Online Survey tool for students to take quiz on)• IWB ○ Presentation: Students will have the option to present their extension project to the class. Students will have an opportunity to give positive feedback. ○ Quiz: through the unit website students can access a quiz through survey-monkey. This quiz is designed to record their thoughts about the content covered in the unit and not answers they can just Google search. Demonstration quiz found at https://www.surveymonkey.com/s/RWYL56P ○ Mind-map: Students will complete a mind map/brainstorm recording their thoughts and beliefs about built environments. Students will return to the mind-map that they worked on as a class in week 1. Students will then compare the the two mind-map/brainstorms for students to see how much they have learnt in this unit. ○ Class discussion: Stemming from the mind-map/brainstorm part of the lesson there will be a teacher led class discussion about the student's thoughts, likes and dislikes about the topic built environments. Discussing what they have learnt and what they would have liked to learnt about.	ST3-4WS	
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RESOURCES

Text

Book –

My Place, Nadia Wheatley & Donna Rawlins –
Walker Books, (1992),

Audio Visual

Images:

<http://newsroom.scania.com/en-group/files/2011/11/SCANIA-STA-0051.jpg>

- <http://photos.topicshow.com/smstar-789d5987-80b1-41c6-a61d-e7c187620759-f.jpg>
- <http://geonice.com/air-travel-australia.html>
- <http://static.progressivemediagroup.com/uploads/imagelibrary/nri/railway/news/Melbourne Metro.jpg>
- [http://upload.wikimedia.org/wikipedia/commons/7/7c/2005-2007 Ford BF Fairlane Ghia sedan \(Silver Service taxi\) 01.jpg](http://upload.wikimedia.org/wikipedia/commons/7/7c/2005-2007 Ford BF Fairlane Ghia sedan (Silver Service taxi) 01.jpg)
- <http://upload.wikimedia.org/wikipedia/commons/e/ec/Melbournebikeshare station Macarthur St 2010.jpg>
- <http://www.esami-africa.org/uploads/news/logo.png>

Videos:

- <https://www.youtube.com/watch?v=dfPGWgdLmBM>
- <https://www.youtube.com/watch?v=XdCuguqdYtE>



<p>On-line</p> <ul style="list-style-type: none">○ WIX- http://stefraco.wix.com/science-3-b○ http://www.lonelyplanet.com/australia/transport/getting-around○ http://www.sydneybuses.info/○ www.railaustralia.com.au○ http://melbourneairport.com.au/to-from-the-airport/taxis/overview.html○ http://www.bikepaths.com.au/○ http://www.transport.nsw.gov.au/content/sydney-ferries○ http://rubistar.4teachers.org/index.php○ http://www.hpw.qld.gov.au/SiteCollectionDocuments/SSHFactsheet.pdf○ http://www.hpw.qld.gov.au/construction/sustainability/smartsustainablehomes/sustainablehomeresources/Pages/Default.aspx○ http://www.turton.uk.com/students/images/main-building-ground-floor.png○ www.lgnsw.org.au/files/imce/uploads/35/about-your-council.pdf○ https://www.surveymonkey.com/s/RWYL56P○ http://www.landcom.com.au/mini-sites/my_neighbourhood/index.htm○ http://www.wisegeek.com/what-is-a-built-environment.htm○ http://www.sciencekids.co.nz/sciencefacts/engineering/buildings.html○ http://www.skwirk.com/p-c_s-4_u-294_t-715_c-2674/what-is-a-built-environment-/nsw/what-is-a-built-environment-/indoors-outdoors/built-environments	<p>Human</p> <ul style="list-style-type: none">○ Lesson 8- Guest speaker, local council member.
<p>Place</p> <ul style="list-style-type: none">○ School grounds (playgrounds, shelter, oval, basketball court, classroom)	<p>Materials/Real life items</p> <ul style="list-style-type: none">● Student computers● IWB● Foam Cups



- Water
- Small pebbles
- Paddle pop sticks
- Clay
- Twigs
- Bark, Foil
- Paper
- Plastic bottles,
- Cling Wrap
- Sticky tape
- Stapler Scissors
- Glue
- Rubber bands
- Lego or Jenga blocks
- erasers
- rulers
- science books
- clipboard
- Question sheet & school map
- lead pencils
- clipboards
- trundle wheels
- one meter rulers
- Department of housing documents
- building plan
- council brochure
- A3 paper
- permanent markers
- aluminum foil
- paddle pop sticks
- clay
- play dough
- sand
- cardboard
- cling wrap
- plastic bottles
- toilet paper rolls
- scissors
- sticky tape
- rubric



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