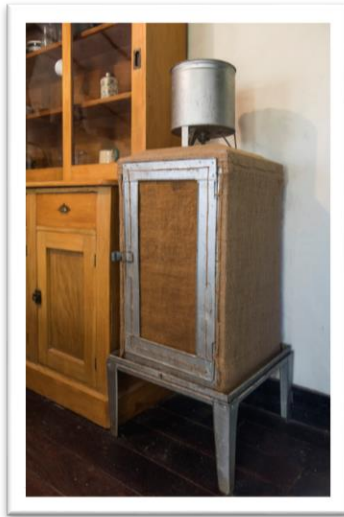


**Comparing objects in the home  
past and present**



## Table of Contents

<b>Object comparison: lesson ideas and activities .....</b>	<b>3</b>
<b>Domestic technology: background notes .....</b>	<b>10</b>
<b>Electricity in Perth and Wanneroo .....</b>	<b>22</b>
Activity ideas: electricity to Wanneroo .....	23
<b>Water in Wanneroo .....</b>	<b>25</b>
Activity ideas: water in Wanneroo .....	26
<b>Further activities.....</b>	<b>31</b>
Chores past and present .....	32
<b>References.....</b>	<b>33</b>

### Internet Websites - disclaimer

*In this document links to websites have been recommended. Links were checked at the time of publication; however, we have no control over any changes which may be made to those webpages. We suggest that you check all urls before accessing them for activities.*

May 2020

## Object comparison: lesson ideas and activities

### Teaching purpose:

- Compare objects from the past with those from the present and consider how places have changed over time ([ACHASSI039](#)).
- Exploring how changing technology affected people's lives (at home and in the ways they worked, travelled, communicated and played in the past) and how the technology of the past differs from what is used today ([ACHASSK046](#)). General Capabilities: CCT, PSC, IU

### Engage:

1. Show the first [Object Comparison PowerPoint](#) Slide which has two items side by side. These have a similar use but are from different time periods. Ask the students which one is more recent and which one is older. Brainstorm how we can tell this from the object's appearance. Discuss physical attributes: size, shape, colour, materials, how it works – by hand, electricity, oil, condition of the object, etc.
2. Bring up the materials checklist (see resources below) – are there other ideas in the checklist which we can think about to give clues about an object's age and use?

### Explore:

1. Play the PowerPoint on a smartboard for a closer observation of the objects. This activity can be done across a few lessons if required.
2. Look at each object in the PowerPoint and have a classroom discussion whether each object is from the past (then) or present (now). See the notes below for explanations to prompt further discussion.  
Suggested activities during the PowerPoint:
  - On the whiteboard draw a table with two categories for past and present objects. During the PowerPoint discuss the materials for each object and make a list as a class. At the end of the PowerPoint check to see if there are any materials that are found in both categories.
3. Select from the worksheets following this lesson for students to complete:
  - a. Then and now sorting activity (*note*: check for vocabulary understanding first)
  - b. Then and now matching activity
  - c. Then and now comparison activity

### Extend:

- Watch the [ABC Education Buckingham House film clips](#) which demonstrate how some of the old fashioned items work.
- Students may choose to develop a timeline of how one of the domestic items have changed over time.
- Reflect on what changes in technology have meant for work at home. Explore the meaning of 'manual labour'. From looking at items such as the washboard, what ideas do we get about how much time was needed to do household chores? Why were children so important as helpers in the home?
- Invite (great) grandparents to come in and talk about how life has changed for them in the home.
- Explore historical inquiry through object investigation in greater depth (see resources).
- Do a virtual tour of Buckingham House or Cockman House and examine the similarities and differences in the homes compared to today.

**Explain:**

- The images and videos of the old fashioned items are from Buckingham House, an historic house in Wanneroo which was built in the 1870s.
- Discuss similarities of materials such as both past and present ovens and irons have metal components for heating, both the modern sink and wash basin are ceramic, the chamber pot and modern toilet are ceramic, glass is used in the oil lamp and modern light bulb.
- Even though some present and past objects are made from metal, you can mention that something called stainless steel was invented in 1913. Stainless steel doesn't rust. See if the students can point out if any of the objects in the PowerPoint have rust.
- Discuss differences: Wood is not used for toilets and fridges anymore. Plastics are used in present day appliances such as parts of the iron, fridge and washing machine.
- Many metals are good electrical conductors, which mean they allow electricity to pass through them. That is why metal is used in the plug of an electric appliance. Metal is used in plugs to allow electricity to transfer from the wall socket, through the plug. Look at the photo of the modern iron to see the plug.
- Some materials, such as plastic, do not let electricity pass through them, they are called electrical insulators. That is why plastic is used to cover the wires to stop us getting an electric shock. Point out the plastic part of the plug.

