

# **The Incredible Sun**

Did you know that life on earth would not exist, without the sun? Pretty amazing, isn't it? We use the sun every day in many ways.

The sun is the nearest star. Heat from this star warms our planet. The sun's heat creates all of the weather on earth. It makes the ocean currents move, the wind blow, and rain or snow fall from the sky.

Plants use sunlight to make food and oxygen. This food and oxygen is used by all of us, animals and people alike. Without it, we couldn't breathe and would have nothing to eat!

# What is Solar Energy?

- Solar energy is the sun's rays reaching the earth. This energy can be turned into heat and electricity.
- Energy from the sun is *free*. It's also *clean*, meaning it causes no pollution. Since the sun gives off more energy than we would ever need, it's *renewable*. It will never run out.

# How is Solar Energy Used?

- Heating

Using the sun's energy to heat things is called solar thermal energy. When converted to thermal energy, solar energy can be used to heat the air in homes, schools and offices. It can also be used to warm water in homes, other buildings and swimming pools.

- Electricity

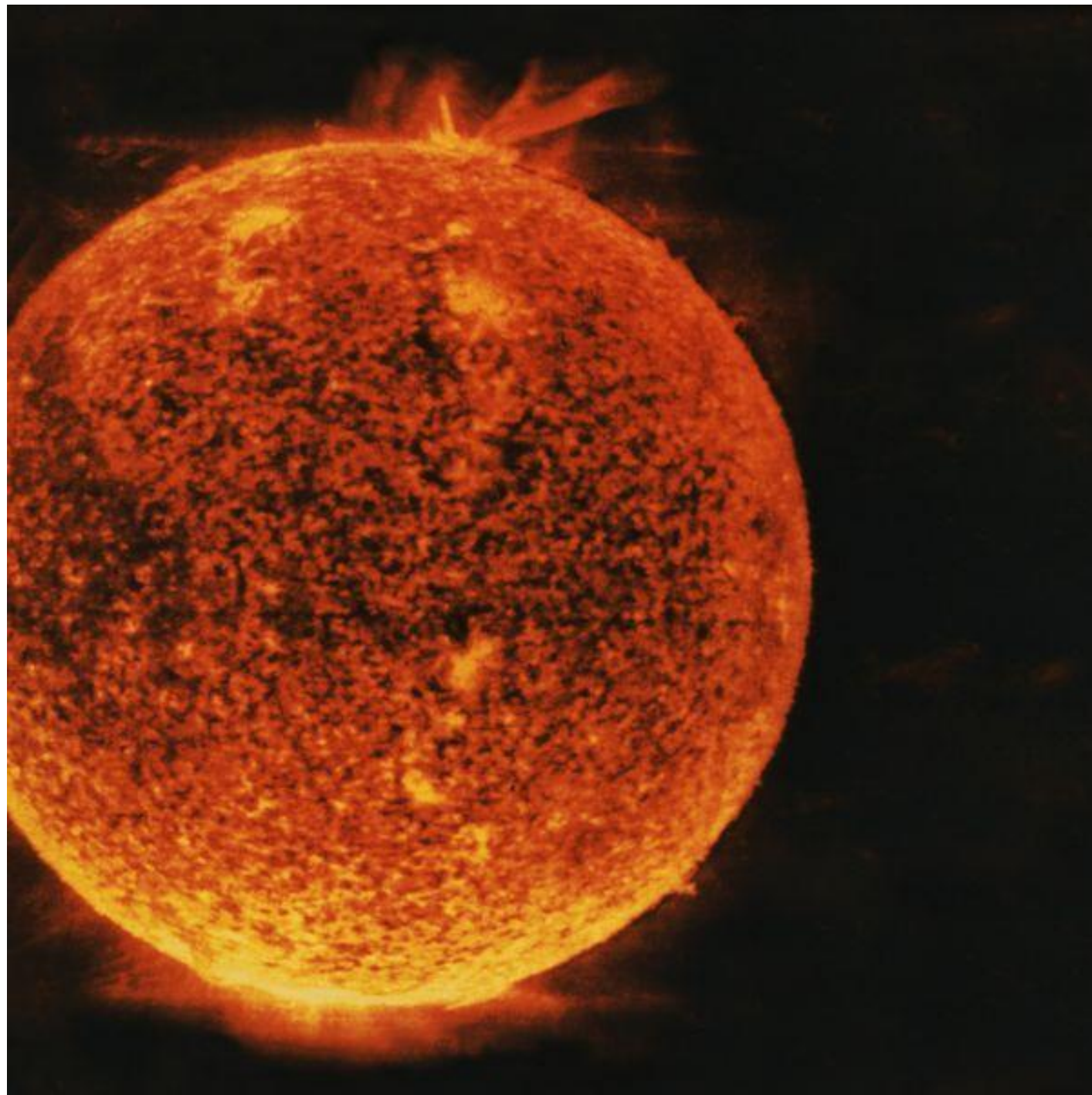
Solar energy can be converted to electricity with solar cells. These are also known as photovoltaic cells. For solar electricity at home, solar cells are grouped together on rooftops. Solar cells can be used to charge batteries in watches, calculators, and solar powered toys.

