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| Unit Title  | KLA(s) | Year Level(s) | Duration of Unit  |
| Designing for Needs | Design and Technologies | Year 2 | 6 Weeks |

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| **Curriculum Elements** |
| Foundation to Year 2 Content Descriptions |
| ***Design and Technologies Knowledge and Understanding*** | ***Design and Technologies Processes and Production Skills*** |
| Identify how people design and produce familiar products, services and environments and consider sustainability to meet personal and local community needs [(ACTDEK001)](http://www.australiancurriculum.edu.au/curriculum/contentdescription/ACTDEK001) | Generate, develop and record design ideas through describing, drawing and modelling [(ACTDEP006)](http://www.australiancurriculum.edu.au/curriculum/contentdescription/ACTDEP006) |
| **Key Curriculum ideas** | **Key Curriculum ideas** |
| * Local environments are designed by people for a purpose and meet social needs
* Making design decisions based on personal and family needs
* Exploring and critiquing products, services and environments for their impact on sustainability
 | * Comparing and contrasting features of existing products to provide new ideas
* Exploring design ideas by modeling, and producing and labeling two-dimensional drawings using a range of technologies to show different views
* Recording a judgment about design ideas with teacher guidance
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| **General Capabilities** | **Cross Curriculum Priorities** |
| Literacy* Aims to promote students to becoming effect literacy learners
* Students explore their literacy skills throughout this design resource including writing responses and labeling drawings.

Numeracy * Aims to produce confident numerate students.
* Allows students to engage with several minor math skills and learning through their embedment into activities.

Information and Communication Technology (ICT) Capability * Students will develop, generate, access and communicate through ICTs, completing work and solving problems in technology work.
* The use of video, Interactive Whiteboard and photo taking devices throughout the unit.

Critical and Creative Thinking* Involves students thinking broadly and deeply as they use logic thinking, imagination and innovation to generate and develop design ideas.
* Students will be constantly using technology knowledge gained to create designs and drawings to better equip a house for an individual in a wheelchair, showing their imagination and creativity as they overcome problems.

Personal and Social Capability* Supports students to direct their own learning through planning and carrying out their own projects and become independent learners.
* Students work quite independently throughout this resource, with appropriate prompting and instruction as they learn required skills to be able to complete the final independent project.
 | The cross curriculum priority that is relevant to the selected resource and content description is sustainability. It provides the resource with a minor aim to give students opportunities to develop knowledge, skills and see the value of contributing to a more sustainable way of life.  |

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| Unit Plan Key |
| Blue Text | Possible questions to be posed to students.  |
| Orange Text  | I Do, We Do, You Do identifiers.  |

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| **Sequence Learning**  |
| Learning Experiences and Teaching Strategies | Differentiation  | Resources |
| **Week 1** WALT, WILF & TIB placed up for lesson. View [Thoughtful Design](http://splash.abc.net.au/home#!/media/1662194/) video. Teacher led class discussion around the video they just watched. (I Do/ We Do)* Do you know anybody like Hugo’s Nan?
* Have you ever seen anyone in a wheelchair like Hugo’s Nan?
* Reference students in the school or possible community members.
* Touch on the differences of every individual and the specialised needs that sometimes come with this.

Discussion around the changes that have been made to Hugo’s Nans house to meet her needs. * Re-watch video paying close attention to these alterations.
* Whole class brainstorm on the board.

Extend on Brainstorm * Teacher prompting whole class discussion.
* What did each of these alterations of the house allow for?
* How would quality of life be without these alterations?

