Power Challenge
Energy transformation

Video transcript
Kia ora koutou, my name is Lewis. And I'm Cha Cha. We hear you've started learning about energy! And that's great, cause energy is awesome.
Energy is what makes things change, move or happen. It's what gives me the ability to do this, and this, and this! Basically, every time we do anything, we use energy!
Energy comes in loads of different forms. Forms like: Light energy. Energy we can see. Sound energy. Energy we can hear. Thermal energy. Energy that impacts something's temperature. Kinetic energy. The energy of movement. And the form of energy that powers our towns? Say it with me… electrical energy!
All of those energy forms happen in the moment. But, there are also some forms of energy that are stored, waiting to make an object move or change. These are called potential energy, because they have the potential to make something happen. For example. If I hold this lolly above my head, it has gravitational potential energy. Why? Because it has the potential to fall into my mouth if I drop it.

This stretched rubber band has elastic potential energy. Why? Because when it's stretched, it has the potential to fly across the room if I let it go.

Now, the total amount of energy in the universe will always stay the same.

So, you can't just create new energy out of nowhere.

And you also can't destroy it.

But what you can do, is transform it or transfer it.

Huh?

Energy transformation and transfer

First up, let's look at energy transformation.

Energy transformation is when one form of energy is transformed into another form!

Let's travel back in time to when I had my rubber band…

Ay, looking good past Lewis!

So this stretched rubber band has elastic potential energy right?

But if I let it go, the elastic potential energy transforms into kinetic energy, because the rubber band moves across the room.

Boom! Energy transformation.

Next, there's energy transfer – where energy moves from one place to another, or from one object to another.

For example, after electricity is generated at a wind turbine, it moves long distances all across the country to be used in your home.

That's energy transfer.

You got it? Ka rawe!

Now it's time for you to discover some energy forms in your school.

Let's charge on.