

Energy: how it gets smart

Student workbook

Name

Class

Date

Before we start: warm-up

Take a quick look around the room. Then around your home in your head. Try to answer these three questions before the lesson begins.

1. Name three things in your home that need electricity to work.

2. Where do you think the electricity comes from before it reaches the socket?

3. Have you ever seen solar panels? Where?

Key words to fill in

Listen carefully during the lesson. Each of these words gets explained on a slide. Try to write the meaning in your own words — short is fine!

Power station

Solar panel

Electric vehicle

Smart meter

Energy thief

Activity 1: find the energy thieves

An 'energy thief' is a device that uses electricity all the time — even when you don't really need it. Examples: a TV in standby mode, a phone charger left in the wall, a microwave clock. With your partner, list five things in your home that use electricity 24 hours a day. Tick the ones that probably don't need to be on right now.

Device	Always on?	Tick if not needed	Watts?
		<input type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	

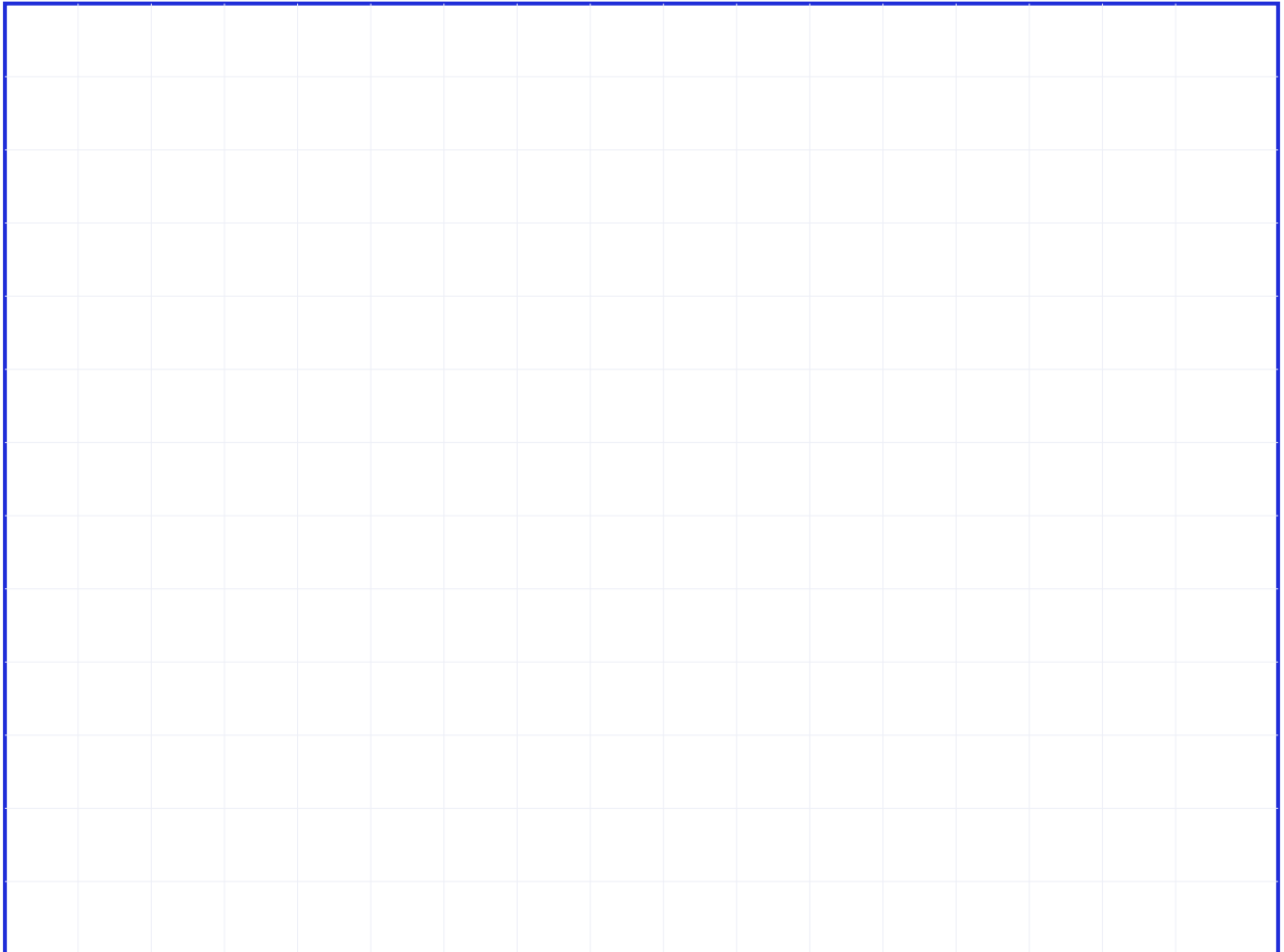
Add it up:

If each thief uses ~3 watts and is on 24h, that's about 0.07 kWh per day.

Across a year, 5 thieves = ~130 kWh = around €40. Worth fixing!

Activity 2: draw the new energy system

Draw a picture that shows the new energy system. Include at least: a house, a solar panel, an electric car, a smart meter and an arrow showing electricity flowing BOTH ways between the house and the grid.



Tip: label each part. Use a different colour for the electricity arrows.

What I learned today

Before you go, write down three things from this lesson. Then make a quick plan: what's one thing you'll change at home this week?

Three things I learned

1

2

3

One thing I'll do this week

Mini glossary

- Smart meter:** A meter that measures your electricity every 15 minutes and sends it to an app.
- Solar panel:** A panel that turns sunlight into electricity.
- Standby:** When a device looks off but still uses a tiny bit of electricity.