**Resources and further information**

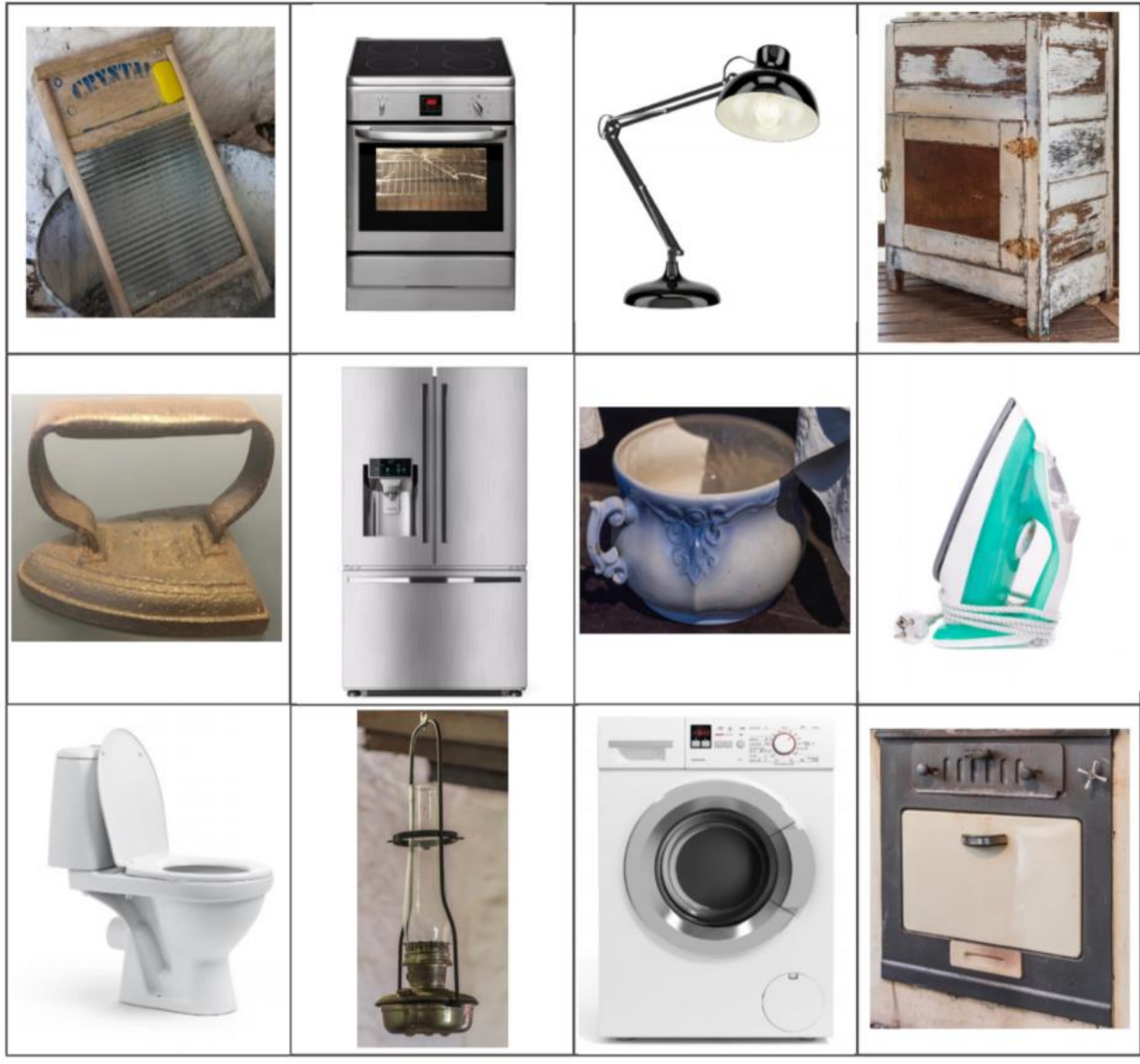
- [Powerpoint: Comparing past and present objects](#)
- Then and now sorting activity
- Then and now matching activity
- Then and now comparison activity
- Investigating an object - checklist
- Domestic technology: teacher background notes
- [Historical enquiry through object investigation resources](#)
- [ABC Education Buckingham House Videos:](#)
- [Buckingham House virtual tour](#)
- [Cockman House virtual tour](#)
- See the [My Place resources](#)

## Then and Now Sorting

Cut out the objects and sort them into then or now.

