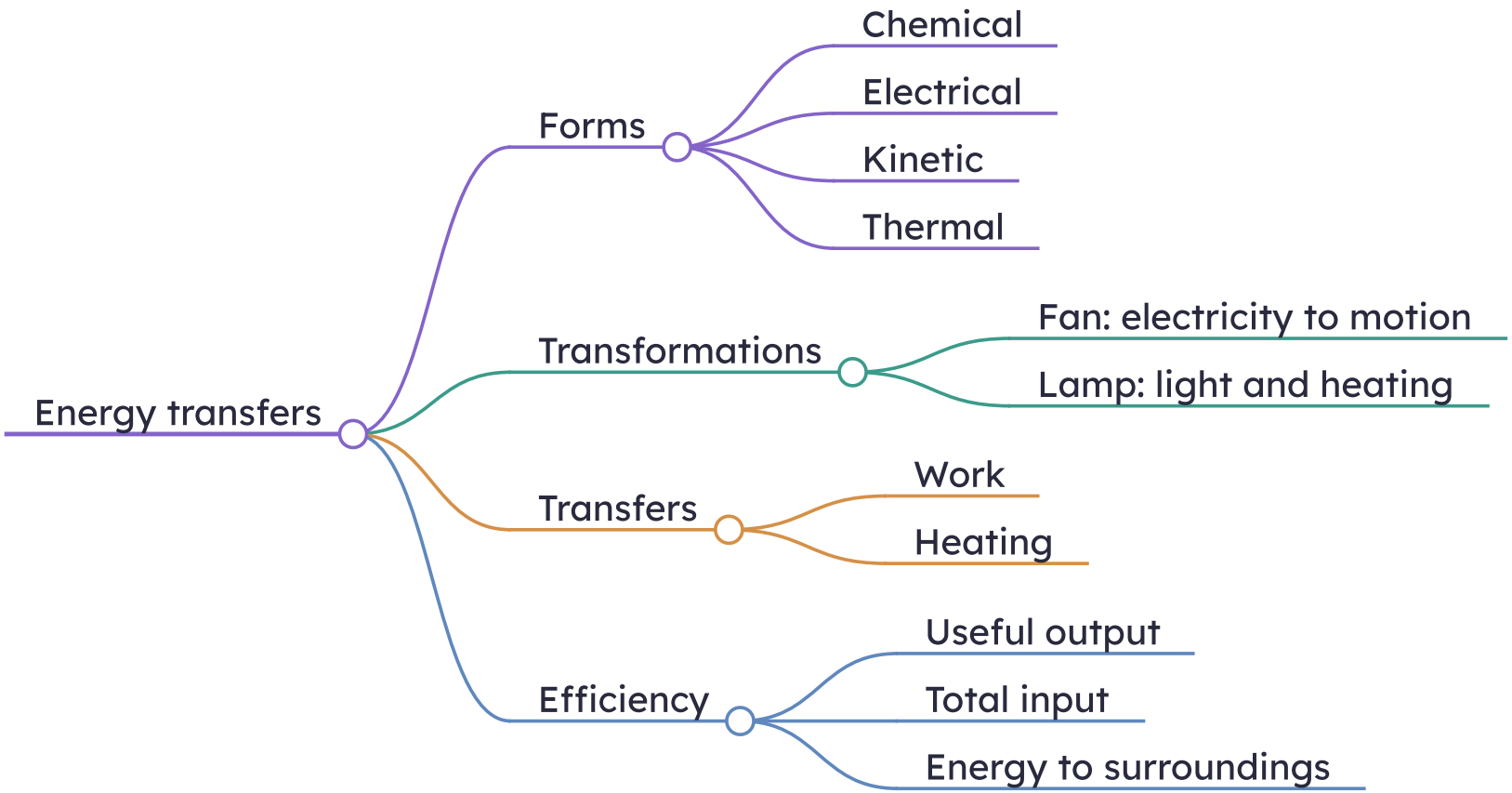
Energy transfers

Track energy into a system, through changes, and out to the surroundings.



Read one branch at a time. Then cover the details and explain them in your own words.

Understand the topic

Energy can be transferred and transformed. An electric fan transfers electrical energy into motion, sound, and thermal energy. Total energy is conserved in an isolated system, but not all input becomes the output we want. Defining the system boundary helps identify energy entering and leaving.

How the map is organized

Use forms to name energy, devices to illustrate transformations, and efficiency to discuss useful output.

> **Watch out for this**
> Energy is not destroyed when a device stops. Some has become less useful by dispersing into the surroundings.

Try it yourself

Choose an electric kettle. Identify its input, intended output, and energy transferred to the room. Draw a system boundary and explain what crosses it.

Two questions to answer

What is the intended output of a fan?

Moving air is the intended output, although other transfers also occur.

What helps track energy accurately?

A boundary clarifies which transfers enter or leave the system.

Sources

eia.gov
https://www.eia.gov/energyexplained/what-is-energy/forms-of-energy.php

Original practice material compiled by Studera.ai. Explore at studera.ai/en/resources/mind-map-examples.