# What are Solar Thermal Power Plants?

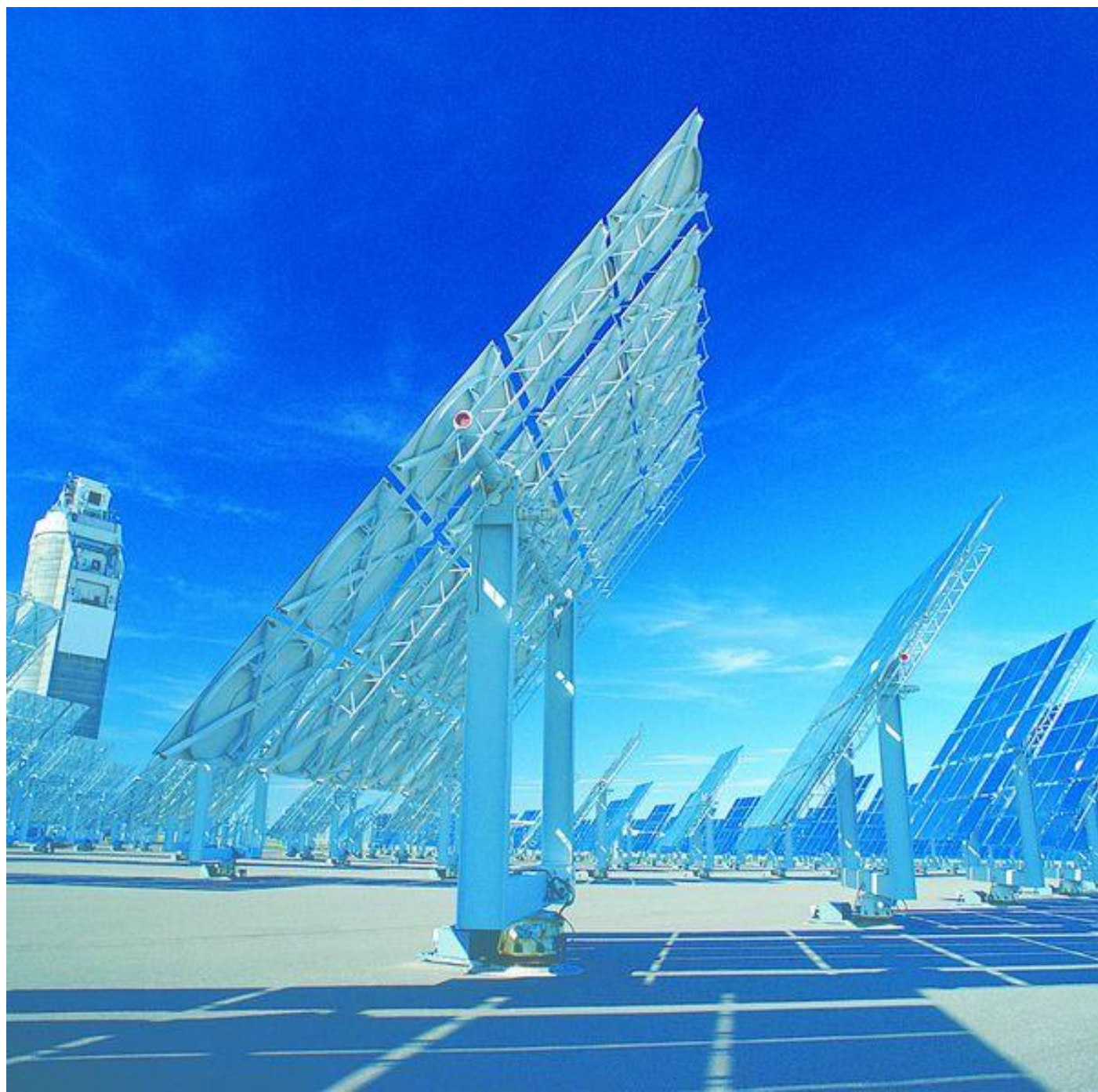
- Concentrating solar power plants use heat to generate electricity. This electricity is created by heating water into steam. The steam is then used to power generators. California currently has the largest solar power plant in the world. Covering 1000 acres are nine solar thermal plants in the Mojave Desert.