Then/Past	Now/Present

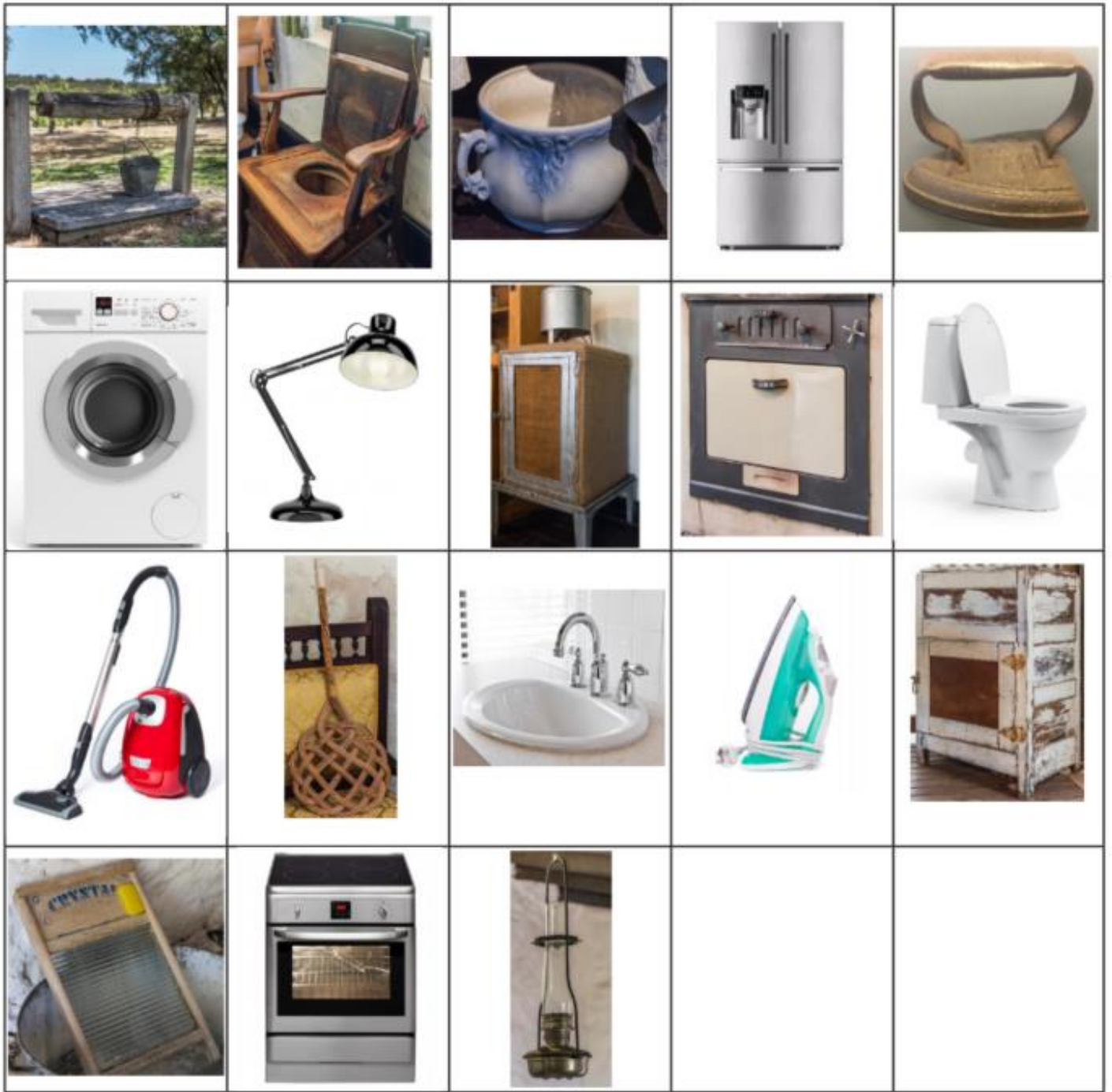




### Vocabulary List

washing board  
fridge  
electric iron  
light bulb  
flushing toilet  
flat iron

ice chest  
electric or gas oven  
chamber pot  
wood stove  
oil lamp  
washing machine



## Then and Now Matching

Match the old and new household objects

Then

Now

What is the use of the objects?: \_\_\_\_\_

List three things that are the same:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

List three things that are different:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Future

Imagine what this object will look like in the future. Draw a picture and describe it.

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## Investigating an object...

Question	Observations/clues (What I see)	What conclusions I've made from my observations so far... (I think/I know...)
<p><b>What is it made of?</b> (E.g. plastic, steel, cotton, glass, porcelain...)</p>		
<p><b>How old is it?</b> (E.g. is it from your grandparents time? Is it before plastic - i.e. more than 60 years old?)</p>		
<p><b>What condition is this object in?</b> (E.g. poor, good, broken, working, rusty...) <b>Are there any hints to show what might have happened to it?</b></p>		
<p><b>How can I tell what it was used for?</b></p>		
<p><b>Does it have a brand name on it?</b></p>		
<p><b>Does it have any decorations on it? Do they mean anything?</b></p>		
<p><b>Is there a modern version of the object? How is it different?</b></p>		
<p><b>What could help us find out more and where can I find it?</b></p>		

## Domestic technology: background notes

### Wash board

#### Inquiry questions

**How do you think the wash board was used to clean laundry?**

**Why do you think there are grooves on the glass of the wash board?**

Monday was normally the washing day. The woman of the house would fill the copper with water and light a fire beneath it.

The clothes and other things to be soaked went into the boiling water with soap for around 30 minutes. A long piece of wood or tongs were used to turn over and lift the very hot clothing from the copper.

Laundry would also be cleaned on washing boards, with soap and water. The fabric was rubbed on the grooves of the wash board. The grooves helped remove the dirt. The laundry would then be added into some clean water to rinse out the soap.

