

A MAP
OF A
**DREAM
OF THE
FUTURE**



AN EDUCATION KIT EXPLORING

ISLAND LIFE

CLIMATE CHANGE

RESILIENCE

designed for
Tasmanian
students in
Grade 5 + 6

ACKNOWLEDGMENTS

A Map of a Dream of the Future (AMDF) is a collaboration between Tasmanian Regional Arts (TRA) and the School of Geography and Environmental Studies at the University of Tasmania (UTAS). The original concept was developed by Associate Professor Elaine Stratford with input from Neil Cameron and Angela Barrington. The project team includes the TRA Director Paul Jenkins, Project Manager Kate McDonald, Concept Artist Nicolas Low, Education Coordinator Josie Hurst, artist and designer Nadine Kessler, writer Heidi Douglas and sustainability psychologist Tim Cotter. This endeavour has been supported by a Project Advisory Group comprising theatre director, teacher, author and consultant Neil Cameron; King Island Arts and Cultural Officer and King Island Cultural Centre Coordinator Sally Marsden; Lecturer in History and Theory, School of Visual and Performing Arts, UTAS Dr Deb Malor; Lecturer and Head of Photomedia, School of Visual and Performing Arts, UTAS Dr Troy Ruffels; visual artist and cultural producer Sarah Howell; educator Anna Patifis and new media artist Dr Martin Walch. Assisting the development of the final art installation are Junction 2010 Conference Coordinator Angela Driver and Artistic Director Ian Pidd.

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CONTACT AND SUPPORT

Please visit the website www.mdfproject.com or send an email to fresh@tasregionalarts.org.au for more information about the project, *A Map of a Dream of the Future*, or about the Education Kit.

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Australian National Commission for UNESCO

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CLIMATE CHANGE AND RESILIENCE

– POSITIVE MESSAGES FOR YOUNG TASMANIANS

ABOUT ISLANDS AND WHY THEY MATTER IN A CHANGING CLIMATE

There are 500 million island peoples around the world – 10 per cent of the globe's total human population. They live in 43 island nations, and on many islands that are part of continental nations such as the United States or France. Tasmania is one of these islands: a part of but separate to the rest of Australia. Tasmania itself is a group of islands – over 330 of them – and 'islandness' is a very important part of Tasmanian identity.

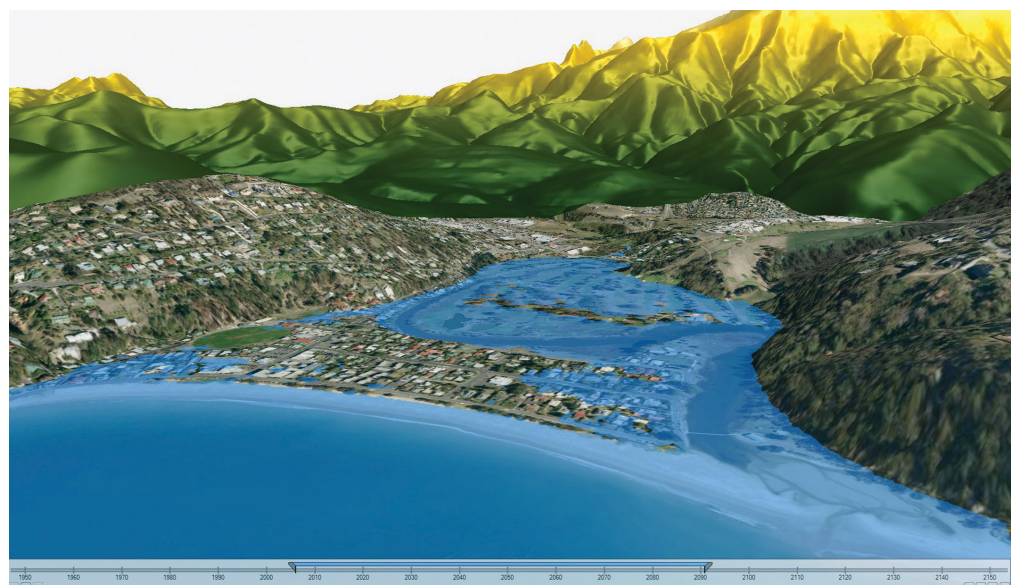
Islands are unique places, defined as areas of land smaller than continents and surrounded completely by water. They exist from the Arctic to the Antarctic, from the cold reaches to the tropics. They include coral atolls that are less than three metres above sea level, and mountainous landforms several hundred metres high. Some of these areas of land, such as Manhattan, hardly resemble islands, have very large urban populations, and seem to be the centre of the world. Others, such as the United Kingdom's Tristan de Cunha in the South Atlantic, are thousands of kilometres away from their 'mother country', and are so remote that few people have heard of them.

Australia is the island continent of over 8200 islands, islets and rocky outcrops, where 85% of the population lives on the coast. Coastal land is highly desirable, in great demand and will be the subject of significant conflict when sea levels rise. Islands are often home to species of animals and plants that do not exist anywhere else. In this sense, islands are also very vulnerable to change, and many have experienced high levels of extinction of species, especially since colonial times.

Islanders are often said to have a strong sense of place. This island sense of place is often labelled 'islandness' and is said to be characterised by resilience, innovation, self-sufficiency and independence. Such qualities are going to be of paramount value in a changing climate.

**High (or extreme) scenario
for sea level rise at the year
2090 at Kingston Beach,
Tasmania**

*image © Eonfusion – Myriax
Software Pty. Ltd, Hobart
– data supplied by ACE-CRC:
Climate Futures program for
supplying terrain imagery*



A MAP OF A DREAM OF THE FUTURE

ABOUT THE PROJECT

This Education Kit is designed to be used by teachers to conduct creative activities within the classroom and is part of a State-wide art and education project called *Fresh: A Map of a Dream of the Future*. Developed for students in grades 5 and 6, its purpose is to raise the conversation of climate change to foster resilience rather than pessimism in imagination and opinion.

Artist Nadine Kessler and Writer Heidi Douglas will conduct workshops to develop creative responses, in at least four primary schools in regional Tasmania – one at each point of the map. The outcomes from these workshops will be presented to the schools' local communities. If you would like a workshop at your school please contact fresh@tasregionalarts.org.au as soon as possible and we will be happy to discuss your ideas with you.

All teachers who use this Education Kit are asked to send their students' work and completed surveys to UTAS in the self-addressed stamped envelopes provided. Their work then will be compiled and uploaded into a interactive website where it will build a conceptual 'map' allowing the students, and the community at large, to see the thoughts and opinions from this age group throughout Tasmania.

The answers provided by students in the surveys then will be quantified and represented in an art installation by Artist Nicolas Low, to be presented at the Australian Regional Art Conference Junction 2010, in Launceston, Tasmania during August 2010.

A MAP OF A DREAM OF THE FUTURE

THE EDUCATION KIT

What impact will climate change have on Tasmania and how will we need to adapt?
This Education Kit presents that question to students using stories of an imagined future in a local community. As students hear successive stories, a series of creative exercises gives them a chance to respond to the four topics raised: transport, food and water, migration, and shelter. It is important that you, the teacher, conduct each module in the order provided so you follow the story sequentially.

You, the teacher, are given a discussion outline at the start of each topic and writing, image making and performance exercises. We ask you to give the students a survey on the completion of each unit, and conduct a final conversation to discuss how we can adapt to each climate change issue today and not just in the future.

The total time for each topic is approximately 100 minutes, broken into components for you to schedule into your classroom program. How you integrate this Kit into your timetable is entirely up to you; you can go through all the exercises at once over two half days, or you could do one exercise at a time over several weeks. We ask that you complete the exercises and post the work in the self-addressed stamped envelopes by **30 June 2010**, so that your students' work and survey responses can be part of the installation at the Junction 2010 conference.

ANTICIPATED LEARNING OUTCOMES

Several curricula are covered in this Education Kit; and with a strong focus on problem solving and creativity, the Thinking Curriculum is strongly integrated within each subject. The key criteria to which this Kit directly relates are:

SOCIETY AND HISTORY

World and the Environment

History and Ideas

ARTS CURRICULUM

Drama

Visual Arts

ENGLISH AND LITERACY

Reflecting, negotiating and collaborating

Writing and Representing

Speaking and Listening

HEALTH AND WELLBEING

Emotional Health

Spiritual Health

Mindful of these curricula, this Kit will enable teachers to help students explore a number of key points, as follows:

THE NEED TO ADAPT AND BE RESILIENT: Whatever happens with our climate in the next thirty years, change is going to happen, and when it does, we will want to be ready! Using our imaginations, our knowledge and our skills, we can think about how we want to live in the future. Being prepared for change and understanding how we can adapt is vital.

CLIMATE AND WEATHER: Weather is what's happening right now – sunny, cloudy, rainy, hot or cold. It changes every day. Climate is what happens in a place over a period of years; this means the average temperature, rainfall and sunshine hours, weather sequences such as spring, winter, summer and autumn, and the likelihood of weather events such as storms, droughts or floods.

CLIMATE CHANGE: The Earth's climate has warmed by 1 degree over the last 100 years, and is predicted to get hotter. The vast majority of the world's scientists agree that humans have caused this rise in temperature. The main cause of this rise is the presence of destabilising amounts of climate gases, created primarily by burning fossil fuels. Climate gases raise the global temperature by trapping heat in the atmosphere.

TASMANIA IS AN ISLAND, AND IS LIKELY TO BE AFFECTED BY CLIMATE CHANGE IN WAYS THAT DIFFER TO MAINLAND AUSTRALIA: Tasmania is completely surrounded by water. Its status as an island means it is more susceptible to coastal changes. As temperatures rise and water is depleted on the mainland, Tasmania may also become more attractive for migration. Social values to think about include independence, self-reliance, resilience, cooperation, sharing and innovation; as well as isolation, deprivation and loneliness.

EFFECTS OF CLIMATE CHANGE: In the next fifty years, the climate in Tasmania is likely going to change. Scientists cannot predict exactly how, but it is likely that:

- temperatures are likely continue to rise, leading to more days of very high temperatures;
- sea levels are likely to rise as glaciers continue to melt due to rising temperatures. Coastal areas may flood, forcing people living on the coast to move and abandon existing houses and towns, farms and other property types;
- areas of land that were once connected to Tasmania, such as peninsulas, may become separate islands;
- the types of food that can be grown in Tasmania may change;
- some species of animals and plants may be unable to survive, and may become extinct; other species that previously could not live in Tasmania because of the cold may arrive with a warmer climate;
- there may be an increase in dangerous weather events, such as cyclones, storms, droughts and floods;
- there may be large numbers of climate refugees – people who are forced to move because they can no longer survive in their current homes; many of these refugees may come from developing countries and be less able to deal with the effects of climate change because of their circumstances.

