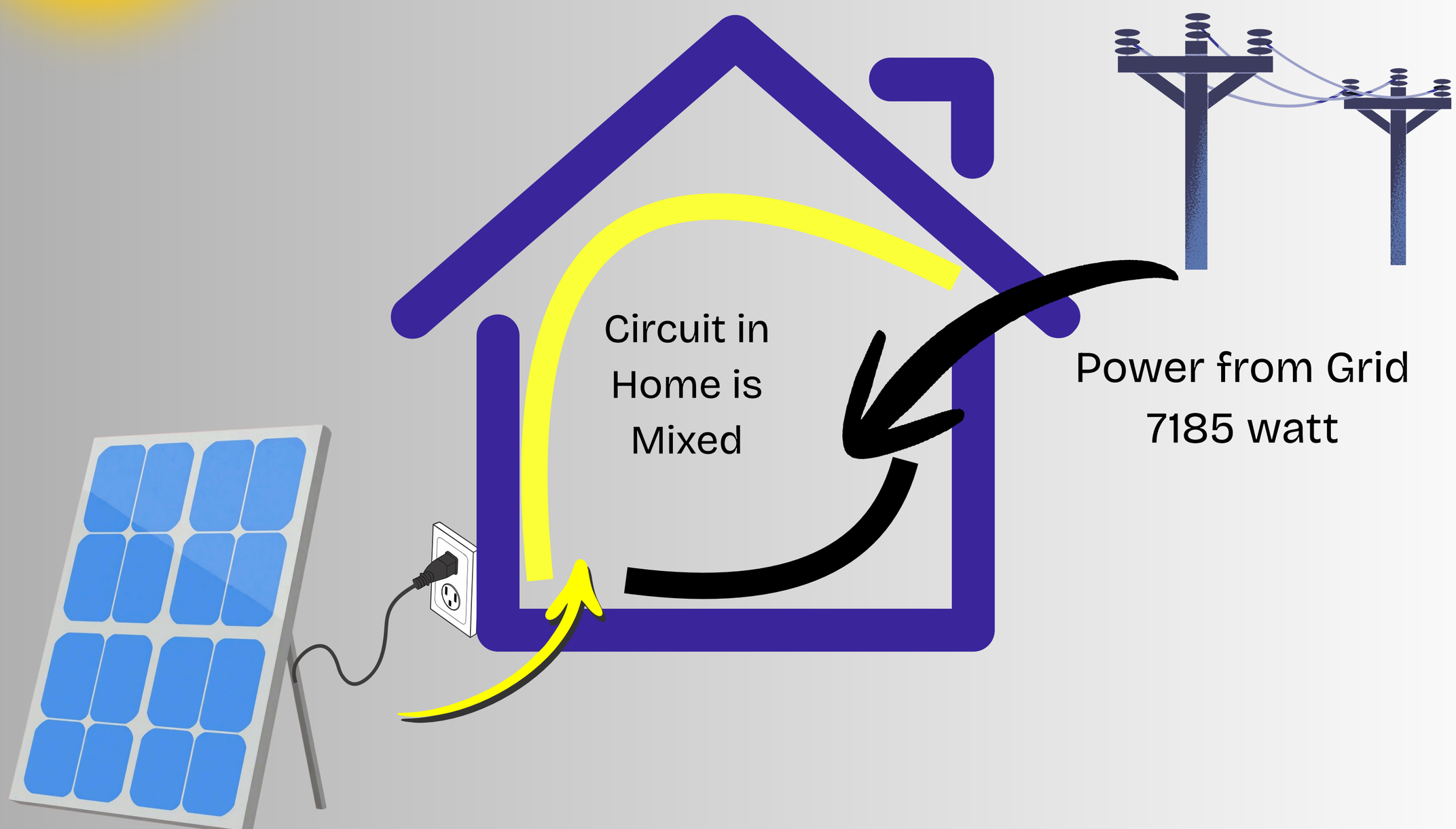
Plug In Solar Example Home



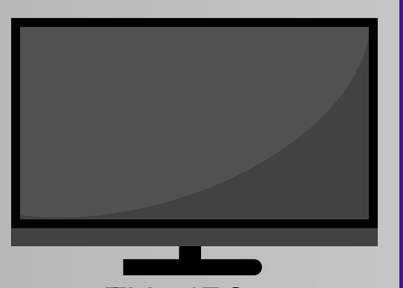
Power from Plug In Solar
Max. 1200 watts

Plug In Solar Example Home

Appliance Type	Typical Watts	Number of 400W Panels Needed
Laptop	75W	1 panel powers 5+
Refrigerator	200W	1 panel powers 2
Washing Machine	500W	2 panels
Electric Range Burner	2,000W	5 panels
Clothes Dryer	5,000W	12+ panels

Devices that produce heat require the most energy.