After washing and rinsing, the white clothes were 'blued' to make them look whiter. This meant they were rinsed in water steeped in [Reckitt's Blue](#). Some clothing articles would have been starched (to stiffen clothes).



Mum did the washing by hand and scrubbed the clothes on a scrubbing board in steel troughs. Her hands were chaffed, gnarled and split from the work.

- Angela Ayres

### Mangle

Fabric was placed in between the rollers of the mangle and by turning the handle on the side the rollers would move the fabric through, causing the water to be squeezed out.



#### Inquiry Questions

*Did you know?* It could take up to a whole day to do your washing.

**Why do you think it took so long to do the washing?**

**Can you imagine spending a whole day washing laundry by hand? How would you feel if that was one of your jobs?**

I did the washing on the back verandah in three galvanised iron bath tubs. I washed twice a week and it took all day each time.

- Dolly Cockman

## Washing machine

In the 1800s early forms of the washing machine were invented, but they were still very labour intensive. They were wooden and had wheels to be turned or levers to push, and were based on the method of pounding the washing in water to loosen the dirt. Modern washing machines are now run by electricity. The first commercially made electric washing machines were being sold in the early 1900s such as the Thor washing machine in 1907.



Electricity in modern machines helps with lots of functions such as:

- opening and shutting the valves to let water in and out
- heating the water
- rotating the inner drum (where the laundry goes) to wash, rinse and spin water out of clothing
- helping to pump the water out

The inner drum has paddles on the edges and rotates, causing the clothing to move in the soapy water. The water then gets pumped out and fresh water enters to rinse clothing. There are a few rinse cycles. Spin cycle at the end rotates the inner drum very fast to help remove excess water.

Detergent or washing powder is used to help remove the dirt. (Note that modern washing powder often still contains 'blue' particles in it, similar to the old-fashioned [Reckitt's blue](#) (check your washing powder – this can be interesting for students to look for) although these are probably [optical brighteners](#) – the modern replacement for bluing.

### Inquiry Questions

**Compare these steps to the past way of washing. What is similar and what is different?**

## Flat iron

In the past, irons were heated on top of the wood stove oven. A flat iron would require the use of a piece of cloth to hold the handle. Metal is a conductor. When the iron was heated on top of a stove, heat transferred between the stove to the iron. However, they did not stay hot for very long and needed to be heated again, so ironing took a long time. Sometimes there were two irons so that one could be heated up while the other was being used.

### Inquiry Questions

**Why do you think these old irons are made out of metal?**  
**Why would you need a cloth to hold the handle?**

## Mrs Potts' iron

This iron was invented by Mary Florence Potts. The handle is removable by a clip. By having the iron made of metal and the handle made of wood it meant that the handle would not get hot. An advantage of a removable handle is that a spare metal base can remain on the stove to heat and can be swapped over for immediate use.

Cotton clothing would require a bit of water to be sprayed onto the clothing during ironing to create steam.



Mrs Potts' iron

Flat iron

## Electric iron

Electric irons were invented in the 1800s but looked a lot different to what we see today. They didn't have a power cord but were heated on an electric stand. In 1903 electric cords were attached to irons and in 1926 steam irons were invented. Previously water had to be sprinkled onto the dry clothes or clothes were ironed while still damp.

Modern-day irons use electricity for heating. Irons today work when an electric current passes through a coil inside the iron which gets hot and the heat is transferred to the base plate through conduction.

Look at the bottom of the modern iron. Metal (usually aluminium or steel) is still used on this object too.

See if the students can point out these differences in the modern iron.



### Inquiry Questions

**Why is the bottom made from metal?**

**Why is the handle made from plastic?**

**What is similar about the irons?** E.g. Pointy front, both made from metal, both have a handle, both use heat to smooth wrinkles from the fabric

**What is different about the irons?**

E.g. The modern iron has some parts made from plastic, has dials and buttons, has a power cord as it needs electricity, a compartment for water

## Wood stove oven

This oven is heated by burning wood. Coal was also a means of heating some ovens. It is made from a metal called iron.

This oven is found in the kitchen at Buckingham House. See if students can point out that there are two doors. The top door opens a compartment where the wood is placed to burn. The metal handle on the side opens vents at the back letting in oxygen which is needed for a fire to burn. Closing the vent helps put out the fire. Smoke from the fire leaves through the chimney.



The bottom door is the compartment where the food is placed to be cooked. This oven has metal shelves inside.

### Inquiry Questions

#### **What would be difficult about using a wood stove?**

E.g. Having to light a fire can take some time; you need to collect wood; it can take a long time for the oven to heat up; how do you know the temperature and timing of how long food has been in the oven?

There was no stove in the house, so I cooked our meals on an outside open fire.  
- Dolly Cockman

For some people who didn't have an indoor oven, cooking on an open fire outside the home was required. This quote from Dolly Cockman was from around 1915.



## **Electric or gas oven**

Electric cookers were first designed in the 1890s but they were expensive to buy and run. Also electricity to houses was a slow development. By the late 1920's they were cheaper and had more efficient heating elements.