Are student’s homes wheelchair friendly? (You Do)* Students are asked to look at their homes before next week and to identify if they could accommodate someone like Hugo’s Nan.
* What changes could you make to your home to allow Hugo’s Nan to get around more easily?
* A sheet with these details is to be sent home as homework so parents are aware of task and can assist.
 | - WALT, WILF & TIB sheets to be placed up to guide students who need extra support to engage with what they are learning. - I Do, We Do, You Do signs to help students focus on what phase of the lesson they are in and the expectations that follow. - Video and audio for visual and auditory learners. - Script of video is also available for possible hearing or visual impaired students. - Re-watching and possible continual access of video for students who may need a longer time to process video information. - Constant questioning to gage where students are at with their understanding. - Activity to take home to console learning and take it to a new environment.  | - Completed WALT, WILF & TIB sheets. - I Do, We Do, You Do signs for student reference.- Video Clip: <http://splash.abc.net.au/home#!/media/1662194/> (1:14)- Access to white board - Homework sheet  |
| **Week 2**Students re-watch [Thoughtful Design](http://splash.abc.net.au/home#!/media/1662194/) video and complete a short question sheet to focus them on units previous learning (You Do). * Share student’s answers with the class.
* Sheets in books to be collected and marked for early feedback.

- What changes have been made to the washing line to make it easier for a person in a wheel chair to use?- The house is all on one level with no steps. Why is that important?- What is clever about the design of the benches in the bathroom and kitchen?WALT, WILF & TIB placed up for lesson.* Make students aware of any changes as they move into new work.

Interactive white board (IWB) game, identifying the most suitable house for a person in a wheelchair (Activity moves through I Do, We Do & You Do phases). * Teacher leads the activity, giving support to whole class moving eventually towards students taking individual turns on the board to select the most suitable images from two pictures on the IWB.
* Students select the most suitable images from two pictures on the IWB, click next to see if their answer is correct.
* Discussions after each response to gage student’s understandings and why they are making these decisions.

Extend on IWB game* Activity progresses as students are asked to compare and contrast the two images.

- Why is one more suitable than the other?- What about picture A makes it hard for a person in a wheelchair?- Why is picture B more accessible? Students work individually with templates of house areas, drawing in details to make them suitable for a person in a wheelchair (You Do). * Students will select a template of a house area (front, kitchen, bathroom, hallway, backyard) and use their learnt knowledge to draw a design of how to make this area more accessible for a person in a wheelchair.
* When a design is completed they will write a short explanation identifying their design choice.
* Students share responses with whole class and generate discussion, reflecting on their new work from this week.
 | - Warm up question sheet to give all students the best chance to be ready and refocused on the units work. - Teacher uses inclusive/fair method for selecting students to share work. - Engaging IWB game to appeal to visual learners. - Extension activities and questioning directed at students who are capable of this higher level. - Students working at a lower level specifically focus on core material, but are not stopped from participating in extension work. - Drawing activity for visual learners or students who struggle to write. - Flexible activity as students will be able to complete varying numbers of templates. - Constant questioning and teacher direction to gage where students are at with their understanding and guide them if needed. | - Completed WALT, WILF & TIB sheets. - I Do, We Do, You Do signs for student reference. - Video Clip: <http://splash.abc.net.au/home#!/media/1662194/> (1:14)- Beginning question sheets, 1 for each student. - IWB game. - Template sheets, multiple copies of each.  |
| **Week 3** WALT, WILF & TIB placed up for lesson.* Make students aware of change to different design needs.

Discuss the different needs of people and design elements to assist them in their homes (I Do, We Do). * Teacher lead class discussion of possible other disabilities that require different needs.

- Visual impairment - Physical ailments- Hearing impaired * Teacher asks students what needs these people may have in their homes, just like Hugo’s Nana did.

IWB game exploring new disabilities (Activity moves through I Do, We Do & You Do phases).* Students work through the game to test their knowledge about these new needs in a home environment.
* Teacher constantly asking students questions keeping the discussion going to get a sense of how students are taking in the new information.

- Pick disability - Picture of house area – what design could help? Click to see answer is correct. * (You Do) Students are given a sheet from the last IWB game slide and draw a possible design adjustment.