RESPONSES TO CLIMATE CHANGE: People, their communities and their governments will be forced to make significant changes to how we live to address some of the dangerous effects of climate change. These changes might include:

- reducing the amount of fossil fuels we burn such as changing the cars we drive, the planes we fly and how our food and goods are transported around the country;
- changing the food we eat and from where we get it;
- being very careful about how we use and conserve water;
- using less energy at home;
- finding new sources of electricity to those which create a lot of climate pollution;
- changing where we live.

WEB LINKS CLIMATE CHANGE

Department of Climate Change, Australian Government www.climatechange.gov.au

Earn your stars, Government of Tasmania www.climatechange.tas.gov.au

Climate Change, Local Government Association of Tasmania www.lgat.tas.gov.au/site/page.cfm?u=540

Sustainable Living Tasmania www.tasmanianenvironmentcentre.org.au

ABC Environment Interactive Timeline www.abc.net.au/environment/cc_timeline.html

HOW TO USE THIS KIT

The story in this Kit comprises five narratives. You may choose to read all five and complete the exercises for each. You may choose just one or two narratives and associated exercises. If you do, please read the whole story first, since it works as a series of interdependent parts.

1 MAKE IT LOCAL

Feel free to modify the five narratives to reflect your local community.

2 STORY TIME

Begin each module by reading that session's narrative to the class.

3 EXERCISES

Complete each of the four modules in the order provided in the Kit to ensure continuity of the story. Go through the exercises in the step-by-step instructions provided, starting and finishing with a class discussion. The introductory narrative has no exercise.

4 SURVEY

Give each student a survey to complete at the end of each module. The introductory narrative has no survey.

5 TAKING PART IN A STATE-WIDE EVENT

We want to know what your students think. We ask that, before the 30 June 2010, selected copies of the students' written pieces, artwork and completed surveys be sent to the University of Tasmania in the self-addressed envelopes provided. We then will upload them to an interactive website that links to our website for students to see their work and the work of their peers. Their ideas will also enrich an art installation to be opened in Launceston during the Australian Regional Arts Conference Junction 10 in August 2010.

GO TO www.mdfproject.com FOR MORE INFORMATION ON THIS PROJECT, AND FOLLOW THE 'FOR TEACHERS' LINK.

This Education Kit also provides a list of websites that relate to the issues covered. This information is just some of that available online; we have provided the links for further reading. The websites are owned and maintained by external providers, so we are unable to guarantee that they will remain active or current.

INTRODUCTORY

NARRATIVE

Exercise - Ask the students to lie down on the floor. Darken the room. Encourage your students to take deep breaths and relax while you tell them a story. Give the students a few moments of calm silence before reading to them.

Story opening (recommended):

I am going to tell you a story. Listen to me now and together we will travel into the future. It is 2090, and many things about the world have changed. There are many new sights, sounds and smells that you have never before experienced. Together, we will explore this world and then bring back stories of our adventures to share.

May, 2090.

It's an early morning in May and you, Kené and Ruby are travelling along the beach on your way to school. It's low tide on a beautiful warm day. Waves lap at the shore. Small boats pass back and forth to the island in the bay, powered by sails, paddles and the gentle hum of salt-exchange engines. Colourful flags flap in the breeze, marking the way along the water path.

You're following the coastline, bending and curving past where the old town centre used to be before the sea levels rose. The buildings that once stood there have been pulled down and the materials reused in the new houses that dot the hills. You pass the Tide Monument on your right, floating in the sea to mark where people used to live and work in the old days.

Ruby is out in front, as usual, zipping back and forth across the beach and the sea, pulling tricks on her wave-board. She has black hair, and a map of freckles across her nose. She's always in trouble for breaking the kids' speed limit, or charging off on her own to explore the islands that sit on the horizon. Kené's a fair way back down the beach. He's got curly black hair and brown eyes. His parents came from Africa because of the climate changes. He can never go more than five metres without jumping off his old grey horse to look at a crazy bug that's caught his eye, or to pick flowers to sell at the market.

There is still an hour before you have to be at school. It's such a nice day you decide to stop. While the others are playing, you lie on your tummy and watch the boats drifting in the bay. It's so warm there in the sun and you're so sleepy. Before you know it, you've drifted off into a dream.

“Wake up,” cries Ruby. “Wake up!” You blink your eyes open into the sunlight and see her and Kené grinning down at you. You’d fallen asleep on the beach.

“I was having the strangest dream,” you tell them. “It was about the old times, you know, before all the climate changes.” Ruby cocks her head to one side, squinting with curiosity.

“I dreamed I was in a world filled with strange, rumbling mechanical creatures that travelled on wheels,” you tell them, “and I was lost. I walked along a path for a long time but no one stopped to talk to me. The people were all shut away inside these metal contraptions, and the air was thick with smoke. And I couldn’t find anything to eat – I couldn’t see any gardens or fruit trees, just roads and buildings.”

“Spooky,” says Kené in amazement. “I wonder what it means. That sounds a bit like what our town used to be like in Great Auntie’s stories.”

Great Auntie is not really Kené’s auntie. Everyone calls her Auntie because she’s 99 years old and full of wisdom. Great Auntie lived through all the changes. Plenty of nights are spent sitting round the fire, listening to her tell stories of the old ways.

Ruby reaches down and pokes you in the tummy. “Come on, sleepy,” she says. “We’re going to be late for school.” She jumps onto her wave board and hums off up the beach. Kené climbs onto his horse, and you all set off. You’re about to ask Kené what he’s going to have for lunch when there’s a yelp and a loud splash. You both look up and see Ruby bobbing in the water.

Before you can say anything, she lifts her head from the water and grins. “I’m okay. But come have a look – there’s something in the water here! My board clipped it on the way past.”

You and Kené head over to where Ruby has swum ashore. You pull your zoom-lens from your pocket, switch the dial to ‘underwater’ and look at where she’s pointing. Suddenly you can see the blue-green water below the waves. Resting on the bottom just beneath the surface, glinting in the filtered light, is a strange sight: a big, rusty metal contraption, covered in barnacles and seaweed. Weird! You zoom in. The thing has wheels at its base. A couple of sea-sponges have made a home in what might have once been seats. And then you realise – it looks just like the things from your dream!

You hand the zoom-lens to Kené. He scans the waves. “Wow. I remember Great Auntie talking about these things from before the climate change,” he says. “Cars!” you say! They’re only in museums these days. What’s one doing out here in the ocean? I dream about them, and now we find one. I have to ask Great Auntie what it all means.”

While you're getting excited at your discovery, you notice a dozen or so lights flash up on your in-eye display, showing that your friends have got the news via the info system. Everyone's connected to their friends and family all the time – and when someone makes a discovery, everyone knows. You can see other kids are heading your way, and a couple of teachers have registered the find as well.

Ruby's jiggling up and down, her ponytail bobbing enthusiastically. "Let's go check it out," she says. "Let's not wait for everyone else. We can scoot out over the waves then dive down and have a look, and mark it on the map and get back to school in time for class. Easy!"

Kené looks at the time readout in his display and shakes his head. He runs his hand through his hair and gives her a serious look. "Ruby, slow down. We've got to be at school in 10 minutes. We're taking the school garden's vegetables to the markets today. And I can't get out there on Brandy." He pats his horse on the neck. "She's afraid of waves. They give her hiccups."

Ruby just grins. "That's cool. Leave her here to munch on seaweed and jump on with me. Or just swim – it's not far out. And they won't mind if we're late. We'll tell them we've made a discovery of national importance. C'mon!"

Story closing (recommended):

Now students, it is time to come back from the future into the present moment. Take with you all the sights and sounds of the new place where you have been. I will turn on the lights in a few moments, and I want you to join us here to share what you have learned.

Exercise - Give the students a few moments of calm silence before turning on the lights. Gather the students together, preferably into a circle, to lead a discussion with them about the issues raised in the story.

TRANSPORT

NARRATIVE



Exercise - Ask the students to lie down on the floor. Darken the room. Encourage your students to take deep breaths and relax while you tell them a story. Give the students a few moments of calm silence before reading to them.

Story opening (recommended):

I am going to tell you a story. Listen to me now and together we will travel into the future. It is 2090, and many things about the world have changed. There are many new sights, sounds and smells that you have never before experienced. Together, we will explore this world and then bring back stories of our adventures to share. Let's go!

You're all about to go racing out over the waves when the smiling face of Chris, one of your teachers, appears in your displays. He's got bright red hair, a short red beard and freckles, and loves exploring. "Hold up, guys!" he says. "Looks like you've found something

interesting but don't go racing off on your own. Hang on a second." He seems intrigued.

There's a pause as your teachers have a private conversation and then the face of Paula, your other teacher, appears on screen. She's quite serious, but she has a twinkle in her eye. "Hi everyone," she says. "We've had a look at the map database, and it looks like there used to be a building there, from before the sea levels rose. It was built in the year 2010. So, we're going on a class trip to explore." She marks the point on her map, and sends the coordinates out to the whole class. "Everyone grab your masks and flippers, and meet at the beach. This is going to be fun!"

Your whole class starts to arrive. Some come flying over the waves; some kids are hovering just above the surface of the land; some arrive together in a big long convoy of different electric bikes that have joined together to make a train. Others come wandering on foot, or gallop down through the farmland around the beach on horseback.

"Morning!" they call out to each other.

"Morning! Bet there's treasure down there!"

"Yeah – imagine if there was heaps of plastic. We'd be rich!"

They haul on their dive suits, talking loudly about what they might find. Plastic hasn't been manufactured for fifty years. Plastic bottles and containers are rare antiques these days and people are always hoping to find them when they walk along a beach.

When everyone is ready to go, Paul and Chris gather the class around. "All right!" says Paula, pointing to the rusty metal shape just visible in the shallows. "We've got to be at the market by lunch-time, so we've got an hour. Now, who knows what this thing is?"

"It's Kené's house!" yells Ruby. Kené's ears go red.

"Ruby!" Paula glares at her. "That's not funny. Say you're sorry."

"Sorry," she says to Kené. "It's not Kené's house. It's your house, Paula."

There's a crackling sound, and Ruby's face falls as her display shuts down. Paula just looks at Ruby and raises her eyebrows. Paula has disconnected her from the news system for her behaviour.

"As I was saying, who knows what this thing is?"

"It's a car," says Kené. "Great Auntie talks about them some times. I've seen pictures from back where my parents came from too." Kené's parents came from Namibia, after the climate changes made it too difficult to stay in the region where they lived.

“That’s right,” says Paula. “But you wouldn’t be able to drive it by yourselves. Only adults were allowed to drive cars. Cars used a lot of energy to make and to run, they were often crashing into things, and here’s the strangest part of all: they created climate gases!”

There’s a murmur from the class. That was a pretty strange idea. Nothing causes climate gases these days.