Modern ovens use electricity or burning gas to heat up the oven. Some ovens have a fan that can be used to help move heat around the oven.



### **Inquiry Questions**

#### **What is similar about the ovens?**

E.g. same shape, both made from metal, have a handle and door, have a place to put the food to cook, both have a top to heat pots on.

#### **What is different?**

E.g. Modern oven has buttons and dials to control temperature and have a timer, modern ovens don't need a compartment to place wood, different heating methods.

**Can you think of some other appliances in your kitchen that are used for cooking?**

## Coolgardie Safe

### Inquiry Questions

**What do you think this object is used for? What would be stored inside?**

**What do you think is put in the metal container on the top?**

Water is added into the top metal container and a little tap is turned which causes the water to drip down into the hessian material on the sides. The Coolgardie Safe was placed near a doorway or somewhere where a breeze could hit the material. As the water evaporates it cools the air inside the safe.

Did you know? This is a [Western Australian Invention!](#)



## Ice chest

To begin with, ice chests were made of wood and lined with things like galvanised iron and insulated with things like charcoal or cork. In this ice box a block of ice was placed into the top compartment. Food was stored in the bottom compartment and was cooled from the cold air from the ice. The warm air from the food rose and gradually melted the ice. The ice blocks were made in a factory and the ice was delivered by an ice man by horse and cart to households.

The Perth Ice Factory opened in 1870.



Dad ... made sure that we could keep our food fresh. The supply room had a sand floor, so he dug a large hole and put an ice chest there. It was the coolest spot in the house. Once a week he brought home a fresh block of ice.

- Anne Germano

### Inquiry Questions

**Why would the ice chest have wood on the outside?**

Wood is a thermal insulator, which means it reduces heat transfer. You would want to try and block heat from entering to keep food cold.

**Do you think the inside of a Coolgardie Safe or ice chest would be very cold compared to a modern fridge?**

**Do you think food stored in them would last very long compared to storing food in a modern fridge?**

## Refrigerator

In 1834 the first refrigerating machine was built. Other inventors over the years contributed to the design process and by the 1920s people could buy a fridge for their home.

A modern fridge uses electricity and a chemical called a 'refrigerant' to draw heat out of the inside of a fridge. This chemical is turned into a gas, absorbs heat from the food and the gas is turned back into a liquid, and the cycle repeats. For an interactive visual illustration see <https://mocomi.com/how-does-a-refrigerator-work/>

Electric fridges didn't become common in Australian households until the 1950s when electricity became more widespread.



### Inquiry Questions

**What is similar about the Coolgardie Safe, ice chest and modern fridge?**

E.g. Food is kept cool; they have doors and handles; metal parts

**What is different?**

E.g. Modern fridges use electricity and a refrigerant chemical; in the past water or ice was used for cooling; they were made from locally sourced materials like hessian and wood; ice had to be delivered regularly for the ice chest.

**Why is it important to keep certain foods in a refrigerator?**

## Cleaning in the home

Have a look at the [virtual tour of Cockman House](#) and point out the wooden floors in the houses. See if you can find any decorative rugs.

### Inquiry Questions

**What do you think this object is used for?**

**Why do you think these heritage houses have wooden floors instead of fully carpeted rooms?**



Small rugs would be taken outside to clean. A **rug beater** was used to beat the dust out of a rug.

### Inquiry Questions

**Can you think of something else that might be used to clean the floors? Do we still use those things today?**

## Vacuum cleaners

One of the first vacuum cleaners for the home was invented in 1907 and made from a tin can, broomstick, a pillow case and worked using an electric motor!



Vacuum cleaners work using electricity, which supplies energy to its electric motor. This motor is attached to a fan, which sucks in air and loosens dirt. Dirt is loosened by the rollers which 'beat and brush' dirt to make it loose.

### Inquiry Questions

**What is similar about the rug beater and vacuum cleaner?**

**What is different?**

## Candles

Candles were used to light homes. Candle wax can be made from different materials such as beeswax and paraffin. Paraffin wax was invented in the 1850s by James Young and is derived from coal or petroleum. The wick is lit to cause a flame, producing light.

Candle holders had an important job! They would catch the dripping wax and allow for the candle to be safely carried around.

*Did you know?* Animal fat left over from cooking would often be used for candles and soap!



← Wanneroo beekeeper Mr G. Brady used this mould to make candles from beeswax. (Wanneroo Regional Museum)

### Inquiry Questions

**Do you think it would be easy to read or do things by candlelight?**

**What are some difficulties using a candle?**

**What are some benefits of using candles?**

**When have you or your family used candles?**



## Lamps

A lamp is a device that holds and burns fuel, typically oil, as a means of producing light. Through the course of history lamps have taken on many shapes and forms.

Oil lamps date back to ancient times. Over the course of history they have been made from different materials such as stone, clay, shell, glass, pottery and metal. Different oils such as animal fat (eg whale oil), beeswax and olive oil have been used.