- When complete students will write about their design, what need it assists and how design will help. Application in the wider community * Begin to explore places besides the home that people may need design changes.

Identify the major needs of the disabilities and places in our community that these may be an issue. * Students complete a picture presentation that shows ways that these have been included in our community.
* These include picture of

- Public disabled toilets. - Ramps - Sound at light crossings  | - Sources these other needs from students communities. Show real life connections to people with these possible disabilities in there own lives. - Directing specific questions to specific students. Setting students up for successes and guiding them towards understandings that still need to be made. - For students struggling with the learning the sequence of the lesson plan can be altered so that students are not moving onto new disabilities and needs but remained focused only on the needs of people in wheelchairs. Throughout the work that introduces these new needs, wheelchairs will still be discussed and used, some students will solely focus on these examples which other students can move on. - Learning activities inclusion of real life wider community elements to help students connect to the work.  | - Completed WALT, WILF & TIB sheets. - I Do, We Do, You Do signs for student reference. - IWB game 2.- Sheet from IWB game to fill out. To be collected and marked for feedback. - Picture slide show  |
| **Week 4** To extend on looking at the wider community students spend the next lessons examining a familiar area, their school. * Teacher takes students walking around their school to examine and identify both where adjustments have been made to meet particular peoples needs, and where problems could be found.

- Wheelchair access toilets. - Ramps - Railings - Only steps to access particular areas of the school- Narrow hallways and doorways - High-leveled sinks.* Students use iPads or cameras to document their findings.
* Many discussions are had at each place students or teacher identifies.

- Students are encouraged to look around and use their knowledge in this out of classroom context. Students begin their assessment of a school area. * Whole class reviews photos and teacher picks some of the best areas and potential problems found.
* Class discussion about each of these areas, the problems with and possible design solutions.

- A building only accessible by stairs could be designed to include a ramp so people that have trouble walking up and down stairs would not be disadvantaged. - If you could redesign this area, just like you did with our house drawing areas what would you do? * These images are displayed for students and they are able to pick one to focus on.
 | - Students to move around the school in groups, not straying too far away from the teacher. Groups assigned by the teacher ensuring an appropriate mix of abilities in each. - Students choose or teacher decides which photo and area for students to focus on. - A particular area might be deemed more simple than others so some students should focus on that while other should avoid and challenge themselves. - Teacher may wish to differentiate and pair some students together on the same photo for peer assistance.  | - iPads or cameras - Books for note taking- Copies of students photos on teacher computer to be used on IWB. - Record of which students want to focus on which area.  |
| **Week 5**Students work through assessment. * Students are given a copy of their selected image and work on drawing a design to make it more accessible for a person with their chosen need.
* When design is completed students are to write several sentences explaining their designs.

- What it is your design?- Who it is for? - How it is used?- How it will your design help people?* Drafts are completed first so students can show teacher for making before moving onto a final copy.
* Teacher displays the main ideas from their learning on the board for students to refer to while they are completing their designs.
 | - Accepted sentence quality and quantity varies between students. There is no mandatory number of sentences or limit ensuring that students complete the task to the best of their abilities.  - Draft copy to ensure students are provided with appropriate feedback when they show the teacher and get their draft marked.  | - Student copy of selected class image. - Lined paper for students to write sentences on. - Main ideas from their learning for display on the board. - Collect drafts for making and feedback.  |
| **Week 6** Students have a last chance to complete any final aspect of their design and written explanation. Once all work is completed students present their working, giving an oral explanation about their design to the class.  | - All students to present a short presentation of their work. - Some may present independently while some may require prompts and assistance from teacher.  | - All students final design copies.  |

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| Feedback |
| Monitor Learning and Assessment  |
| * WALT, WILF & TIB each lesson.
* Verbal feedback constantly during all lessons.
* Individual feedback when students are presenting in front of peers, selecting answer from IWB activities or asking questions.
* Written feedback of marked class work.
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