“Then why were they allowed?” you ask.

“That’s a good question,” says Chris. “They didn’t know about climate gases back then. They were the first type of vehicle in which it was fast to travel, and that most people could afford. Everyone had one, and there were roads everywhere.”

The old-style roads that cars needed are long gone now. All the space between your houses, all the strip gardens and playgrounds and tech hubs, all that land used to be taken by roads. It’s a good thing we don’t need them any more.” He turns and points to the line-up of vehicles along the beach. “Look at all the new ways we’ve got of travelling. Every one of them different, every one of them is climate safe. Things have come a long way.”

You’re wondering what life would have been like back then when the world was full of cars and roads, and thinking you should ask Great Auntie about it, when someone taps you on the shoulder. You turn, to find Ruby and Kené standing behind you. “Hey,” whispers Ruby, too quiet for the news system to pick up. “Let’s go for a swim out to the car.”

Very carefully, the three of you sidle backwards to the water’s edge. You pull down your mask, grin at your friends and paddle out into the water as quietly as you can. It’s time to go diving!

Story closing (recommended):

Now students, it is time to come back from the future into the present moment. Take with you all the sights and sounds of the new place where you have been. I will turn on the lights in a few moments, and I want you to join us here to share what you have learned.

Exercise - Give the students a few moments of calm silence before turning on the lights. Gather the students together, preferably into a circle, to lead a discussion with them about the issues raised in the story.

TRANSPORT EXERCISES



15 minutes

Material

- No materials required

DISCUSS

Having read the appropriate narrative to the class, start a discussion by asking the group if someone can explain the story they just heard and can identify the key issues.

Ask the group what different kinds of transport exist today. You can spark the discussion by suggesting a few examples, such as a skateboard, donkey, on-foot, kayak, hot-air balloon, train and so on.

Ask the group to consider how one might weigh-up the differences between the types of transports – for example a car gives you freedom to go where you want but uses lots of petrol for a small group of people, makes lots of noise, can be involved in many accidents and needs parking spaces. A train can take many people to far destinations quickly, but needs lots of infrastructure and uses fuel. A bicycle doesn't use fuel, helps to keep you fit but takes time to cover long distances. Discuss the characteristics of other transport methods suggested by the students.

Key issues and debates to help you guide student discussion

– Social values important to transport on an island include isolation, connectedness, the desire for speed and quickly reaching your destination, the desire to travel slowly and value the journey.

– Burning fossil fuels create climate gases. We need to find new fuel sources and forms of transport, and reduce how far and often we travel.

– Many people are experimenting with new types of vehicles, and fuels for powering them, including hydrogen, solar and bio-diesel fuels. Human-powered vehicles such as bikes are increasingly popular.

– Large-scale public transport is among the ways to combat climate change. It is efficient and can be inexpensive for us if subsidised by government and/or private enterprise, but is hard to create where demand seems limited.

– Rising temperatures, increases in rainfall and storms caused by climate change will affect existing transport networks.

– The cheap and easy movement of people and goods presently is possible only through fossil fuel consumption. Will we be able to travel as much?



20 minutes

Material

- Lined paper and pencil for each student
- A handful of erasers and sharpeners to share

WRITE

Ask the students to write a short story (up to a page) about travelling to school in the year 2090. Tell them that their mode of transport has been designed to avoid generating climate gases – what will it be like? Do they travel on the land, through the air, underground or underwater? What creates the energy for the transport to work? For example, do they peddle, or is there a type of fuel or other system they think may work? Do they travel far or do they live close by?



20 minutes

Material

- 5 - 8 sheets of A3 or larger pieces of paper
- Blu-tack
- Your choice of drawing materials such as colour pencils and crayons

CREATE

Pin up several sheets of A3 paper in a line to create a long mural. Draw an image of a house at one end of the mural and an image of a school at the other, connecting the two pictures with a drawing of a long and winding pathway. Ask the students to draw their mode of transport on an A4 sheet of paper and describe the main features in dot points next to the image. Cut out their completed work and blu-tack it to the pathway to create a class mural.



25 minutes

Material

- No materials required

PERFORM

Put the students into groups of three or four. Ask them to select one mode of transport designed by a student in their group and to create a short performance in the form of a news report that features their chosen transport. How they do this is up to the students – it could be a panel of experts discussing the pros and cons or perhaps a presenter who interviews the maker and transport owner; somehow they need to get the message about the features that make this transport so sound. Give the students 10 minutes preparation time, after which they present their news feature to the class.



10 minutes

Material

- No materials required

FINAL DISCUSSION

It is good to think about the transport we could make in the future to adapt to climate change. Now, however, ask the students to consider some of the things we can do with our transport today to limit climate change? Some suggestions could be for us to walk or ride a bike, use public transport, and carpool to school or work.



10 minutes

Material

- Survey, blank CD + self-addressed envelope provided in the Kit
- Computer + scanner

SURVEY

Hand out a Transport survey to each student to complete.

Post the surveys to the University of Tasmania in the self-addressed envelopes provided in the Kit. Scan a copy of the students' artwork and stories, burn them on to the blank CD provided, and include the CD with the surveys. If more than one class is working on the module please send in your completed surveys together.

WEB LINKS TRANSPORT

Energy efficient cars www.csiro.au/science/EnergyEfficientVehicles.html

Energy efficient and unusual transport www.tomw.net.au/tecnology/transport

Institute for Local Government, Efficient transportation www.ca-ilg.org/transportation

Federal Chamber of Automotive Industries www.fc.ai.com.au/environment

Greener motoring, Australian Automobile Association www.aaa.asn.au/greenermotoring

STUDENTS' INTRODUCTION TO THE SURVEY

Climate change is an important topic, especially for young people living on an island such as Tasmania. We want to know what you think about climate change, and how it makes you feel.

At the top of each box is an issue that we may face in the future in 2090. Underneath the issue are two different ideas about how to tackle it; you might like some ideas, and some you might think are terrible.

Please rate each idea by circling the response that describes what you think. Is it terrible, bad, good or brilliant.

We would love to hear your own suggestions, too. If you have your own idea about how to tackle the issue, please write it in the large section at the bottom of each box. You can write as little or as much as you like in the time your teacher gives you, and can be as imaginative as you like.

Here's an example:

Issue: People need to keep their houses cool during hot summers

IDEA 1:

People build their houses into the side of hills to keep them cool.

Terrible Idea

Bad Idea

Good Idea

Brilliant Idea

IDEA 2:

People build giant solar shades to block out the sun.

Terrible Idea

Bad Idea

Good Idea

Brilliant Idea

MY OWN IDEA IS: *we Build Floating houses in The ocean, so The water keeps Them cool.*

The answers you give us will be used by our artist, Nicolas Low, to create an interactive website and an artwork in Launceston in August 2010.

The answers you give also will be included on our project website, so other students can read your thoughts. You can check this out at www.mdfproject.com.

TRANSPORT SURVEY

What's the best way to do things in the future? Rate what you think of each idea, and feel free to suggest your own ideas in the boxes provided.

Issue: We need to encourage people to use more energy efficient vehicles.

IDEA 1:		IDEA 2:	
People who use old-fashioned vehicles that are not energy efficient should be fined.	<i>Terrible Idea</i>	People should educate themselves about energy-efficient vehicles, and choose the best option for themselves.	<i>Terrible Idea</i>
	<i>Bad Idea</i>		<i>Bad Idea</i>
	<i>Good Idea</i>		<i>Good Idea</i>
	<i>Brilliant Idea</i>		<i>Brilliant Idea</i>

my own idea is:

Issue: We need to design new modes of transport.

IDEA 1:		IDEA 2:	
The government has developed new eco-friendly vehicles that are the only ones people can buy.	<i>Terrible Idea</i>	People start inventing their own interesting ways of getting around.	<i>Terrible Idea</i>
	<i>Bad Idea</i>		<i>Bad Idea</i>
	<i>Good Idea</i>		<i>Good Idea</i>
	<i>Brilliant Idea</i>		<i>Brilliant Idea</i>

my own idea is:

Issue: Air travel has to be limited, because planes create a lot of climate gases.

IDEA 1:		IDEA 2:	
Air travel has been banned except for emergencies.	<i>Terrible Idea</i>	Air travel is not banned, but people should choose to avoid long flights. They willingly spend time closer to home.	<i>Terrible Idea</i>
	<i>Bad Idea</i>		<i>Bad Idea</i>
	<i>Good Idea</i>		<i>Good Idea</i>
	<i>Brilliant Idea</i>		<i>Brilliant Idea</i>

my own idea is:

Issue: **We need to reduce the number of individual trips people make.**

IDEA 1:

High-speed, high-	<i>Terrible Idea</i>
efficiency trains get	<i>Bad Idea</i>
people around easily.	<i>Good Idea</i>
	<i>Brilliant Idea</i>

IDEA 2:

People greatly	<i>Terrible Idea</i>
reduce their travel	<i>Bad Idea</i>
and are spending	<i>Good Idea</i>
more time close to	<i>Brilliant Idea</i>
home.	

my own idea is:

Issue: **We need environmentally friendly ways of travelling far distances and overseas.**

IDEA 1:

Planes are powered by	<i>Terrible Idea</i>
hydrogen from sea water,	<i>Bad Idea</i>
so their environmental	<i>Good Idea</i>
impact is very low and	<i>Brilliant Idea</i>
people can use planes as	
much as they like.	

