

Kaumātua The Elderly

Some elderly can feel isolated from the community that they live in. What can be done to support them?

Focus

The elderly have confronted many challenges over the course of their lives. They all have succeeded and all at times have been denied access to achieve.

Students are to consider how they can support the elderly. Each of the suggested activities enable ākongā to get involved and make a difference to their own and others' lives.

Horopaki Learning contexts

Choose a learning context:

Design a mechanism

The elderly sometimes drop things and find it difficult to pick these items up from the floor. Grandparents are often looking for ways to entertain their grandchildren.

Make a safety solution

Electricity and home security systems are important for the welfare of the elderly. There are times when we experience a power cut or need to stop unwanted guests from entering the home.

Design an entertainment solution

Many elderly people like to have something new to do. They enjoy hands-on creative activities that help improve their motor skills, increase their memory and reduce stress.

Create a food solution

The elderly are often looking for something to put meals on when in bed or when seated in front of the TV. When in the kitchen cooking, they need to keep their best recipes off the kitchen bench when preparing food.

Links

[Technology in the New Zealand curriculum](#)
[Glossary of technological terms](#)

Elderly Kaumātua	Electric vehicles Waka hiko	Feed the team Whangāia
Health Hauora	Identity Tuakiri	Plastic Kirihou
Rubbish overload Tūwhiti rāpihi	Shelter Tāwharau	Transportation Waka
	Water Wai	

Keen to find more resources? Go to the [authentic curriculum resources on the Grow Waitaha website](#) and select the Year 7/8 technology resources filter.

[#growrealllearning](#)

[#growcollaboration](#)



The Context/Horopaki: The elderly sometimes drop things and find it difficult to pick these items up from the floor. Grandparents are always looking for ways to entertain their grandchildren.

The Brief 1: You are to design and model a device to help the elderly pick up a range of objects from the floor/ground.

The Brief 2: You are to design and model a fun marble run that can be shared with the elderly. All ages will enjoy this.

(WALT) We are learning to:

- **identify basic movements** within mechanisms that can be used to create a simple device
- **use functional modelling** to improve a tech outcome.



Activity 1 Floor grabber

Watch video clips 1–2

1. Using video 2 (below), follow the steps to create your basic grabber.
2. Cut the cardboard to form the main structural parts for your grabber. Alternatively, you can use tightly rolled up paper (conversion: 1 inch = 25.4 mm).
3. Cut strips to form the main body of the grabber. Following the step-by-step instructions shown in the video clip, use tape, skewers/paper pins to attach the cardboard to form the mechanism of the grabber.
4. Get busy creating different jaws to pick up different objects.
5. Write a brief comment about how it operates.
6. Take pictures of the outcome and share these and your evaluation with your teacher.

Activity 2 Marble runs

Watch video clips 3–4

1. Using videos 3–4, create a marble run. The marble must run for 30 seconds.
2. Use a cardboard box to form the main structure.
3. Cut additional tracks from a second cardboard box. Tape these to the main box to create a marble run.
4. Test your design. Place a marble at the top of the run and time how long it takes it to reach the bottom.
5. Keep improving your design until the marble takes exactly 30 seconds to reach the bottom.
6. Video your outcome and share it with your teacher.

Digital video resources/Rauemi

1. How to make a simple robotic arm/grabber
<https://www.youtube.com/watch?v=6r4bVCpisMM>
2. Grabber out of cardboard
https://www.youtube.com/watch?v=aNUkqJ_xOq8
3. Marble run fun
<https://www.youtube.com/watch?v=liFpLbN3UDQ>
4. Making a marble run
<https://www.youtube.com/watch?v=IN0Wn0XgPXQ>



Material

resources/Rauemi

Cardboard
Medium to large cardboard box
Marbles
Paper pins or wooden food skewers
Rubber bands
Ruler
Tape
Scissors





The Context/Horopaki: Electricity and home security systems are important for the welfare of the elderly. At some time in our lives, we are all challenged when the power goes off for a long time. Our homes here in Aotearoa New Zealand are reasonably secure nowadays, however, there are times when we need to stop unwanted guests from entering the home.

The Brief 1: You are to create a safety plan for the elderly so they can access temporary lighting during a power outage.

Attributes: light units should be light weight, easy to turn on/off, and may be solar powered or battery powered.

The Brief 2: You are to research simple ways to make our homes secure i.e. gates, doors, windows, locks, catches, stays. You are to plan and produce a 30-second video explaining how the elderly can make their home secure.



(WALT) We are learning to:

- **evaluate** home safety in the event of a power outage
- **create** a safety plan
- **plan** and produce a simple home security video.



Activity 1 Safety plan

1. Discuss with whānau members what they see as important places a light could be located to help the elderly during a power outage. Identify at least 3 important places.
2. Sketch several ideas (concepts) of where these temporary lights/torches would be best located in a home. Remember that the power can go out at any time, when watching TV, when in bed, when cooking tea etc.
3. Have others comment on your safe-lighting plan. Make a final sketch showing the position of the lights.
4. Write a statement as to why you have selected these positions and what type of lights you recommend.

