

## Lesson 3:

Electricity in nature and the home



Part of Energy Queensland



# ENERGY DETECTIVES





# What have we achieved on our mission so far?

Sitting in a circle, as a class, try and remember the difference between **energy transfer** and **energy transform**.

Once you have remembered the definitions, play the 'pass the energy game'.

# Learning intentions

- Understand different forms energy can take in nature
- Understand the difference between energy transfer and transform
- Understand how energy can be transferred or transformed in the home



# Today's Mission!

**Read The Storm That Lit Up The Sky as a class and answer the questions along the way**

Then complete the worksheet in pairs on how energy can be transferred and transformed in the home.



A landscape painting depicting a dramatic scene. The sky is filled with dark, swirling clouds, with a bright, golden-yellow light source on the left side, possibly the sun or a lightning bolt, illuminating the clouds and the surrounding environment. In the foreground, there are several trees, including a prominent one on the left with a thick trunk and sparse branches, and a smaller one on the right. The ground appears to be a dry, open plain.

# THE STORM THAT LIT UP THE SKY

Out on the open plains of **Queensland**, the sky was heavy with dark, swirling clouds. A strong wind rushed through the gum trees, and the air felt thick—like something powerful was about to happen...

High above the ground, inside the storm clouds, something invisible was happening.

Tiny ice and water droplets bumped and crashed into each other as the wind tossed them around like a dance. Each bump passed on a tiny bit of **electrical energy**, like a secret handshake.

That energy didn't change—it just moved from one droplet to another, again and again.





As more and more energy built up, the cloud started to charge up like a giant invisible battery. Eventually, the energy had to escape—it couldn't hold it anymore.

Then—**CRACK!**

**A bright, jagged bolt of lightning** tore through the sky, jumping between the cloud and the ground.

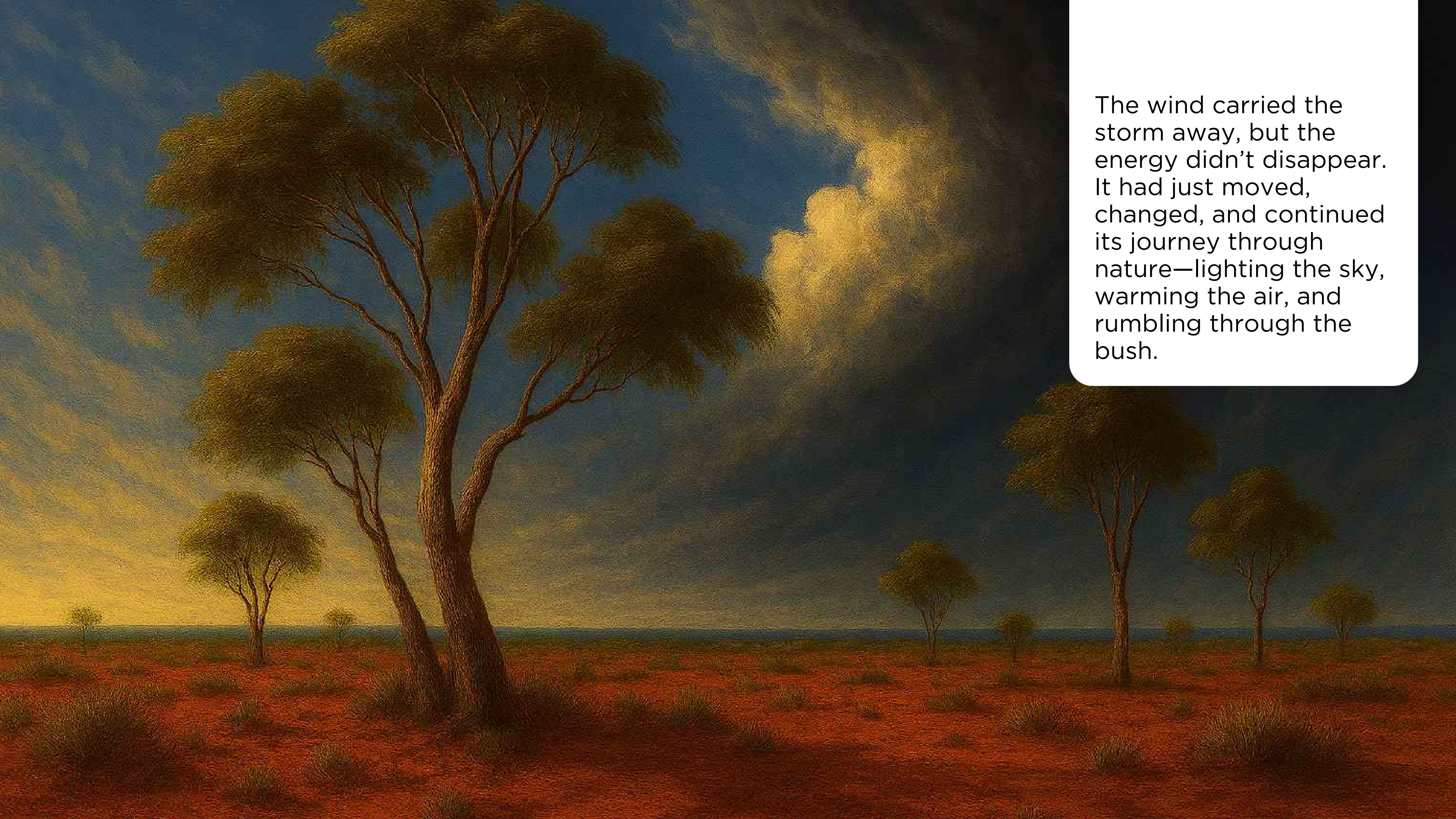
In that one split second,  
something amazing  
happened: the **electrical**  
**energy** from the cloud  
**transformed** into other kinds  
of energy.