### Slush lamps

Early lamps in Australian colonies used tallow, which is animal fat, that would be placed in a bowl and a cotton wick or rag would float in it. This would be lit with a flame.

### Kerosene lamp

Kerosene lamps became popular from the 1860s when the first well for petroleum oil was drilled in 1859. The lamps were mainly imported from Britain and North America.

Kerosene would be poured into a compartment. A wick, usually made from cotton or hemp, absorbs the kerosene and the wick is lit. It burns, causing a flame, which produces light. An adjustment knob controls the brightness as it lowers or raises the wick, and changes the size of the flame.



### Inquiry Questions

**Kerosene lamps started to become less popular as a way of lighting the home because of another invention. Can you think of what that invention is?**

The invention of the electric light bulb and electricity to houses.

## Lighting past and present: additional activities

Have a look at the [virtual tour of Cockman House](#) to help complete the questions below:

### Questions

- How many candle holders or lamps can you find?
- What other forms of light can you see in the living room and kitchen?
- In the past what activities do you think would need a source of light at night time?
- What activities do you do at night that require a light?



## Light bulbs

Light bulbs produce light from electricity.

Over history there have been many inventors who have contributed to this invention.

The main types of light bulbs are:

### Incandescent

There is a thin wire called a filament inside the bulb, made from tungsten. An electric current flows through and the filament gets hot causing it to glow.

This type of bulb was what the famous inventor Thomas Edison worked on. He focussed on improving the filament. Originally he made the filament from carbonized uncoated cotton thread, which could last 14 hours. He then experimented with carbonized bamboo filament that could last about 600 hours. He first patented his light in 1879.

European inventors in 1904 started experimenting with tungsten for the filament, which is used today.

### Fluorescent lights & LED lights

**Fluorescent lights** are a glass tube filled with argon gas and a little mercury. **LED lights** contain a microchip containing things like silicon. Both of these lights also require an electric current to work. These lights last longer than the incandescent. See the links below for how they work:

[Invention of the bulb: The Dr Binocs Show](#)

[https://kids.kiddle.co/Light\\_bulb](https://kids.kiddle.co/Light_bulb)

<https://sciencing.com/information-light-bulbs-kids-5561995.html>



#### Inquiry Question

**What else can produce light?**

E.g. battery operated torches; solar power; etc.

## Electricity in Perth and Wanneroo

### Perth history

Electricity was brought to Western Australia in 1888 by CJ Otte and his Western Australia Electric Light and Power Company. In 1892 the first electric street light was installed in Perth. Gas lights were used prior to electric streetlights.

Early power stations were built in Claremont in 1900 and East Perth (built between 1913-1916).

In 1946 the South West Power Scheme was created. Its aim was to create a high voltage transmission grid that could carry power over long distances. It relied initially on power stations in Collie, South Fremantle, Perth and Bunbury. Wanneroo, however, was not part of this initial grid.

### Wanneroo history

The City of Wanneroo received mains electricity on 23 June, 1954. The power reached only as far as the corner of Wanneroo Road and Pinjar Road intersection (known as the '15 mile peg'). It took ten years of lobbying to finally get the mains electricity to the area. Street lighting came to Wanneroo in 1959.

#### Activity suggestion

Use Google Maps to find the corner of Wanneroo and Pinjar Roads to see where electricity went to in Wanneroo in 1954.

If your school is in the City of Wanneroo, find your school on Google Maps and decide as a class whether your school is in the area of receiving the electricity. Discuss how different the area would have looked.

## Activity ideas: electricity to Wanneroo

### News article

View the newspaper article [Wanneroo to Celebrate in Electric Light](#) from *The West Australian* (17 June, 1954) and answer the questions below:

**Try and picture yourself as one of the people living in Wanneroo in 1954 experiencing electricity for the first time. How would you feel?**

**How do you think the people who lived in Wanneroo felt having to wait ten years to get electricity? Why do you think it took so long?**

**What do you think it would be like to live in a house without electricity?**

However, not everyone in Wanneroo liked the introduction of electricity:

“... I don't like electricity a lot. It is just lovely and peaceful when you haven't got it. You need it for reading but we used to just have an oil light - one oil light for the house. That was it and we had a little lantern we had outside to go to the toilet with”.

Joy Fleming

### Question:

**What do you think Joy Fleming means when she says it's more peaceful without electricity?**

### Activity suggestion

Write a diary entry:

Imagine you are finally getting electricity to your house for the first time. Write down how you are feeling. What electrical items would you purchase first? Make a list.



## **Power generation**

### **What is electricity?**

Electricity is a form of energy. It occurs naturally such as in lightning and it can be generated.

### **Electricity in Western Australia**

Electricity is produced by converting a fuel source into electricity. In Western Australia, coal and gas are the main fuel sources, but diesel and renewable sources such as water, solar and landfill gases are also being used.

You might notice that in some places in Western Australia there are overhead power lines, but they aren't seen in other areas. This is because some suburbs of Perth have underground power networks.