Activity 2 Home security video

1. Create a 30-second video to promote security of the home for elderly people.
2. Discuss with the whānau how they would make the home safe and secure. Make a list of these to guide you when designing the content for your video, e.g. simple ways to prevent doors from opening, wedges, stays, chains on gates.
3. Sketch several ideas (concepts) of where best around the home to put these.
4. Script the message to be used in the video. Practice the script. Have someone record you delivering your script. Review this and if necessary, re-record.
5. Be creative. Dress-up. Think about backgrounds.



Resources/Rauemi

Torches

<https://www.mitre10.co.nz/shop/electrical-hardware/torches-worklights/torches/c/RF5381>





The Context/Horopaki: The elderly are always looking for something to put kai (food) on when in bed or when seated in front of the TV. When in the wharekai (kitchen) cooking, they need to keep their best recipes safe when cooking.

The Brief 1: You are to design and create a 3D-cardboard model of a tray that will be used to serve kai on while a person is in bed or sitting in an armchair watching TV. The elderly requires a product/tray that is stable, and big enough to hold a dinner plate, knife, fork, spoon, cell phone, TV remote and a glass or cup. Think beyond the use of a flat surface.

The Brief 2: You have been asked to create a book holder/recipe book stand for an elderly person that will allow them to read while using their hands for the preparation of kai. You are to design and create a 3D-cardboard model of the chosen design.

(WALT) We are learning to:

- **identify basic ergonomics** and product design features where spaces and environments influence how people use specific outcomes
- **consider what makes an attribute key** (important) to the design outcome
- **make a model** of a design concept that will be used to resolve a brief.



Activity 1 - Tray

1. Discuss with whānau members the important attributes of a tray that would be used in bed or to eat dinner in the family room.
2. Measure the items that would be used on the tray. Record the measurements.
3. Sketch several ideas (concepts) of how to make the tray stable when being used in bed or on lounge furniture. Have others comment on your designs.
4. Make a final sketch showing the major measurements and how it would work if parts fold or extend.
5. Watch the video clips below before modelling. Make a cardboard model of your final design.
6. Take a picture and share it with your kaiako.
7. When you return to school, bring your cardboard outcome to share with the class.

Activity 2 - Recipe Book/IPAD Stand

1. Discuss with people who prepare kai in your whānau what they see as important attributes of a recipe stand. A wharekai can be a messy, wet environment. Write these attributes down to evaluate the outcome during the design phase.
2. Develop your concept. Watch the video clips below before modelling. Sketch several ideas (concepts) of how to make the book stand stable when being used. Have others give feedback on your designs.
3. Make a final sketch showing the major measurements. Add a graphic to personalize the stand.
4. Make a 3D cardboard model of your final design.
5. Take a picture and share it with your kaiako (teacher).

Resources/Rauemi

Cardboard, sketch pad, scissors, glue, glue sticks, tape, pencils, pens

Cardboard modelling <https://www.youtube.com/watch?v=z0nhQonMbH8>

Cardboard modelling https://www.youtube.com/watch?v=k_9Q-KDSb9o



The Context/Horopaki: Kaumātua are always looking for something new to do. They enjoy hands-on creative activities that help improve their motor skills, increase their memory and reduce stress.

The Brief: You are to consider how you can support our kaumātua as they occupy their days. You are to create an outcome to share with them that will encourage them to get involved.

(WALT) We are learning to:

- **create putiputi**/flax roses that will be given to the kaumātua using native harakeke (flax) found in Aotearoa
- **create and personalize** a spinner that reflects the personality of a kaumātua (elderly person) that you know



Activity 1 Harakeke putiputi

1. Discuss with people at home the things they have seen made from harakeke (flax), a plant found in most areas of Aotearoa New Zealand. Write a list of these and what they were used for. We will share these when online.
2. Watch the two video clips on how to make a putiputi (flax rose). Decide which video is easiest for you to follow.
3. Follow the instructions to make 2–4 putiputi/flowers from harakeke (flax). Where possible, create these with kaumātua (elderly person).
4. Take a picture of the completed putiputi and share it with your kaiako (teacher).
5. Bring the putiputi to school so your class can combine them to gift to a local retirement home.

Activity 2 Table spinner

1. Watch the video clip 'How to make a spinner' and follow the instructions.
2. Do some research with a kaumātua (your stakeholder). If you are unable to contact an elderly person, talk with a parent or caregiver. Have them describe the attributes of the design they would like on the upper and lower surfaces. These attributes could be colourful, geometric shapes, sketches of animals, pictures of flowers etc. Write these down.
3. Sketch two possible ideas and ask your kaumātua which one they prefer.
4. Use their feedback to create the spinner using the key attributes. Where possible create this with kaumātua.
5. Take a picture of the spinner, record your stakeholder's feedback and share them with your kaiako (teacher).

Digital resources/Rauemi

1 How to make a putiputi (flax rose)

<https://www.landcareresearch.co.nz/resources/collections/harakeke/video/putiputi-rose>

https://www.youtube.com/watch?v=b0-56s2_BNw

2 How to make a harakeke/flax lily

<https://www.youtube.com/watch?v=NQldUF3zGis>

3 Raranga ika - How to make a simple fish out of flax

https://www.youtube.com/watch?v=Cop_PaofNw4

4 How to make a spinner

<https://www.youtube.com/watch?v=LSCchobdikY>



Material resources/Rauemi

Putiputi/flax rose

Harakeke/flax and scissors

Spinner

Cardboard, scissors, glue sticks, pencils, pens, CD/DVD, a 10 or 20 cent coin.