IDEA 2:

Overseas travel is	<i>Terrible Idea</i>
mostly done by sail	<i>Bad Idea</i>
boat. It takes longer,	<i>Good Idea</i>
but the trip becomes	<i>Brilliant Idea</i>
part of the holiday	
itself.	

my own idea is:

Issue: **We may need to make vehicles that can withstand storms.**

IDEA 1:

When the weather is	<i>Terrible Idea</i>
bad, people get around	<i>Bad Idea</i>
in computer-controlled,	<i>Good Idea</i>
armour-plated trucks.	<i>Brilliant Idea</i>

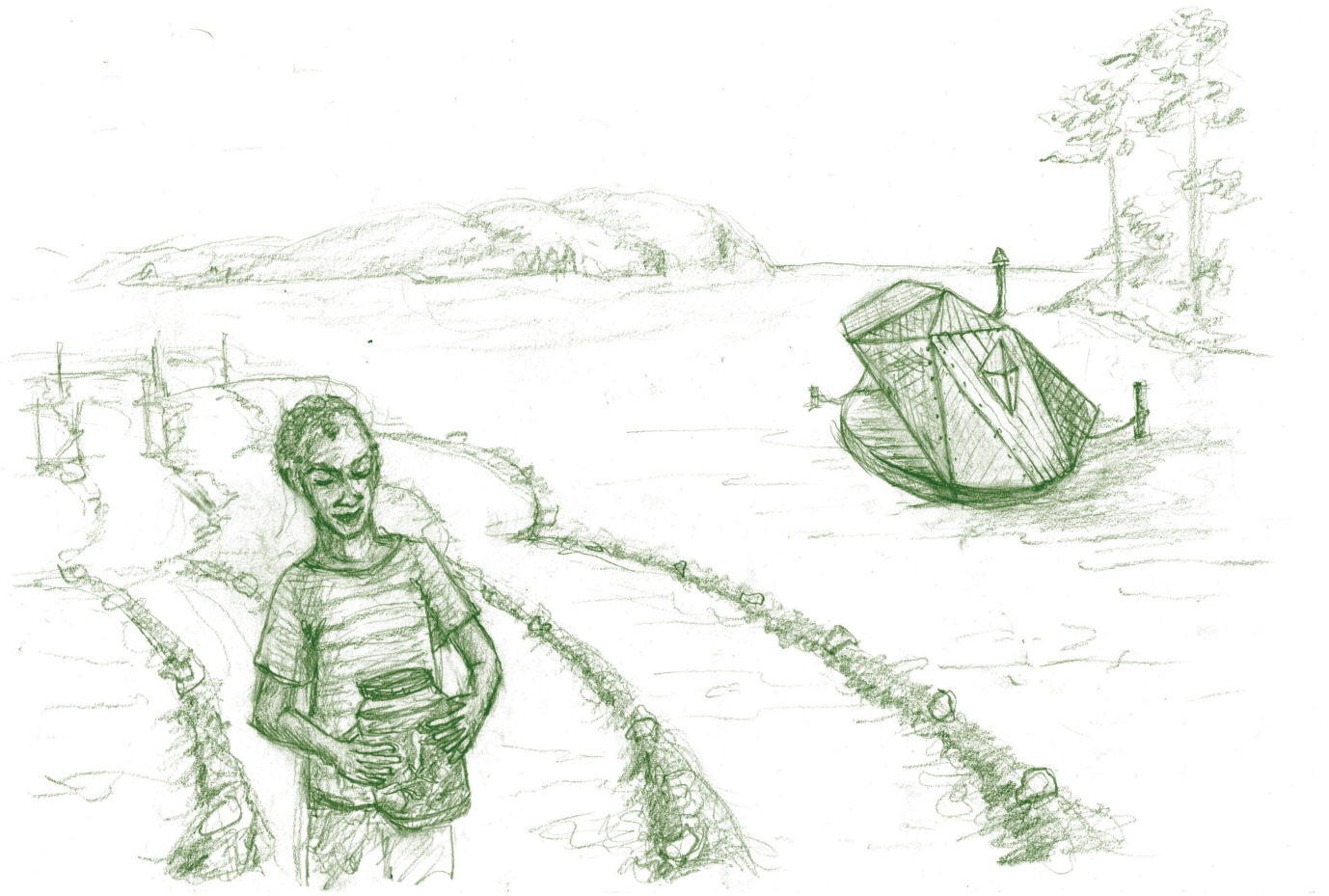
IDEA 2:

When the weather	<i>Terrible Idea</i>
is bad, people stay at	<i>Bad Idea</i>
home from school.	<i>Good Idea</i>
	<i>Brilliant Idea</i>

my own idea is:

FOOD AND WATER

NARRATIVE



Exercise - Ask the students to lie down on the floor. Darken the room. Encourage your students to take deep breaths and relax while you tell them a story. Give the students a few moments of calm silence before reading to them.

Story opening (recommended):

I am going to tell you a story. Listen to me now and together we will travel into the future. It is 2090, and many things about the world have changed. There are many new sights, sounds and smells that you have never before experienced. Together, we will explore this world and then bring back stories of our adventures to share.

You swim out past the breakers to where you can see the car's aerial poking from the water. That's what must have tripped Ruby off her board. You take a deep breath to fill your mask with air then

kick down under the surface. Suddenly there's just the quiet rumbling of the sea in your ears and you are in a watery world just a metre below the waves. The car is half-buried in the sand with schools of colourful fish swimming in and out of the windows. It's the colour of rust but a long time ago it might have been painted white. Scattered around the car are a whole heap of different objects: bottles, cans, bits of metal, all covered in seaweed.

You pop back up to the surface for air, and then down you go again. Ruby's already there, pulling something out of the sand with both hands. You swim over and give her a hand. It's a big flat piece of board. You signal to Kené who comes to help and, together, the three of you heave it over. It's an old sign that says, in green and red writing: "S PERMARK T". There are starfish clinging to the sign, covering the U and E.

"Wow!" crackles Ruby's voice over the talk system. "This must have been where the old market was before the buildings were moved. I wonder why it was a SUPER market?"

She grabs a tin from the sand and swims back up for air. Back out in the bay the sounds of seagulls and waves fill your ears. The class are still standing on the beach talking. Ruby holds her can up and reads the faded writing. "Spam. Product of Italy. Get this – it's meat, and it's in a tin, and it was brought all the way from the other side of the world! How weird."

"Yup," you say, treading water. "They ate lots of meat back then. Not like today – it'd cost billions to grow something that used so much energy. Imagine that, the world covered with farting cows, back before they could capture the methane gas!"

You dive down again, searching in the sand for the glint of ancient treasure. Lying on its side is a drinks cabinet, its door open and a few bottles still inside. You pick up a handful and swim back up.

"Have a look here," you say to the others. "It's water in bottles, imported from Fiji."

"But they had plenty of water then, didn't they?" asks Kené. "Why did they need to import it from Fiji?"

"Magical powers," says Ruby. "It's a SUPER market, you know. Maybe drinking Fijian water makes you live forever! I bet that's what Great Auntie drinks and that's why she's so old. Go on, I dare you to drink it."

"That's, like, a hundred years old!" says Kené. "It'd turn your hair green! But ... hang on!"

Kené grabs the bottle off her. "This," he says in a breathless voice, "is made of ... plastic! We could sell these!"

Your eyebrows shoot up. You look closer. He's right. The antique bottle is pure plastic. "That's worth a fortune!" you say, taking a breath and heading back down.

You're busy scratching in the sand for more bottles when suddenly the light grows dim. There's a big shadow behind you – something passing over the top of you near the surface. Kené looks at you, too terrified to turn around. "Oh no," he whispers. "What is it?!"

There's a rumbling, splashing sound, like the hungry stomach of a giant beast. Your eyes grow wide and you can feel something coming closer and closer behind you. There's a loud whump, then a bright, blinding light shining at you.

"Surprise!" yells a chorus of voices over the talk system.

You spin around to see Chris and Paula with the rest of the class floating in front of you with their torches on high beam.

"Come on up, guys," says Paula over the talk system. "Back to the beach with you three – you're in trouble for swimming off like that!"

"But," says Ruby, "we found ... we found these bottles, made of plastic, full of magic water that's awesome and makes you live forever and it's a discovery of national importance!"

"Right," says Chris. His red beard is sticking out from under his mask like a squashed cat, and his face has gone just as red. You can tell that you're not going to be allowed to keep the bottles of water. Very carefully, you pretend to adjust your diving suit, and slip one of the bottles into its pouch. Chris jabs a finger towards the surface: "Out!"

Everyone returns to school after having had a good look at the submerged car. The school has great big fruit and vegetable gardens. Once a week, your class raises money by selling the delicious produce at the local market. Selling the food at the market was Kené's idea and he stands in the middle of the garden with a proud grin on his face. You help load a trailer with preserved fruit and pickled vegetables. When the trailers are full with clinking bottles, you all set off to the market.

As you enter town, you can see the park packed with people, tents, animals, food, plants, clothes, art and chattering talk-system gadgets. There are farmers and musicians, algae power-plant sales-women, jugglers and hover-stilt walkers, all come to sell or swap their wares. Your class wanders through the market to the food section, calling out to people they know and stopping to look at the market stalls. There are hundreds of different types of food, all laid out in colourful rows, giving off a thousand glorious smells. There are home-grown apples and berries harvested from the bush around the

town. A group of friendly farmers have laid out their fat, juicy carrots and gleaming potatoes. Some tables groan with expensive delicacies brought from around the island on boats. There are a few gizmo-farmers with suitcases of food-pills, and up the back, tucked out of sight behind a tree, there's even an old man selling food smuggled in from overseas – if you know what to ask for. He also buys old plastic bottles and you think about the Fiji Water bottle in your pocket. He winks as you walk past.

You arrive at the school's market stall and everyone gets to work unloading the bottles from the trailers. Ruby builds them up into towering stacks to see how high she can make them. Kené has just finished setting up his table when a creaky voice speaks up.

"What have we got here?" It's Great Auntie. She's got a sparkle in her eye as she leans on her walking stick to see what's in Kené's jars.

"Home grown seaweed." says Kené. "I've got my own floating garden beside our house-boat. It's good stuff!"

Great Auntie nods her head and looks thoughtful, then reaches into her purse and pulls out a jar of brilliant red raspberry nano-jam. "Will you swap it for this? I made it myself."

While Kené and Great Auntie trade, you think about asking Great Auntie about your dream. What does it mean? Your Dad said sometimes dreams contain hidden messages and that Great Auntie was good at helping to discover what dreams meant. You're so busy thinking about what to say that before you know it Great Auntie has vanished into the crowd. There's no time to look for her now. You're starving hungry; thankfully, your teachers Paula and Chris send out a message over the talk system: it's time for lunch!

Story closing (recommended):

Now students, it is time to come back from the future into the present moment. Take with you all the sights and sounds of the new place where you have been. I will turn on the lights in a few moments, and I want you to join us here to share what you have learned.

Exercise - Give the students a few moments of calm silence before turning on the lights. Gather the students together, preferably into a circle, to lead a discussion with them about the issues raised in the story.

FOOD AND WATER

EXERCISES



15 minutes

Material

- No materials required

DISCUSS

Having read the appropriate narrative to the class, start a discussion by asking the group if someone can explain the story they just heard and can identify the key issues.

Ask the group to consider the different types of food we eat. You can start the discussion by suggesting a few examples such as carrots, ice cream, biscuits, eggs, fish, cheese and so on. Ask the students to consider why we eat them; what can be the benefits or side effects? Carrots, for example, are nutritious and help our body to grow; ice-cream is nice to eat but has lots of sugar and too much is not good for our health.

Now discuss the energy use that may go into making each food. Growing carrots at home, for example, means that we make space in our garden, plant and water the seeds, and harvest the produce once it has grown. A biscuit that we buy, however, will have been made in a factory, wrapped in packaging, stacked in boxes, transported by trucks and/or aeroplanes, and placed in temperature controlled shops ready for us to buy - with each step using energy. Ask the students to consider how we can minimise the energy consumption or waste; for example, to buy seasonal produce, to use food that has minimal packaging, and to buy locally produced goods.

