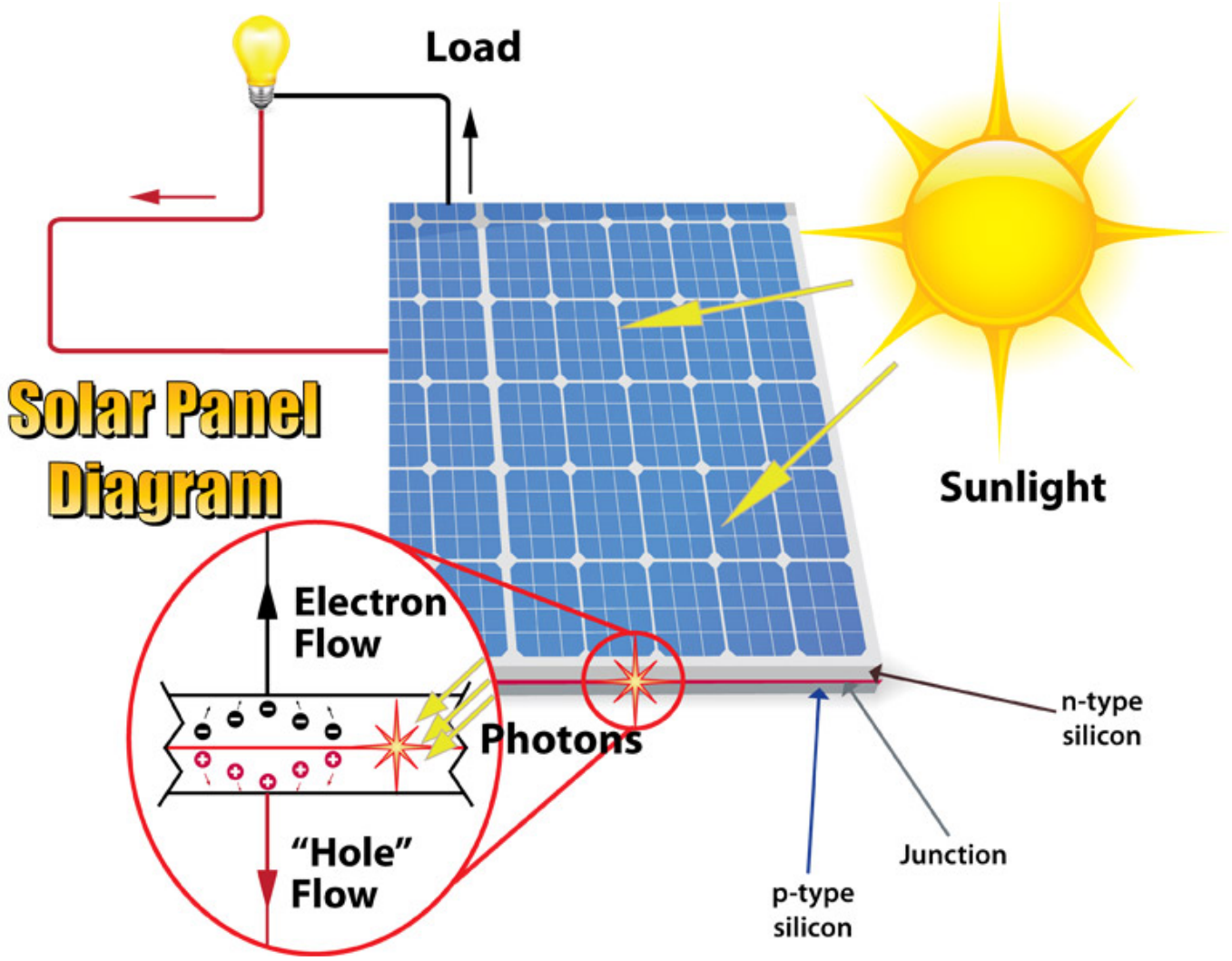
Math 0310 – Introductory Algebra

Renewable Energy Problem # 1



A solar photovoltaic (PV) panel produces electricity by converting the energy from the sunlight (photons) into electrical energy (direct current) by using semiconductor materials, like silicon, that exhibit the photovoltaic effect.
The power output in watts of most solar panels produced today ranges from 175 Watts to 235 Watts.

1. If your home uses electricity at the rate of 5000 watts (5 kilowatts or 5 kW) on a hot day, how many solar panels would you need to have installed to provide this power if each solar panel produces 200 watts of electricity on that hot day? Round your answer up to the nearest whole number.

2. If each 200 watt solar panel costs $250, how much would it cost to buy the number of solar panels calculated in part 1?