# How Can I Use Solar Energy?

- There are many ways to benefit from the sun's energy. On sunny days, hang your laundry outside to dry. If you are inside a cool building during the summer months, go outside to warm up. Do it yourself solar energy projects are fun and easy. Test the power of the sun with these fun [solar energy projects!](#)

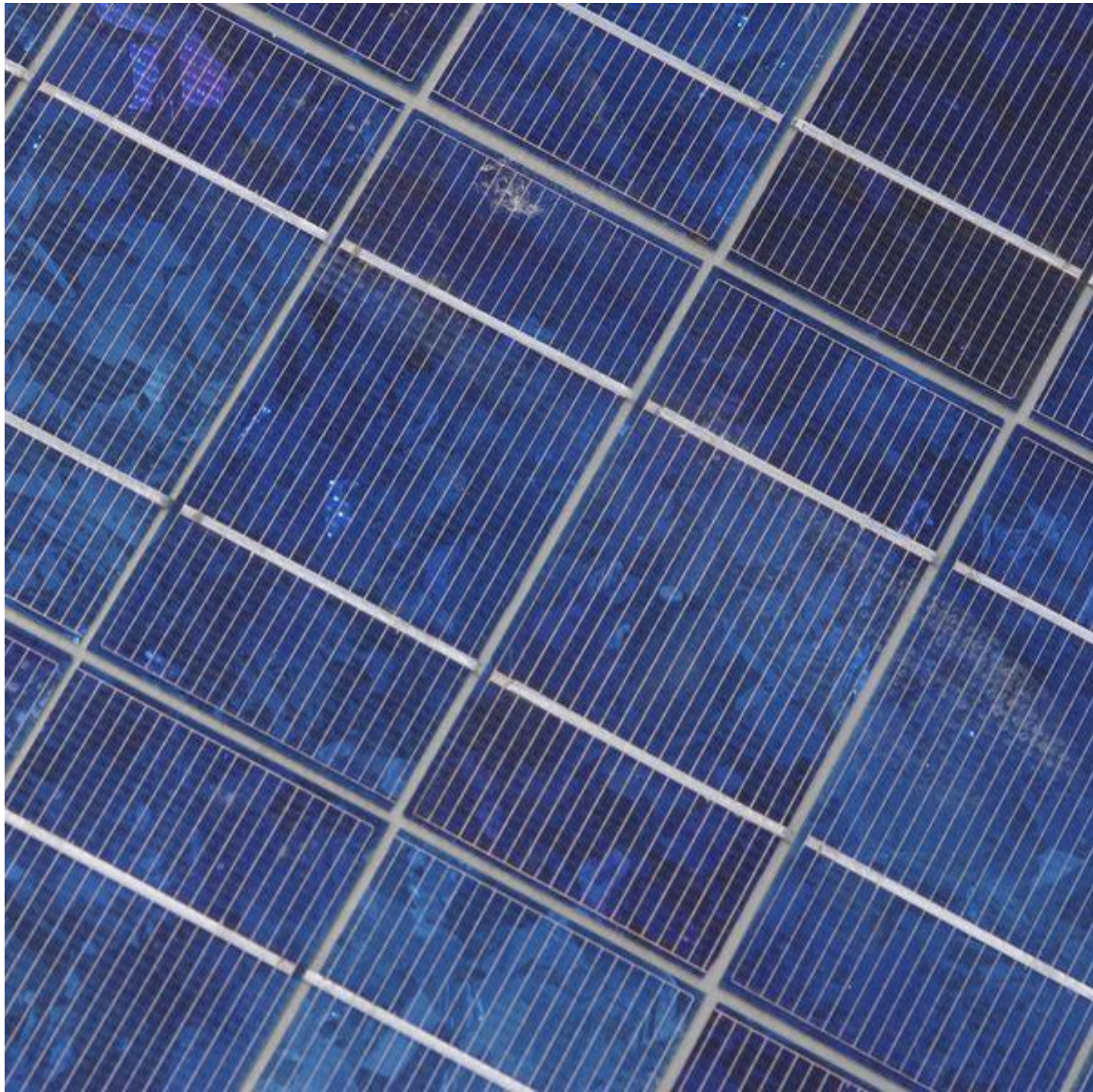




















- Solar Power in Space

In 1958, Vanguard I became the first space satellite to use solar cell technology. Space programs still use photovoltaic powered systems today.

Left: Astronaut F. Story Musgrave's hand appears in the bottom left corner in the Space Shuttle Endeavour's cargo bay. During this mission, solar array panels were taken on the Hubble Space Telescope.

Below: Several more pictures of solar cell technology in space.