Key issues and debates to help you guide student discussion

- Importing food or water from overseas or interstate uses significant resources.
- Disposable food and water packaging uses a lot of energy and creates a lot of waste.
- Agriculture and food production may contribute 20% of world climate gases to climate change.
- Quantity and quality of fresh drinking water will increasingly be an issue, especially if sea-levels rise and salt water enters underground water supplies; this has already started on some Pacific islands.
- Temperatures, precipitation, evaporation change as the climate changes. The types of crops we can grow will also change.
- Will there be enough food in the future if energy-intensive crops and transport systems no longer work in the same way?

CREATE



20 minutes

Material

- A4 paper + pencils
- A range of materials such as old packaging, free postcards, old wrapping paper, magazines and leaves
- Craft glue + glue sticks
- Scissors

Ask the students to make a collage on an A4 sheet, illustrating a new food in the year 2090. Invite them to consider what is special about their food – is it tasty, what is the texture, does it have to be cooked, is it good for you, from where does it come, can you grow it yourself? Ask the students to describe the main features of their food in dot points next to the image.



15 minutes

Material

- No materials required

DISCUSS

Ask the students to consider our uses of water; some examples to spark discussion can be to cook pasta, wash the dog, wash our clothes or water the garden. Ask the students to consider why water is so important. Is there anything alive that doesn't need water? Why do we need water – what does it do for our bodies and plants? What effect would a lake drying up have on the immediate environment; for example, the fish would die, animals couldn't use it as their drinking source, people couldn't swim in it and the soil would become dried out.



20 minutes

Material

- Lined paper and pencil for each student
- A handful of erasers and sharpeners to share

WRITE

Ask the students to imagine it is 2090 and there is little water left in our reserves. They decide to write as concerned citizens to their Prime Minister, suggesting ideas toward solving the problem. Encourage the students to be creative with their solutions; they could suggest some new laws with water usage, a replacement liquid for water or maybe new technology that could increase rain.



25 minutes

Material

- No materials required

PERFORM

Put the students into groups of three or four. Ask them to select either a new food or a water-saving solution. They are to create an advertisement selling their idea and describing its benefits. Allow 10 minute preparation time, after which the advertisements are presented to the class.



10 minutes

Material

- No materials required

FINAL DISCUSSION

Ask the students to consider how we can minimise the energy consumption or waste today when consuming food and water. Some suggestions to spark discussion include buying produce in season and food that uses little packaging. Water use can be limited by having short showers and growing plants that don't require much watering.



10 minutes

Material

- Survey, blank CD + self-addressed envelope provided in the Kit
- Computer + scanner

SURVEY

Hand out a Food and Water survey to each student to complete.

Post the surveys to the University of Tasmania in the self-addressed envelopes provided in the Kit. Scan a copy of the students' artwork and stories, burn them on to the blank CD provided, and include the CD with the surveys. If more than one class is working on the module please send in your completed surveys together.

WEB LINKS FOOD AND WATER

Food and Agriculture Organization of the United Nations www.fao.org/climatechange/en/

Adapting to climate change, CSIRO www.foodscience.afisc.csiro.au/climate-change/index.htm

Water; Department of Primary Industries, Parks, Water and Environment; Government of Tasmania www.dpipwe.tas.gov.au

Waterwise, Hobart Water www.hobartwater.com.au/HobartWater/Education/Waterwise

FOOD AND WATER SURVEY

What's the best way to do things in the future? Rate what you think of each idea, and feel free to suggest your own ideas in the boxes provided.

Issue: We need to be careful when we use water in our homes.

IDEA 1:

Water is rationed in	<i>Terrible Idea</i>
the home to make sure	<i>Bad Idea</i>
everyone has enough,	<i>Good Idea</i>
and people who waste it	<i>Brilliant Idea</i>
are forced to pay a fine.	

IDEA 2:

It's left up to you to	<i>Terrible Idea</i>
decide whether or	<i>Bad Idea</i>
not to use less water	<i>Good Idea</i>
in your home.	<i>Brilliant Idea</i>

my own idea is:

Issue: We need to grow foods that produce low amounts of climate gases.

IDEA 1:

Foods that produce	<i>Terrible Idea</i>
high amounts of climate	<i>Bad Idea</i>
gases are banned.	<i>Good Idea</i>
The government	<i>Brilliant Idea</i>
provides healthy and	
environmentally friendly	
alternatives.	

IDEA 2:

It is up to people to	<i>Terrible Idea</i>
talk to their friends	<i>Bad Idea</i>
and explain why they	<i>Good Idea</i>
should grow foods	<i>Brilliant Idea</i>
that don't produce	
climate gases.	

my own idea is:

Issue: We need to eat food that is produced closer to home, so that we don't have to use so much fuel to transport it.

IDEA 1:

People create local	<i>Terrible Idea</i>
community and	<i>Bad Idea</i>
household gardens. They	<i>Good Idea</i>
spend time growing food,	<i>Brilliant Idea</i>
and work less hours in	
paid jobs. They earn less	
money as a result.	

IDEA 2:

Importing food from	<i>Terrible Idea</i>
overseas is called	<i>Bad Idea</i>
'smuggling', and is	<i>Good Idea</i>
a serious crime. You	<i>Brilliant Idea</i>
must buy local food	
instead.	

my own idea is:

Issue: Climate change may mean there is less fertile land available for growing food.

IDEA 1:

We get all the goodness	<i>Terrible Idea</i>
we need from a few	<i>Bad Idea</i>
vitamin pills rather than	<i>Good Idea</i>
from eating, so some	<i>Brilliant Idea</i>
farmland can be used	
for other things.	

IDEA 2:

People start growing	<i>Terrible Idea</i>
traditional food at	<i>Bad Idea</i>
home, on their roofs	<i>Good Idea</i>
and within their own	<i>Brilliant Idea</i>
communities.	

my own idea is:

Issue: We have to make our farming practices sustainable.

IDEA 1:

High-tech new crops are	<i>Terrible Idea</i>
made by scientists. More	<i>Bad Idea</i>
food can be grown by	<i>Good Idea</i>
farmers using less land,	<i>Brilliant Idea</i>
less water and fertiliser.	

IDEA 2:

We get a lot of our	<i>Terrible Idea</i>
food from foraging.	<i>Bad Idea</i>
	<i>Good Idea</i>
	<i>Brilliant Idea</i>

my own idea is:

Issue: We need to have good quality drinking water for everyone.

IDEA 1:

We build lots of	<i>Terrible Idea</i>
expensive factories that	<i>Bad Idea</i>
remove the salt from sea	<i>Good Idea</i>
water so we can drink it.	<i>Brilliant Idea</i>

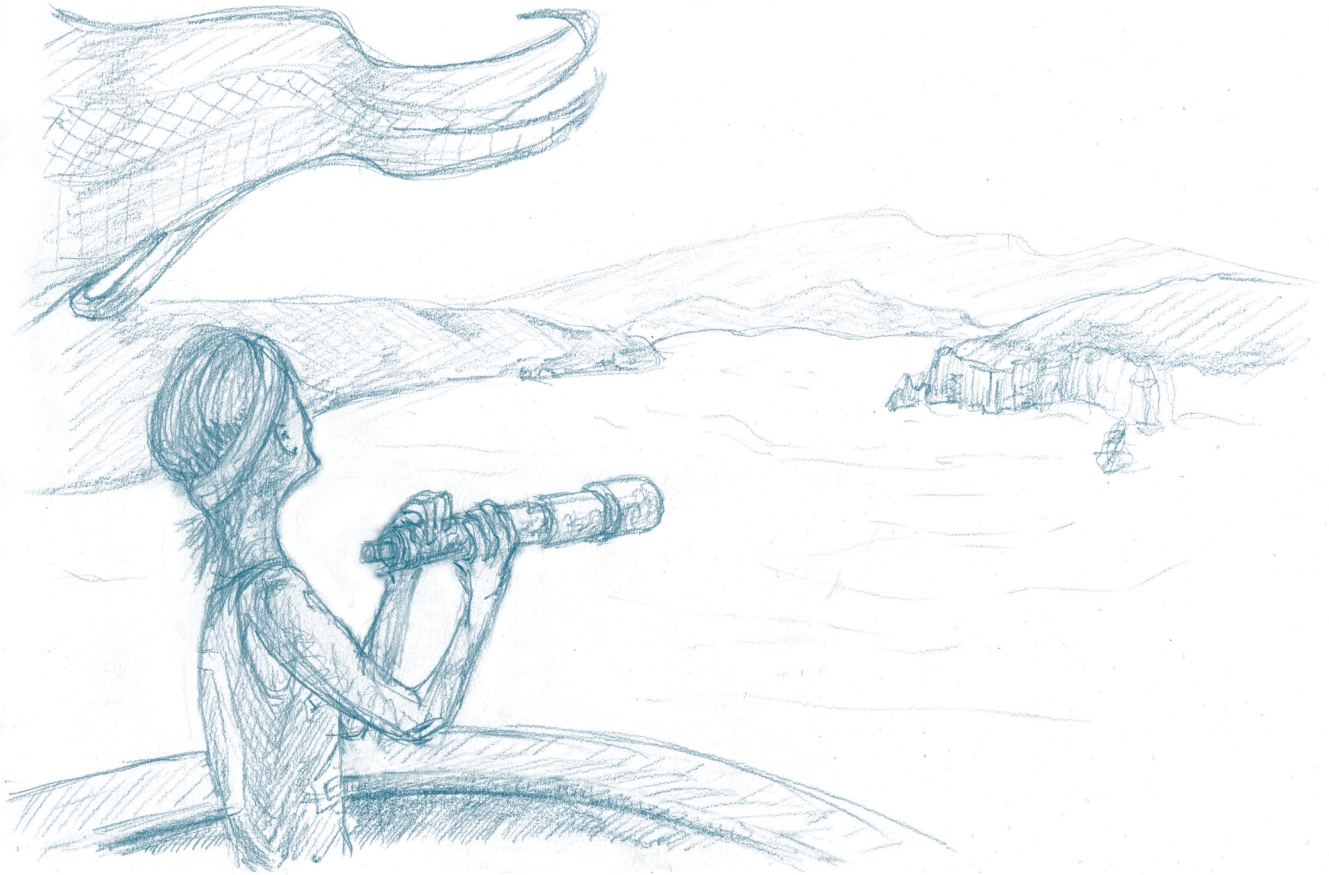
IDEA 2:

People no longer use	<i>Terrible Idea</i>
dishwashers, rarely	<i>Bad Idea</i>
wash their clothes,	<i>Good Idea</i>
and only take a bath	<i>Brilliant Idea</i>
once a month, to save	
water for drinking.	

my own idea is:

MIGRATION

NARRATIVE



Exercise - Ask the students to lie down on the floor. Darken the room. Encourage your students to take deep breaths and relax while you tell them a story. Give the students a few moments of calm silence before reading to them.

