

Lesson 1: Dream Home

Pre-learning	<p>The Gapminder documentary by Hans Rosling could be a really powerful pre-unit watch to refer back to and give perspective to all students. https://www.gapminder.org/videos/dont-panic-end-poverty/</p>
Starter	<p>Design a dream home. Choose three words to describe how your dream home should make you feel and write these words on post-it notes. (Word library is supplied). Label the features of your home that would help you to feel this.</p> <p>Either: Teacher to collect and sort/categorise post-it words or students share their homes as small groups</p> <p>Discuss: Is there a difference between how a dream home makes you feel and it being a healthy home? <i>The layout, colours and superficial look can invoke feelings, but a healthy home often has hidden features or uses material that allows the people who live in it to stay healthy. There is some overlap like the layout (impacts sunlight and passive heating), but insulation, heat sources and ventilation can be overlooked.</i></p> <p>Teacher notes: Obviously discussing the living conditions of some students may be a little sensitive. Depending on your audience, and the relationships you have built, this starter may look very different. Please consider carefully potential responses of your students and how you may respond to some of the information students may share with you or the class about their living situation.</p>
Activity	<ol style="list-style-type: none"> 1) Hand out printed copies of House A and House B. 2) Can students label and identify the following items on the two pictures... <ul style="list-style-type: none"> - Heat pump, fire, fan heater, oil heater (heat sources) - Extractor fan, ground moisture barrier, open window (dealing with moisture) - Single glazing, double glazing, louvered windows that has glass slats (features that prevent heat loss) - External wall insulation, floor insulation, roof insulation (features that prevent heat loss) - Carpet, wooden floors, rug, blanket box, light curtains, heavy curtains (thermal backed), (features that prevent heat loss) 3) Use wavy arrows to show heat generation (red) and where there is heat escaping (blue). 4) Damp homes can lead to mould and damp which can impact people's health. Use water droplets to show moisture sources and where moisture gathers. The more water droplets the greater the source of moisture.

	<p>5) Use a highlighter to highlight features (excluding heat sources) that help keep homes and warm and healthy.</p> <p>6) Complete the true and false Quiz. (Facts about the impact different features have).</p> <p>7) Which home do you think would be warmer? Justify your answer.</p> <p>8) People always have limited money. Looking at the colder house what is one expensive upgrade you would recommend that will have a big impact?</p> <p>9) What are 3- 4 cheaper improvements or habits that you would recommend to help create a healthy home.</p> <p>Extension: 1) what does an HRV system do?</p>
Video	<p>https://youtu.be/kxjkRBbQnV8?list=PLbLtQJluJZAETkYm9ukNCasjNxoUF3L3U</p> <p>Teacher notes: This series of YouTube videos were created by the Ministry of Health as part of their Healthy Homes Initiative. A good introduction to some of the issues that are common in New Zealand's homes.</p>
Close	<p>Based on the discussion in today's lesson: what features would your dream house have so it has your desired feel? Explain how each feature helps achieve each feel.</p>

Assessing the New Zealand housing stock is a complex issue. We know that there are a large proportion of New Zealand homes from the past that have been constructed to a poor standard for the climate we experience in this country. Legislation to improve the quality of rental housing stock by meeting the “Healthy Home Standards”, has begun to address some of the issues of these unhealthy homes but there is still a long way to go. This legislation covers the approximately 600,000 rental properties in New Zealand but does not legislate homes lived in by the owner. [This article](#) from 2017 highlights some cost:benefit data for insulating NZ homes.

[This resource](#) from 2008 gives a very readable summary of some of the issues of our pre 2008 housing stock and provides some helpful references.

Some of the major issues with sub-par housing are energy efficiency and the health of the occupants.

In recent years, rheumatic fever (in addition to eczema, asthma and other childhood respiratory illnesses) has become a growing concern linked to unhealthy homes.

[This article summary](#) highlights potential connections between unhealthy homes and development of rheumatic fever.

There are also concerns around energy efficiency of our homes as a nation linking to climate change. 7% of our nation’s carbon emissions are from the energy consumption of our homes. The more energy efficient our homes, the less electricity will be required to heat them. This means less issues with electricity supply during peak demand times of the day and year and a more secure supply of electricity, in addition to lower carbon emissions.

Summarising for students could be along the lines of: homes that are poorly designed for the New Zealand climate (or built with outdated, inefficient materials) can contribute to poor health of the occupants and create added demands on the environment as they consume more energy to make them liveable. If the occupants are unable to afford to pay for the electricity to make their home comfortable and healthy then this can further contribute to poor health of the home and those who live in it.