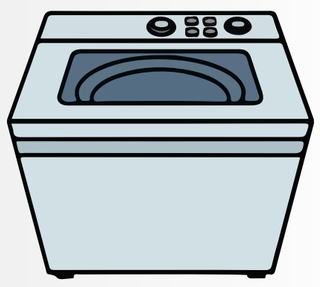
Laptop - 75 watts



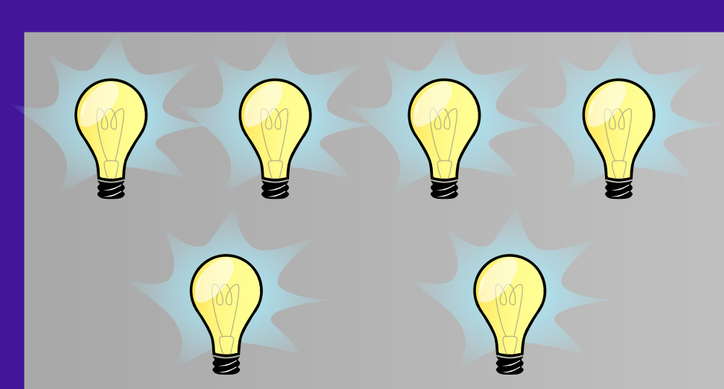
TV - 150 watts

Total Draw in This Example:

Clothes Dryer - 5000 watts



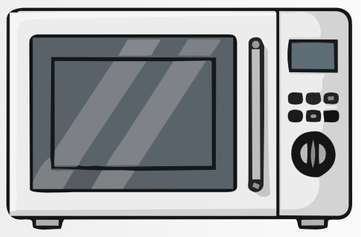
Washing Machine - 500 watts



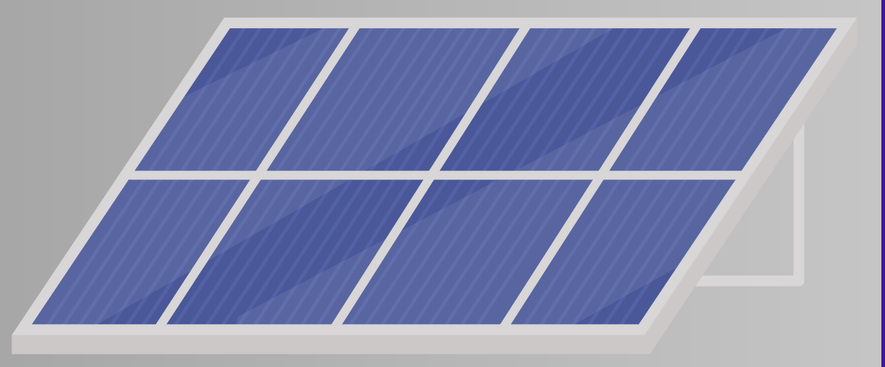
6 LED Light Bulbs - 60 watts

60
150
75
5000
500
1200
200
+2000

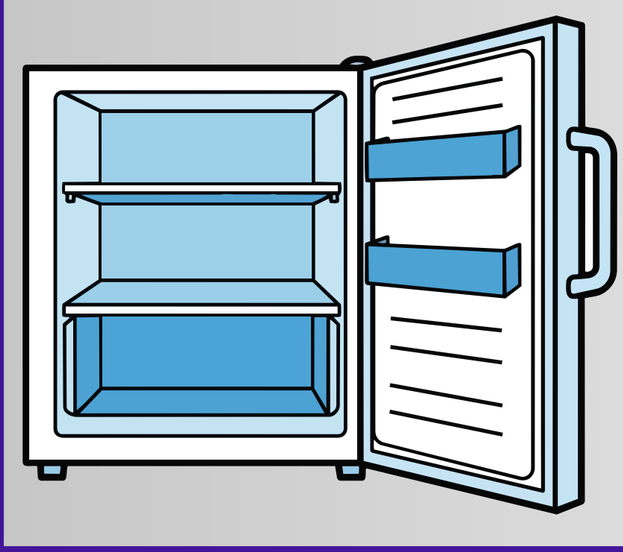
9185 watts



Microwave Oven - 1200 watts



Refrigerator - 200 watts



Electric Range Single Burner - 2000 watts

HOME ELECTRICITY REFRESHER

Electricity is the movement of tiny charged particles called electrons. Electricity can flow through wires (conductors) and can be used to power lights, motors, electronics and heaters. Electricity is generated in a variety of ways, one of which is solar panels.

🟦 AC vs. DC

Direct Current (DC)

- Flows one direction
- Produced by solar panels

Alternating Current (AC)

- Changes direction repeatedly
- Used in homes
- In the U.S.: 60 cycles per second (60 Hz)

Solar must be converted to AC before entering home wiring.

🟦 HOW PLUG-IN SOLAR FITS IN

A plug-in solar system includes:

☀️ **Solar Panel** – Makes **DC electricity** from sunlight

🔄 **Microinverter** – Changes DC → AC (what homes use)

🔌 **Wall Outlet** – Feeds electricity into the home circuit

Once plugged in, solar energy joins the home's electrical system.

🟦 VOLTAGE, CURRENT & POWER (WITH SOLAR)

Voltage (Volts) – The electrical push
Current (Amps) – The flow of electrons
Power (Watts) – How fast energy is used

Formula:

Watts = Volts × Amps

Example:
If a solar panel provides 120 volts and 3 amps:

120 × 3 = **360 watts**

That means the panel is supplying 360 watts of power to the home.

🟦 HOW ELECTRICITY FLOWS IN A HOME

Electricity moves in a **closed circuit**.

When plug-in solar is producing power:

- The inverter slightly raises voltage.
- This “push” moves energy into the wiring.
- Appliances that are ON use that power instantly.

If solar makes **Less than needed** → the grid supplies the difference

Solar supports the whole house — not just one outlet.

KEY TAKEAWAYS

- Electricity is moving electrons.
- Voltage pushes electrons through wires.
- Power = Volts × Amps.
- Solar panels produce DC electricity.
- Inverters convert it to AC for homes.
- Solar reduces how much electricity you buy from the grid.