Story opening (recommended):

I am going to tell you a story. Listen to me now and together we will travel into the future. It is 2090, and many things about the world have changed. There are many new sights, sounds and smells that you have never before experienced. Together, we will explore this world and then bring back stories of our adventures to share.

After a delicious lunch of food grown in the school garden your teachers Chris and Paula give the class twenty minutes of free time. You and Kené wander off to look for Great Auntie. Along the way you pass a big group of musicians who are singing songs from the

countries they had to leave because of climate change. Kené joins in with a song from where his parents came from in Namibia.

“What does that mean?” you ask Kené.

“It’s a song being generous to strangers, like welcoming them to your home,” he explains.

Kené stays to keep singing so you walk on by yourself. You see Great Auntie sitting under a tree munching on some of Kené’s seaweed.

“Great Auntie, can I tell you about my day?” you ask.

She nods, and motions for you to sit beside her. “I heard on the news system that you found a car in the bay. Is that what you want to know about?” She sits quietly waiting for you to tell your story.

“I was at the beach with Ruby and Kené, and we did find a car, and bottles of magic water from before the changes. But before that I fell asleep and had a strange dream where I was completely lost in the old times. It was hot and noisy and full of strange metal contraptions. I didn’t see anyone I knew. So I went looking for my home but I walked for a long time and I couldn’t find it. I was getting hungry and thirsty but couldn’t see anything to eat. And no-one stopped to help me because they were all too busy. Then Ruby woke me up.”

Great Auntie looks out over the market to the sea in the distance. A few storm clouds are gathering and the horizon is a purple blue.

“What do you think it means then, this dream?” she asks.

“I’m not sure. Maybe that life for kids was really strange and horrible in the past?”

To your surprise Great Auntie giggles. “No,” she says, “the past wasn’t really strange or horrible at all. It’s funny how some people think that. Other places and other times aren’t horrible, they’re just different. Life can still be horrible or wonderful for kids at any time. It depends on how people treat you and how you treat other people. Just keep feeling what it was like to be in your dream and your answers will come”, she says and squeezes your hand encouragingly.

You’re making your way back to the class stall when a voice calls out to you.

“Psssst! Over here!”

You turn and look. It’s Kené and Ruby and the old man who sells smuggled food and buys antique plastic bottles. He’s tall and thin and has a narrow face, hidden behind a pair of solar glasses. “Hey guess what?” says Ruby. “He says he’s going to buy our bottles! Told you we’d be rich!”

“That’s right,” says the man. “I’m mighty fond of old-time souvenirs. Let me see what you’ve got.”

You pull out your bottle.

“Fiji Water,” he says, nodding his head. “I remember these. There very rare now. I’ll give you two hundred ...”

All of a sudden a mass warning message beeps in the news system. You check the display. “Whoa,” you say to the others. “That’s not good. There’s a big storm due in half an hour.” At the same moment a second message comes in and the town bells begins to ring. The sound carries across the marketplace and people stop and look up in surprise. The bells usually only ring in celebration but today isn’t a special holiday. There can only be one other reason for the bell ringing.

“The refugees,” says the man. “This must be the people who sent word that their islands have been flooded.”

“Where are they from?” you ask.

“New Caledonia and Fiji,” says the man. “Hah, maybe they’ve come to get their water back!”

You look out to sea and against the storm building on the horizon you can make out some shiny dots. Everyone crowds around craning their necks to see. Ruby pulls out her zoom-lens and has a look then passes it to you. The dots are actually crazy-looking boats. They’re painted orange and green and blue and look like they’ve been cobbled together out of a dozen other boats. They’ve been battered by the storm and are flying strange white and green flags.

“What’s the flag?” you ask.

“Don’t you recognise it?” says Kené. “That’s the Cli-Ref flag – the flag climate refugees fly. My parents flew that flag when they sailed here before I was born. If you’re flying it other people will come and help. It must be a boat full of people who’ve had to leave their homes. They’ve come to our island for help. Quick, let’s get down to the beach to meet them before the storm hits!”

“Hey wait,” says the man. “Forget about the refugees. What about my bottles?”

You look at him then you look down at the boats. You shake your head. You’ve just had a great idea. You put your bottle back in your pocket. Together you, Kené and Ruby follow the crowds heading down to the floating town pier.

Down at the pier men and women are tying up the boats and putting down gang-planks. The hum of the salt-exchange engines slowly fades until there is just the slap

of waves and the sound of people talking in other languages. Thunder booms in the distance. The rest of your class stands on the pier along with most of the townspeople. Everyone is curious to see the new arrivals. It's been a long time since climate refugees have arrived in your town and your friends have mixed feelings.

"I wonder where they will all be living. Our house is full up!" says Ruby.

"But there's always ways to make more room", you say.

"Yeah," she replies. "Maybe they can live in my house, and I'll go live on the boat. Right up there!" She points up to the crow's nest.

"I bet they've got ideas for building houses that we've never even heard of," says Kené.

As another boat slides into the dock a boy on its deck sees you and your friends watching. He looks scared. Ruby waves at him and shouts "Hello!"

He smiles and waves back, looking a little relieved. The people are welcomed ashore by Great Auntie and other adults, and the local elders perform a Welcome to Country ceremony. Some of the newcomers speak English, some Fijian and some French. Kené's mother is there and because she speaks French and English she helps translate between the people from your town and the refugees. The new boy is standing beside his mother watching you and your friends. He looks lost and lonely and he reminds you of how you felt in your dream.

"Come on Kené," you say. "You speak French too. Lets go and say hello."

"Bonjour! Je m'appelle Kené" says Kené to the new boy.

"Salut Kené," says the boy. "Je m'appelle Jacques. Je viens de la Nouvelle Caladonie."

"His name is Jacques", says Kené. "He's from New Caledonia."

You step forward and take the antique bottle out of your pocket. You hold it out to the boy and place it in his hands as a welcome gift. His smile turns into a grin as the first drops of rain begin to fall.

Story closing (recommended):

Now students, it is time to come back from the future into the present moment. Take with you all the sights and sounds of the new place where you have been. I will turn on the lights in a few moments, and I want you to join us here to share what you have learned.

Exercise - Give the students a few moments of calm silence before turning on the lights. Gather the students together, preferably into a circle, to lead a discussion with them about the issues raised in the story.

MIGRATION

EXERCISES



15 minutes

Material

- No materials required

DISCUSS

Having read the appropriate narrative to the class, start a discussion by asking the group if someone can explain the story they just heard and can identify the key issues.

Ask the group to consider what are some of the things we do for other people. Examples could include donating money and clothing to the bush fire victims in Victoria or donating a present to the ABC giving tree.

Ask the students to think of reasons, in today's society, why people leave their own countries. Has anyone in the class ever travelled to a place very different from their own home? Ask the students to imagine what it would be like to hear a different language or to be in a place that was very unfamiliar to them. Can the children guess what people would feel when they arrived in their new country – would they be excited or scared?

Key issues and debates to help you guide student discussion

– More people may be forced to seek new homes because of shrinking drinking water supplies, desertification (when good, fertile land turns to desert), flooding, and increased damage from storms.

– The United Nations estimates that there may be 150 million environmental refugees by 2050, but the category 'environmental' refugee presently is not formally recognised in the international community.

– It is possible that areas of Tasmania will become home to climate migrants from other parts of Tasmania, from the Australian mainland, and from overseas.

– How will we provide shelter, food and water for migrants, and form new communities, look after strangers and agree on ways of protecting the environment with a larger population?



20 minutes

Material

- Lined paper and pencil for each student
- A handful of erasers and sharpeners to share

WRITE

Have the students imagine they are in the year 2090, and have become climate refugees who had to leave their town because it had been flooded by rising sea levels. Ask the students to write a poem that describes the experience of leaving home and moving with their community to a new one.



15 minutes

Material

- No materials required

DISCUSS

Australia welcomes many refugees from all around the world. What are some of the benefits of welcoming new people into our community? Suggestions to spark conversation include that it's humane to look after people in need, and these people bring new ideas and diversity our culture. Sometimes people do not want large groups of people moving to their community; why would they not want them? Some suggestions for not wanting new people could be that there isn't enough room, or enough food and money to support them. What points might counter these ideas?



20 minutes

Material

- Your choice of drawing materials such as colour pencils and crayons

CREATE

Ask the students to imagine it is 2090 and climate refugees have arrived on their island. Each student needs to draw a welcome poster showing the benefits of the refugees' relocation to their new home, both for the refugees and for the community.



30 minutes

Material

- No materials required

DEBATE

Describe a scenario in which it is 2090 and several thousand people from a neighbouring town want to move into your community after becoming climate refugees. There is a town meeting to discuss whether or not to welcome the refugees. Select six students to make two teams of three and one student to be the 'town mayor' to play the role of adjudicator. You may ask the students in the teams to choose a persona or profession such as the local teacher or banker, which might help them with their role. Team 1 wants to welcome the people, Team 2 isn't sure about the people moving to their town. Each student has four minutes in which to talk, while the rest of the class listens. Conduct a vote at the end of the talks to decide which argument wins. Discuss the outcome of the vote with the class, asking them to justify their decision.



10 minutes

Material

- No materials required

FINAL DISCUSSION

Many Tasmanians will have migrated from overseas or have ancestors who have travelled here; what are some of the benefits our community has enjoyed as a result?



10 minutes

Material

- Survey, blank CD + self addressed envelope provided
- Computer + scanner

SURVEY

Hand out a Migration survey to each student to complete.

Post the surveys to the University of Tasmania in the self-addressed envelopes provided in the Kit. Scan a copy of the students' artwork and stories, burn them on to the blank CD provided, and include the CD with the surveys. If more than one class is working on the module please send in your completed surveys together.

WEB LINKS MIGRATION

Brindal E., Climate change refugees the forgotten people in 'The Age' June 18, 2008
www.theage.com.au/opinion/climate-change-refugees-the-forgotten-people-20080617-2s5b.html?page=-1

MIGRATION SURVEY

What's the best way to do things in the future? Rate what you think of each idea, and feel free to suggest your own ideas in the boxes provided.

Issue: Over time people in some areas of Australia will have to leave their homes as a result of climate change.

IDEA 1:	
The government orders people to move away from places suffering the effects of climate change.	<i>Terrible Idea</i>
	<i>Bad Idea</i>
	<i>Good Idea</i>
	<i>Brilliant Idea</i>

IDEA 2:	
If their homes become unsafe, people organise themselves into groups and choose whether to stay or go.	<i>Terrible Idea</i>
	<i>Bad Idea</i>
	<i>Good Idea</i>
	<i>Brilliant Idea</i>

my own idea is:

Issue: People from places such as Tuvalu, that will be lost to rising seas, which may need new countries to call home.