It became **light energy**,  
flashing across the sky.

It became **heat energy**,  
making the air so hot it  
expanded suddenly.

And it became **sound**  
**energy**—that loud **BOOM**  
of thunder that made the  
ground shake.





The wind carried the storm away, but the energy didn't disappear. It had just moved, changed, and continued its journey through nature—lighting the sky, warming the air, and rumbling through the bush.

# Story discussion questions

**1**

**What part of the story showed energy being transferred?**

What was moving?

What kind of energy was it?

**2**

**What part of the story showed energy being transformed?**

What types of new energy were created from the lightning?

**3**

**Why do you think the storm needed to release all that energy?**

**4**

**Can energy ever disappear completely?**

What do you think happens to it after the storm?

**5**

**Where else in nature can we see energy being transferred or transformed?**

Can you think of examples on land or in the ocean?

# Other examples in nature

Think

Pair

Share

Think of examples of energy transfer and energy transform for:



**Bushfire**



**Food chains**



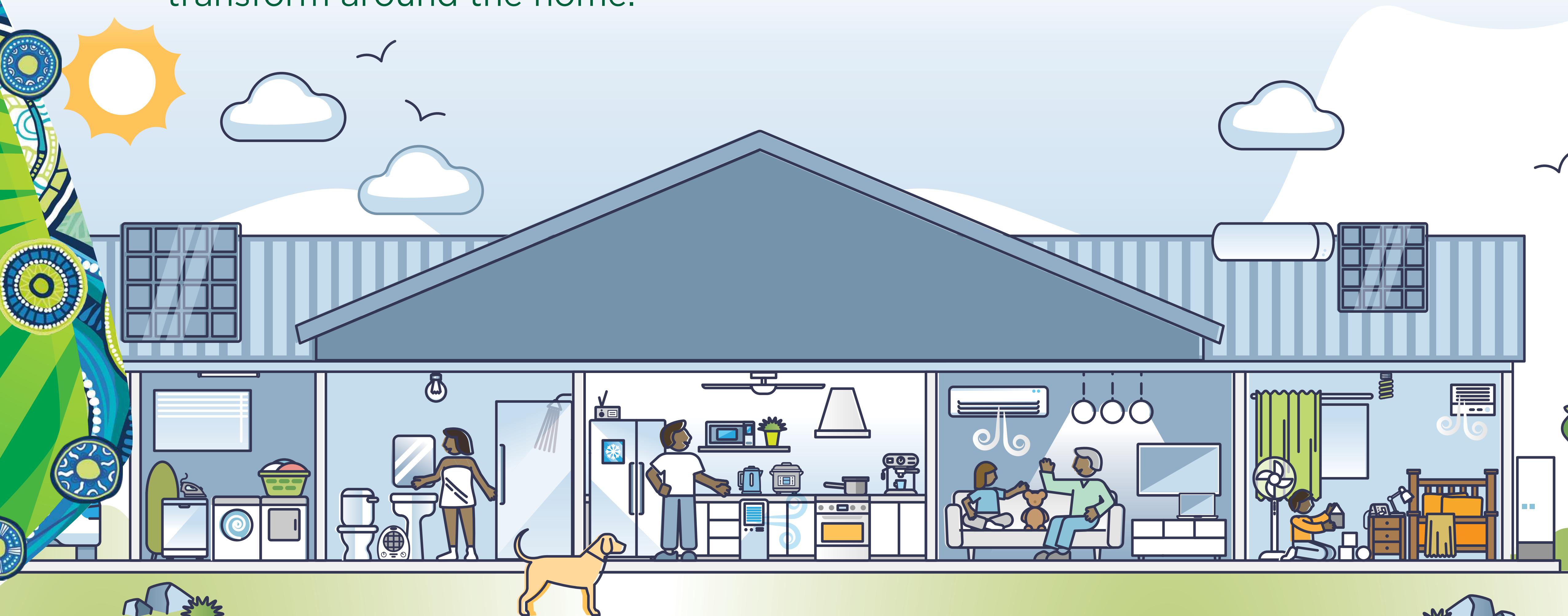
**Waves**



**Sea turtle swimming**

# Energy in the home

In pairs, complete the worksheet to explain energy transfer and transform around the home.



# Mission report

Come together as a class to check your answers to the worksheet:

## Classify These - Answers

- a) Transfer
- b) Transformation
- c) Transfer
- d) Transformation
- e) Transfer

## Fill in the Blanks - Answers

- 1. heat
- 2. sound
- 3. light
- 4. mechanical

## Challenge Question

Energy transfer is the movement of energy from one place to another, while energy transformation is the changing of energy from one form to another. For example, when you turn on a light, electrical energy is transferred from the power outlet to the light bulb, where it is transformed into light and heat energy.