### **Why is this?**

Originally Western Australia's electrical network was constructed overhead but because of new technology it is made it possible to develop the network underground.

New subdivisions from 1991 onwards have the underground system installed.

### **Videos**

[Introduction to Electricity:  
Learning Junction](#)

[Power Generation: PSEG  
Long Island](#)

[History of Electricity: BTN](#)

## Water in Wanneroo

The freshwater chain of lakes in Wanneroo have long made this an area where Noongar people have lived, hunted, collected food and held ceremonies for millennia. (See [Water in Aboriginal Culture](#) from the Water Corporation for videos and resources).

In 1829 the early settlers to the Perth area used the swamps, lakes, and a few freshwater springs for their sources of water. Shallow wells were used to collect ground water, and water tanks storing rainwater were also used.

There were some issues surrounding water from wells as the water from it could get contaminated by sewerage as cesspits (a pit where sewerage is placed) might be in close proximity resulting in people getting sick.

Dams such as the Victoria Reservoir were opened on in 1891 and some of the inner Perth city homes had water supplied from this dam.

In 1963 the government hired a team of hydrogeologists to investigate the use of groundwater as a water supply.

Over the course of the years as suburbs began to expand construction began of main sewers, water pumping stations and treatment facilities. People not connected to the main sewers had a septic tank at home, which is a small scale sewerage treatment system

Most households are now connected to main water supply. Some people also have a garden bore (A bore pumps up water from shallow groundwater supplies) or a rainwater tank which is used to water their garden. This water, however, is not recommended for drinking.



The water was drawn from a well and carried 100 metres to the house in buckets. In later years we put down a bore and pumped water to the house. - Paul Conti

We pulled 20 buckets of water just to do the washing. I was 10 then. - Eva Mola talking about using a well. (1940)

We got our water from a bore, which was an interesting dark brown colour, but we drank it when we had to. Arthur Tarbox

### Question:

**How would you feel if it was one of your jobs to collect water from a well? Do you think that chore would be easy or hard to do?**

**Activity suggestion:** If your school oval has a 100 metre track marked out practise walking that distance, possibly carrying a bucket of water.



## Activity ideas: water in Wanneroo

### Cockman House water supply

See the Cockman House teacher resource for information about the water supply at Cockman House: [Cockman House Education Resource](#)

Show students a satellite image of Cockman House's location. Note the proximity of the lakes. Why would this be important for a farm?

### Virtual tour activity

Look at the [Cockman House virtual tour](#) and see if you can find the wells.

(*Note: one well is located next to the house but has metal mesh over for safety, and the other is behind the house.*)

See if you can find the water tank, which is used to collect rain water. The windmill has an important role in producing energy to pump groundwater.

### Videos

#### Windmill Videos

Basic video of water being pumped using a windmill:

[Windmill Pumping Water: American Windmill Museum](#)



## Toilets from the past

It was not common to have a bathroom in your house before the 1850s. Generally bathrooms were outside, and sometimes called the 'washhouse'. Many houses had an outdoor toilet, commonly known as the 'dunny'. Basic indoor toilets such as chamber pots ('potty') or a commode were used.

**Chamber pot** – this was stored under the bed. It was emptied in the morning into a toilet can (outside!) Chamber pots can be made from many different materials. The one in the photo below is made from ceramic and looks very decorative.

**Commode:** a hole is placed into the seat of a chair and the chamber pot is placed into this hole. This commode has a lid.



Chamber pot



Commode

## The night soil man

The human waste would be collected into a toilet can. The removal of the waste was a job done by the night soil 'dunny man' who would collect the toilet cans and take them to a sanitary depot. There the waste was emptied into a hole called a cesspit, and the toilet can would then get returned. See the [talking toilet can](#) film clip for an introduction about their use (Wanneroo Regional Museum).

Before then [flushing toilets] we used the old dunny down the garden.

The toilet seat was a piece of board with a hole in it. Underneath the board was a four-gallon drum or kerosene tin.

I emptied the dunny tins because my husband didn't like doing it.

- Eva Mola



Cockman House dunny

## Flushing toilet

Many people were involved in the design process of the flushing toilet over a period of time.

There is some evidence that suggests early forms of the flushing toilets date back to ancient times. There was also a flushing toilet designed in the medieval era (around 1596) known as the water closet, but this did not become popular.



Most associate the invention of the flush toilet with 'Thomas Crapper' whose company started building and installing toilets using a 'siphon system' in the late 1800s, although there were a number of inventors who contributed to the toilets we know today. See [who invented the flush toilet?](#) for more information.

### How it works

#### How modern flushing toilets work: 'siphon system'

There is water stored in the top compartment, called the tank. When the button is pushed it pulls a 'stopper' that's inside the tank (think of removing a plug in a sink). Water goes down into the bowl at such a force that it pushes the waste out the drain pipe and around the S bend pipe.

Inside the tank is a floater, which lowers down when the water from the tank goes into the bowl. This then causes a lever to tilt, opening the ball valve (think of this like turning on a tap). When the valve is open, water can enter into the top part of the tank. This then causes the float to get pushed back up. When it's at the correct level, it causes the ball valve to close (think of this like turning off a tap). The tank is now filled with the correct amount of water ready for another flush.