IDEA 1:	
Governments in wealthy countries will be forced by the United Nations to take in climate refugees.	<i>Terrible Idea</i>
	<i>Bad Idea</i>
	<i>Good Idea</i>
	<i>Brilliant Idea</i>

IDEA 2:	
It is up to each individual refugee to try to gain acceptance to a new country.	<i>Terrible Idea</i>
	<i>Bad Idea</i>
	<i>Good Idea</i>
	<i>Brilliant Idea</i>

my own idea is:

Issue: Climate refugees and existing communities will need to live together.

IDEA 1:	
Climate change migrants start their own communities, build their own houses, and make do where they are relocated.	<i>Terrible Idea</i>
	<i>Bad Idea</i>
	<i>Good Idea</i>
	<i>Brilliant Idea</i>

IDEA 2:	
The government provides climate change migrants with houses in existing communities.	<i>Terrible Idea</i>
	<i>Bad Idea</i>
	<i>Good Idea</i>
	<i>Brilliant Idea</i>

my own idea is:

Issue: Some areas will be at risk of erosion and flooding.

IDEA 1:

People use their money	<i>Terrible Idea</i>
to build expensive,	<i>Bad Idea</i>
high-tech sea barriers to	<i>Good Idea</i>
protect their land.	<i>Brilliant Idea</i>

IDEA 2:

People pack up their	<i>Terrible Idea</i>
belongings and	<i>Bad Idea</i>
move.	<i>Good Idea</i>
	<i>Brilliant Idea</i>

my own idea is:

Issue: People from climate-affected islands will need somewhere new to live.

IDEA 1:

Island people have to live	<i>Terrible Idea</i>
nomadic lives, travelling	<i>Bad Idea</i>
around the world and	<i>Good Idea</i>
living in different places	<i>Brilliant Idea</i>
along the way.	

IDEA 2:

Artificial islands are	<i>Terrible Idea</i>
created to replicate	<i>Bad Idea</i>
the ones that are	<i>Good Idea</i>
lost.	<i>Brilliant Idea</i>

my own idea is:

Issue: Climate migrants and the people from their new home will have to learn each other's language.

IDEA 1:

Automatic translation	<i>Terrible Idea</i>
devices let people	<i>Bad Idea</i>
understand each other.	<i>Good Idea</i>
	<i>Brilliant Idea</i>

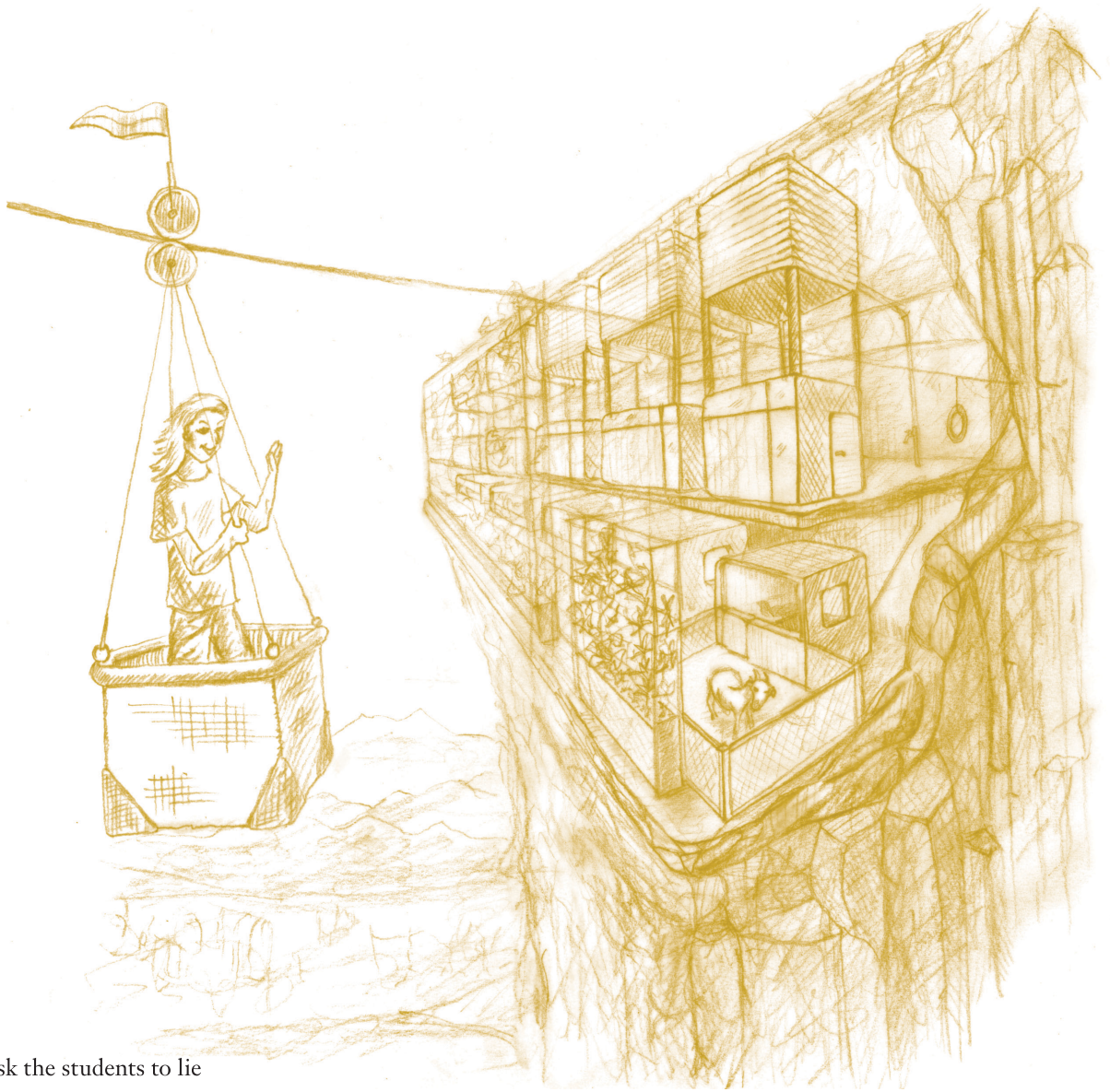
IDEA 2:

People live together	<i>Terrible Idea</i>
to learn each other's	<i>Bad Idea</i>
language.	<i>Good Idea</i>
	<i>Brilliant Idea</i>

my own idea is:

SHELTER

NARRATIVE



Exercise - Ask the students to lie down on the floor. Darken the room. Encourage your students to take deep breaths and relax while you tell them a story. Give the students a few moments of calm silence before reading to them.

Story opening (recommended):

I am going to tell you a story. Listen to me now and together we will travel into the future. It is 2090, and many things about the world have changed. There are many new sights, sounds and smells that you have never before experienced. Together, we will explore this world and then bring back stories of our adventures to share.

On the wharf the adults have gathered round and are working out where the new arrivals will sleep. Some will stay with the boats,

some will camp on the sports grounds and some will go to stay with local families until they can build their own homes. Ruby, who's never shy, drags you into the middle of the circle full of adults and says, "Can we have Jacques stay with us please?"

Great Auntie turns and smiles at you. "Would you like Jacques to stay with you for a while?"

"Yes," you say. She checks in with your parents via the talk system and they agree. Great Auntie gives you the thumbs up. Ruby and Kené ask their parents if they can stay the night with you and Jacques too.

"Alright," says your teacher Paula. "You can all stay together with Jacques tonight. The storm that's about to arrive is a grade four, not too bad, but we should all be under cover when it hits. It's home time!"

You and the rest of the class cheer. Hanging out waiting for storms to pass is one of the best ways to spend an afternoon. Most houses have viewing areas where you can sit and watch the wind and rain come down. As the wind starts to whistle in the trees and the sky grows dark, you wave goodbye to everyone and head for home where you'll be safe from the storm.

You turn off the beach, away from the floating village on the far side of the bay. Houses bob up and down while some houses on the edge of the sea stand gracefully on tall poles that keep them dry above the waves. As they ride along Kené and Jacques talk about where the climate refugees have come from. Kené translates, telling you that Jacques lived on an island that had been slowly disappearing under the ocean because of the rising sea levels. Jacques and his family are looking for a new home.

"We have many different types of houses here," says Kené pointing to the floating village.

You head up the hill, through farmland and up into the bush where the rest of the townspeople live. Along the way you point out dozens of different buildings to Jacques, all of which have been designed to fit into the landscape. They can withstand the storms and bush-fires that sometimes sweep across the island. Some are on land, and many of them are dug into the earth. Some are high-rise buildings, surrounded by gardens shared by all. Others perch up in trees, and one or two are underwater, their roofs just visible beneath the waves in the bay.

On the way to Kené's house you pass by where Ruby lives. It's a high-tech natural house that is grown in the branches of a big tree, supported by flexible poles that bend and sway with the wind.

“Hang on a second,” says Ruby. “I’m just going to dash inside and get a change of clothes for tomorrow.” Halfway up the ladder, she turns back and calls out to you all. “Hey, you want to come and have a quick look?”

“Yes, I would like that,” says Jacques, practising his English.

The four of you climb up through the entrance then run up the stairs to the viewing platform at the top of the house. From up there you can see over the feathery green tops of the gum trees and all the way up and down the coast. To the north there’s clear sky and the sun is still shining. But down to the south thick black clouds are banking up into the air and the horizon is lost in a haze of rain.

Ruby hits the big red STORM button and house whirs into life. The solar and satellite leaves fold away, the rain catchers open wide to harvest the rain, and the building’s protective bark skin begins to grow. You grin at Jacques. He grins back. Suddenly, his grin turns to dismay. He’s looking over your shoulder.

“Regard!” Look!

You turn and look to where he’s pointing. One of the windows is still open, and the protective skin doesn’t seem to be growing round it.

“What’s wrong with it?” you ask.

“I don’t know,” said Ruby. “Mum reckons the algae-power plant might be running a bit low. Maybe there isn’t enough juice to fully grow the skin. Quick, help me get it closed!”

You race over and push with all your might, trying to get the window shut. It’s no good. The mechanism is jammed and the storm’s just about to hit.

The rain that had been pattering gently starts to thunder down. The wind comes next. It pushes and tugs at the trees, rippling them back and forth, up and down. It buffets at the window, and before you or Kené can do anything it’s pushed the window even further open. The rain starts to puddle on the floor.

There’s a bleep over the talk system and Ruby’s parents come online. “Don’t worry about the window,” says Ruby’s mum. “You guys go down to the root system and close the top hatch. That room will be fine – it’s more important that you’re safe. We’ll be home as soon as the worst of the storm has passed. Sit tight!”

