



THE BIG IDEA

Nothing goes, works, moves, or changes **by itself**. It always takes **energy** — and energy comes in just four active forms: **heat**, **light**, **electricity**, and **movement**. Four forms power everything you have ever seen go.

One form can **change into another**: a lamp turns electricity into light, rubbing your hands turns movement into heat, the sun's light warms the pavement. Energy can also **hide in storage** — in a battery, a wound spring, a candle, your breakfast — and come back out later. But it always **comes from somewhere**: the switch on the wall is only a gate for electricity arriving by wire.

Burning does not destroy the wax — its tiny particles all remain; only the stored energy leaves, as heat and light together.

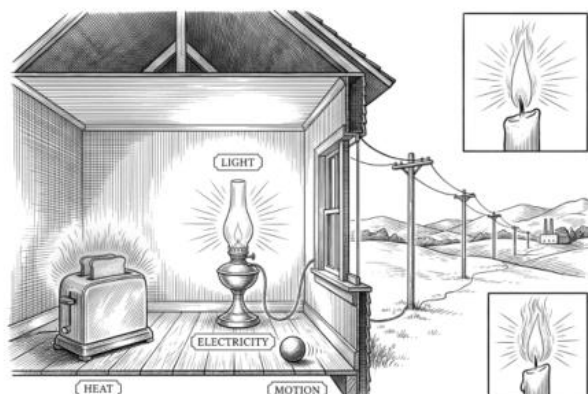


Fig. 1 — energy's four faces in one room: heat, light, electricity, motion — and the wire traced home to the power station

WORDS TO KNOW



energy

what makes things go, work, move, or change



heat

the warm form — it always flows toward cooler places



light

the bright form — it flows straight out from its source



electricity

the form that travels to us through wires



movement

the go itself — a push or a roll carrying energy along

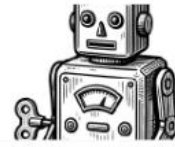


stored energy

energy waiting its turn — in a battery, a spring, a fuel

WATCH FOR THIS IN EVERYDAY LIFE

- Follow any cord in the house to the wall — “where is this lamp’s energy really coming from?”
- Rub your hands together fast, then touch your cheek — “which form just turned into which?”
- Next machine you see going, name its form — “heat, light, electricity, or movement?”



heat

heat

light

light

electricity

electricity



1 • MATCH THE MACHINE TO THE FORM THAT MAKES IT GO

Draw a line from each picture to its energy medallion. (A grown-up reads the words.) Careful — one belongs to TWO medallions: give it two lines.



toaster toasting



HEAT



lamp glowing



LIGHT



ball sailing



ELECTRICITY



water boiling



solar calculator



MOVEMENT



windmill turning



2 • GUESS FIRST, THEN CIRCLE WHAT REALLY HAPPENED

The palm rub

After 20 seconds of rubbing, my hands will feel...

☐ warmer

☐ the same

The candle burn

The wax will... ☐ stay the same

☐ slowly get shorter

Its stored energy leaves as...

☐ nothing

☐ heat and light

The covered lamp

When the lamp is covered, the room will...

☐ stay a little bright

☐ go fully dark



1 • THE HOME ENERGY HUNT

Walk the house with a grown-up. For each machine, circle the form of energy going IN, and the form coming OUT. (H = heat, L = light, E = electricity, M = movement)

THE MACHINE	ENERGY IN	ENERGY OUT
lamp	H L E M	H L E M
toaster	H L E M	H L E M
fan	H L E M	H L E M
sun on the pavement	H L E M	H L E M
my own legs running	food (stored)	H L E M
one more we found: (grown-up writes it)	H L E M	H L E M

2 • CIRCLE EVERYTHING THAT IS HOLDING ENERGY FOR LATER

Five things on the shelf. Circle each one that has stored energy waiting inside it. (Hint: more than one!)



battery



candle



wound-up toy



stretched band



log for the fire

Tell a grown-up: how does the energy come OUT of each one you circled?



VERSE 1

The lamp is bright, the kettle's hot,
The little car goes — but why?
Nothing goes by magic, no,
Something had to say GO.

CHORUS

Heat! Light! Electricity! Movement!
Four ways the going gets done.
Heat! Light! Electricity! Movement!
And every one came from somewhere — every
one!

VERSE 2

Rub your palms and count to ten,
You just made heat from moving again.
The sun on the pavement, warm to the toes —
One form turns into another, and away it goes.

(CHORUS)

VERSE 3

I flipped the switch, did the switch make the
light?
No! A switch is a gate, not a source, that's right.
So trace the wire, keep tracing the wire,
Back to the plug, back to the fire.

(CHORUS)

VERSE 4

The battery's tired, the wind-up's slow,
Stored-up energy lets go.
Nothing comes from nowhere and nothing's for
free —
So where did it come from? Come and trace it
with me.

(CHORUS × 2, SECOND TIME CLAP ON EVERY
FORM)

Tag (spoken, kids): "Heat... light... electricity...
MOVEMENT!"

How to use it. Play the recording once while everyone just listens. Play it again and join in on the chorus only — that is the part carrying the lesson. By the third time most children have the chorus. Then close the binder and ask what the words actually mean; a child who can sing it and explain it has the idea for good.