Toilets and plumbing are very important. Flushing toilets and good sewerage systems help prevent the spread of diseases and therefore prevents people from becoming sick.

#### Inquiry Questions

**Why is the flushing toilet such an important invention?**

**Today toilets are usually inside the home. What is your toilet next to in your house? Is this the best location for a toilet or do you think they should still be outside? Why?**

#### Videos

[History of Toilets: BTN](#)



## **Modern plumbing**

Plumbing in the home has two systems: one system entering the house bringing in fresh water, and one system leaving the house with waste water and sewerage.

When fresh water enters our house it comes from a main water supply. Pressure is needed to bring it in as the water needs to move to different areas of our house. This water is cold so in order to be heated it goes to the home's water heater. Some appliances such as a dishwasher and washing machine have built in heaters as well to help get the water to the temperature needed.



The waste water system does not need to use pressure to remove the waste as the pipes for this are on downward slope. Thank to gravity this moves down the pipes. The waste goes to a sewerage treatment plant.

Did you know that the pipes which remove waste use a 'trap' which is a curved pipe? A little bit of water remains in the curved part of the pipe. This actually stops sewerage gas coming into the house so we don't have a bad smell and prevents bacteria. That is why in a modern flushing toilet there is a little water left in the bowl.



## Western Australia: water supply and the removal of waste water

The Water Corporation organises the supply of water to most homes in Perth. There are a few different water sources:

- Desalination: the process of removing salt from sea water
- Groundwater from rainfall
- Dams - rainfall that runs off the land into streams and ends in a dam

Dam water used to be the main source of Perth's water supply. However, because of our climate changing there is less rain. Nowadays, dams are used to store water that has been through the desalination process or from deep groundwater. The water is 'treated' first so it is clean and safe for us to use.

Groundwater replenishment: This is a process of treating waste water to get it to the highest drinking water standards. This currently makes up 2% of Perth's water supply. It is believed that by 2060 it could make up to 20%.

Waste water: The human waste from toilets and waste water from things like showers goes to a wastewater treatment plant. Then it goes through a process to make it safe to return into the environment. Videos on this process are found below.

*Did you know?* The Gngalara Mound groundwater system supplies most of Perth's water supply.

### Activities

Look at the Western Australia Water Corporation education youtube channel for more information on the water supply and removal processes:

[Water Corporation Youtube Channel](#)

Search for your school address on the Water Corporation website. Have a look at the timeline to see the difference between Perth's water supply in the 1960s and now. Look into the future predictions. Something to point out is the difference in population and what this means for our future water supply.

<https://www.watercorporation.com.au/Our-water/Perths-water-supply>

See if children are familiar with any of the Water Corporation's water saving campaigns for home (e.g. sprinkler days; 3 minute showers). See the lesson plans and activities for water conservation: <https://www.watercorporation.com.au/Education/Water-supply-and-water-conservation>

## Further activities

**Look at the virtual tours of Buckingham House and Cockman House.**

[Cockman House Virtual Tour](#)

[Buckingham House Virtual Tour](#)

- Most of the object photos in the attached activity are from Buckingham House. Use the virtual tour to see if you can locate the objects.
- Prompt students to observe what is similar or different in each room of the heritage houses compared to their house.
- Notice there is no bathroom in Buckingham House. Cockman House has an outside dunny (toilet). Notice that both houses have a laundry outside. This is because these houses didn't have indoor plumbing like modern houses.

### **Re-enact the chores**

Have students re-enact some of the chores from the olden days. There are some online stores that sell wooden scrubbing boards. If this is not a possibility then have students scrubbing fabric with scrubbing brushes. Peg clothes on a makeshift clothes line.

### **Charades**

Have students in pairs or groups act out the actions of the past and present objects. Have the others in the group guess the action

Example: Pretend to scrub on a washboard, emptying the potty, lighting a fire in the wood oven, using a washing machine

### **Children's roles**

See the [Cockman House teacher guide](#) for more information about gender roles.

Read the quotes on the page below and have a classroom discussion on what chores the students do at home now. Does anyone do similar chores to what children in the olden days did? Do you think children were often expected to do more chores in the past? Why/why not?

## Chores past and present

The boys chopped and gathered wood for the fire and helped dad in the garden, while the girls helped mum in the house and kitchen.

- Margaret Cockman

My girls could cook, wash clothes and do everything in and around the house by the time they were 14.

- Eva Mola

*Talking about washing day...*

The sheets were the worst to wring and hang out. We girls helped with the sheets and towels. We ironed all the clothes over a towel using an iron heated on the woodstove.

- Zivkovich family

Some kids worked an hour or two in the gardens or dairies before school.

- Steve and Nick Jambanis

Sam said that at 14 he was expected to do a man's work, and he did. "I worked alongside adult workmen in the garden turning the swamp peat over with a spade".

- Sam Conti (1940s)

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