You all charge off down the stairs, close the hatch to the top of the tree-house and then head all the way down into the root system basement underneath the tree. The system, plugged into a whole bank of sensors, is bleeping and shivering under the strain of the storm. It’s a bit scary, but you know you’re safe down there. Tree houses are tough. They bend and sway with the storm rather than trying to fight it.

While the storm blows you sit and chat with Jacques, learning about the foods he ate

and the house he lived in. He tells you how on his island home his family all lived in a long house on stilts. Some people in New Caledonia had living tree-houses like this one, but not his family. They preferred the long-house, because they had pigs and chickens that lived underneath the floor!

Soon the worst of the storm has passed over. There's a knock at the door. It's Great Auntie and a whole lot of the new arrivals from the boats. They heard about the window that wouldn't close via the news system. They've climbed up the ladder carrying big bowls of soup and their tools to see if they can help fix the damage to the tree house. After everyone has been introduced and eaten the delicious food you go to the top hatch to inspect the damage.

"Alright," says Kené. "Stand clear everyone. Could be a lot of water up there!"

He hits the switch and the hatch opens. Water comes gushing out, showering down on top of you.

"Hah!" laughs Kené. "I've never had a shower in the living room before!"

Once the tree house has been fixed you all set off again for your house. Your parents are waiting for you at the door. You're really glad to see them. It's been a long day, and you're glad to be safe in your own home. Later, as you climb into your beds, and you are surrounded by old and new friends, you wonder what you'll dream about tonight. Will it be the same dream? And what does the dream really mean?

The next night the townspeople and new arrivals gather together on the beach to cook up a feast. The storm has passed, leaving the air clear and sweet. There is a beautiful community centre on the sea shore, build out of stone and wood recycled from the old town. The new arrivals are all posing to take photos next to the building. They look very excited. "Why are they so excited?" you ask Kené.

"They're getting ideas for building their new homes," he says. "They think they can build them by recycling materials from the old ships they arrived in."

Jacques and his mother arrive dressed in their traditional outfits. Some of the refugees have drums and they sing and dance. Kené and Ruby all dance with Jacques, following his steps. Ruby catches on quickly and is soon dancing almost as well as Jacques, whirling and jumping round the great big bonfire. "Be careful!" calls Kené. "You get too close to the fire and you'll burn your eyebrows off!"

The crowd is in the middle of dancing to a fast tune when the drums fall silent. Everyone turns and looks, and there, lit up by the bonfire, is Great Auntie. Tonight is also a special night because Great Auntie is turning one hundred years old. She has been smiling and clapping along with the music, watching all the people dancing, singing, eating and talking. As everyone breaks into a huge, loud chorus of Happy Birthday, sung in eight different languages, you think about all the changes Great Auntie has seen over the last one hundred years of her life. You think about all the new things she is seeing and experiencing and how they make her happy.

You walk over and give her a big hug. “Happy birthday Great Auntie!” you say. “I think I know what my dream was about. It was teaching me what it feels like to be lost and alone, and it was teaching me how important it is to help other people and to know that things will be okay.”

Great Auntie gives you a wide smile and her eyes disappear amongst the folds of her wrinkles.

Story closing (recommended):

Now students, it is time to come back from the future into the present moment. Take with you all the sights and sounds of the new place where you have been. I will turn on the lights in a few moments, and I want you to join us here to share what you have learned.

Exercise - Give the students a few moments of calm silence before turning on the lights. Gather the students together, preferably into a circle, to lead a discussion with them about the issues raised in the story.

SHELTER

EXERCISES



15 minutes

Material

- No materials required

DISCUSS

Having read the appropriate narrative to the class, start a discussion by asking the group if someone can explain the story they just heard and can identify the key issues.

Ask the group to consider the different types of shelter that exist today. You can spark the discussion by suggesting examples such as a mansion, bungalow, unit block, igloo, yurt, boat or underground homes.

Ask the group to consider how they might weigh-up the pros and cons between the different types of shelter – for example, a mansion may seem like a dream house but what is the energy used to construct, maintain and live in such a large building? Is space a problem, too, along with energy use? We have a growing population; ask the students to consider how this fact may affect our choice of shelter. Will we live in smaller buildings, or will new towns be created further out from existing centres?

What are some of the ways we could adjust the way we build our houses? Could building materials be more environmentally friendly? Are there more efficient ways to generate energy in houses? How could we alter house design to account for changing climate conditions and population growth?

Key issues and debates to help you guide student discussion

– Climate change may mean more severe weather, such as big storms, hurricanes, floods and droughts. Our shelters will need to take this into account.

– Coastal towns may need to be relocated to higher ground because of rising sea-levels.

– Water may be in short supply in some areas and rainfall may increase in others. Some houses will need to capture and store their own water for the dry months.

– Energy use in our homes is a source of climate gases. Some houses use a lot of energy on heating and cooling. Our houses need to be as energy-efficient as possible on water use, power, waste, heating and cooling.

– New shelters could be permanent or temporary, static or mobile, and may be located above the ground, on stilts, underground, floating, underwater or even up in trees.

CREATE



20 minutes

Material

- A4 paper + pencils
- A range of materials such as old packaging, free postcards, old wrapping paper, magazines and leaves
- Craft glue + glue sticks
- Scissors

Ask the children to imagine they have travelled to the year 2090 and on an A4 piece of paper they need to design a postcard based on a house they discover in the future. What makes this house interesting, how has it adapted from what we know today? Does it use modern technology or is more like the humble shelters we have seen in the past? Ask the students to dot point the key features of their shelter next to the image.



20 minutes

Material

- Lined paper and pencil for each student
- A handful of erasers and sharpeners to share

WRITE

Ask the students to write a postcard message (no more than two paragraphs) to their families in 2010 describing the local neighbourhood in 2090. Think about how the local community may have changed; this could include the houses, school, parks and shops.



25 minutes

Material

- No materials required

PERFORM

Put the students into groups of three or four and ask them to choose two of the shelters created by students in their group. Two students become separate real estate agents, each with a house they want to sell the buyer(s). They need to 'do the hard sell' and point out the great features of the house to convince the buyer(s) to purchase their house. Allow 10 minute preparation time, after which the skits are presented to the class.



10 minutes

Material

- No materials required

FINAL DISCUSSION

It is good to think about the types of houses we could build in the future, but what are some of the changes we could make right now, to adapt to climate change? Some ideas to spark conversation could be to insulate our house and use thick curtains to keep the house warm, and to install solar panels and use energy-saving light bulbs.



10 minutes

Material

- Survey, blank CD + self addressed envelope provided
- Computer + scanner

SURVEY

Hand out a Shelter survey to each student to complete.

Post the surveys to the University of Tasmania in the self-addressed envelopes provided in the Kit. Scan a copy of the students' artwork and stories, burn them on to the blank CD provided, and include the CD with the surveys. If more than one class is working on the module please send in your completed surveys together.

WEB LINKS SHELTER

White roofs could cool cities: study, ABC Science

www.abc.net.au/science/articles/2010/01/29/2804793.htm?topic=enviro

Lawns not so green after all, ABC Science

www.abc.net.au/science/articles/2010/01/22/2799164.htm?topic=enviro

Designing an energy efficient house; Department of Transport, Energy and Infrastructure; Government of South Australia

www.dte.sa.gov.au/energy/be_energy_smart/designing_an_energy_efficient_home

SHELTER SURVEY

What's the best way to do things in the future? Rate what you think of each idea, and feel free to suggest your own ideas in the boxes provided.

Issue: **We need to make good use of space and resources.**

IDEA 1:		IDEA 2:	
The government	<i>Terrible Idea</i>	People organise	<i>Terrible Idea</i>
provides free housing	<i>Bad Idea</i>	themselves into	<i>Bad Idea</i>
in sustainable high-rise	<i>Good Idea</i>	neighbourhood groups,	<i>Good Idea</i>
buildings.	<i>Brilliant Idea</i>	where they can share	<i>Brilliant Idea</i>
		resources and decide	
		how they can live more	
		sustainably.	

my own idea is:

Issue: **We need to live in houses that don't use too much energy.**

IDEA 1:		IDEA 2:	
It is illegal to build really	<i>Terrible Idea</i>	People get really	<i>Terrible Idea</i>
big houses if they use	<i>Bad Idea</i>	excited about building	<i>Bad Idea</i>
too much energy and	<i>Good Idea</i>	small houses and make	<i>Good Idea</i>
resources.	<i>Brilliant Idea</i>	do with less to reduce	<i>Brilliant Idea</i>
		each person's eco-	
		footprint.	

my own idea is:

Issue: **Our houses need to be able to withstand the harsher weather that climate change will bring.**

IDEA 1:		IDEA 2:	
The government provides	<i>Terrible Idea</i>	People have to	<i>Terrible Idea</i>
everyone with free fire	<i>Bad Idea</i>	change their own	<i>Bad Idea</i>
bunkers and storm	<i>Good Idea</i>	houses to withstand	<i>Good Idea</i>
shelters.	<i>Brilliant Idea</i>	the weather as best	<i>Brilliant Idea</i>
		they can.	

my own idea is:

Issue: We need to make sure our appliances don't use too many resources.

IDEA 1:	
Houses are designed	<i>Terrible Idea</i>
with electronic gadgets	<i>Bad Idea</i>
to make sure that those	<i>Good Idea</i>
we use don't need too	<i>Brilliant Idea</i>
much energy and water.	

IDEA 2:	
Our houses are a lot	<i>Terrible Idea</i>
simpler, with fewer	<i>Bad Idea</i>
electric appliances,	<i>Good Idea</i>
and we start doing	<i>Brilliant Idea</i>
things manually,	
such as hand-	
washing our dishes	
and clothes.	

my own idea is:

Issue: We need to be aware of dangerous weather patterns.

IDEA 1:	
Houses have early-	<i>Terrible Idea</i>
warning detection	<i>Bad Idea</i>
systems and high-tech	<i>Good Idea</i>
shields to protect us from	<i>Brilliant Idea</i>
the wild weather caused	
by climate change.	

IDEA 2:	
People move to areas	<i>Terrible Idea</i>
with calmer, more	<i>Bad Idea</i>
comfortable climates	<i>Good Idea</i>
so they don't have	<i>Brilliant Idea</i>
to worry about the	
weather so much.	

my own idea is:

Issue: Houses by the beach will need to be protected from rising tides.

IDEA 1:	
People live on house-	<i>Terrible Idea</i>
boats that float safely	<i>Bad Idea</i>
above the waves.	<i>Good Idea</i>
	<i>Brilliant Idea</i>

IDEA 2:	
People build high-	<i>Terrible Idea</i>
tech walls to stop the	<i>Bad Idea</i>
waters rising.	<i>Good Idea</i>
	<i>Brilliant Idea</i>

my own idea is:
