What is coal made from?

- A) Dead plants
- B) Dinosaur fossils
- C) A whole bunch of chemicals mixed together by scientists

SCOUTS GO SOLAR

Burning oil produces most of all...

- A) nitrogen (N₂)
- B) oxygen (O_2)

C) carbon dioxide (CO_2)

D) ozone (O_3)

SCOUTS GO SOLAR

Solar, biomass, geothermal, wind, and hydropower energy are all renewable sources of energy. They are called renewable because they ...

A) are clean and free to use
B) can be converted directly into heat and electricity
C) can be replenished by nature in a short period of time

SCOUTS GO SOLAR

One kilowatt-hour equals...

- A) 10 kilovolt
- B) 1 000 000 calories
 - C) 100 Celsius
- D) 1 000 watt-hours

SCOUTS GO SOLAR

What does the word "petroleum" mean?

- A) Rock oil
- B) Ancient sea creature

C) Swamp gas

SCOUTS GO SOLAR

What part of the energy consumption of the space station ISS is covered by solar energy?

> A) Half of it B) Three quarters of it C) All of it D) One quarter of it

SCOUTS GO SOLAR

When will the sun stop shining?

A) Never

B) In a few billion years

C) Next week on Tuesday

SCOUTS GO SOLAR

What are the black spots on the surface of the sun called?

A) SunspotsB) TurbulencesC) EruptionsD) Sun acne



The distance between the earth and the sun is about 150 000 000 km. How long does light travel to cover this distance?

A) About 1 second

B) About 8 minutes

C) Exactly 24 hours

SCOUTS GO SOLAR

If we would cover the whole world with solar panels, how many times could we cover the worldwide energy consumption with the energy we get?

- A) 5 000 times
 - B) 2,5 times
- C) 256,8 times
 - D) Once

SCOUTS GO SOLAR

Green plants convert solar energy into...

A) hydrogen

- B) uranium
- C) chemical energy

D) X-rays

SCOUTS GO SOLAR

In average, how many years does a solar panel normally work before it needs to be replaced?

- A) About 10 years
- B) About 25 years
- C) About 100 years

SCOUTS GO SOLAR

The amount of solar energy poured onto the earth by the sun every hour could cover the world's use of energy for how long?

A) For 10 yearsB) For 1 yearC) For 1 monthD) For 1 day

SCOUTS GO SOLAR

Which of these sources of renewable energy do NOT depend on the weather?

A) Hydropower

B) Wind

C) Geothermal

D) Solar

SCOUTS GO SOLAR

Which gas in the atmosphere is mainly responsible for global warming?

A) Ozone (O_3)

3) Sulphur dioxide (SO_2)

- C) Carbon dioxide (CO₂)
- D) Nitrous oxide (N_2O)

SCOUTS GO SOLAR

Which of the following declarations about solar panels is NOT true?

- A) A solar panel consists of many small solar cells that are connected with each other
 - B) Solar panels produce electricity even if the sky is cloudy
 - C) The price for solar panels has been rising heavily in the past years



Which country produces in total the most renewable energy?

- A) USA
- B) China
- C) Iceland

D) Germany

SCOUTS GO SOLAR

To produce an aluminium can from recycled aluminium uses much less energy than to produce one from "new" aluminium. How much less?

- A) 35% less
- B) 65% less
- C) 75% less
- D) 95% less

SCOUTS GO SOLAR

Most of the energy we use originally came from...

A) the sunB) the ozone layerC) the centre of the earthD) the oceans

SCOUTS GO SOLAR

Electricity is the movement of...

A) atoms

- B) molecules
- C) electrons
- D) neutrons

SCOUTS GO SOLAR

What percentage of the energy used around the world comes from fossil fuels (2022)?

A) NoneB) Ca. 80%C) Ca. 40%

SCOUTS GO SOLAR

Electrical energy can be produced from...

A) mechanical energy
B) chemical energy
C) kinetic energy
(movement)
D) all of the above

SCOUTS GO SOLAR

Which of these three has the most energy?

A) A hurricaneB) A nuclear bombC) All the oceans' waves together

SCOUTS GO SOLAR

How much energy does a bolt of lightning has?

- A) Enough to toast 160,000 slices of bread
- B) Enough to toast one loaf of bread
- C) Enough to toast one slice of bread

SCOUTS GO SOLAR	SCOUTS GO SOLAR
в) 80%	B) China
SCOUTS GO SOLAR	SCOUTS GO SOLAR
D) all of the above	D) Making cans from aluminium scrap uses 95% less energy than making cans from aluminium- bearing bauxite ore, according to US and Swiss Energy Infor- mation Agencies
A) A hurricane It has about as much energy as 53 nuclear bombs. All the waves worldwide have about as much energy as a nuclear bomb	A) Most of the energy on Earth comes from the sun – but some comes from the centre of the earth, as well. The sun gives us light and keeps us warm. It makes the wind blow and plants grow. And even the energy stored up in the oil, coal and gas that we use today came originally from the sun.
 A) It would be tricky, but in theory a bolt of lightning has enough energy to toast 160,000 slices. Now somebody just needs to work out how to transfer that energy to your toaster and how to put all these slices in there! 	C) electrons

A 100-watt light bulb consumes in 24 hours...

A) 24 caloriesB) 2,4 kilowatt-hoursC) 240 electron-voltD) 2 400 joules

SCOUTS GO SOLAR

What energy source does the sun use to get it's energy?

A) ThermalB) Nuclear fusionC) BiomassD) Light

SCOUTS GO SOLAR

How old is the sun?

A) 365 days

B) 4,57 billion years

C) 10,2 billion years

SCOUTS GO SOLAR

Geysers (periodically spouting hot springs) are examples of ... energy

> A) solar B) wind C) tidal (low tide and high tide) D) geothermal

SCOUTS GO SOLAR

How many times does the earth fit into the sun?

A) 3 000 times

B) 13 000 times

C) 1 300 000 times

SCOUTS GO SOLAR

What material is the sun mainly made of?

A) WaterB) HydrogenC) IronD) Oxygen

SCOUTS GO SOLAR

How hot is the surface of the sun?

A) About 200°C

B) About 500°C

C) About 6 000°C

D) About 125 000°C

SCOUTS GO SOLAR

What's the name of the outermost visible layer of the sun, from where the rays of the sun come from?

- A) Photosphere
- B) Atmosphere
- C) Stratosphere
- D) Cosmosphere



Cell phone batteries convert ... energy into electricity.

A) nuclear

B) chemical

C) gravitational

D) kinetic

SCOUTS GO SOLAR

In 2020, from which country did 7 out of the 10 biggest producers for solar panels come from?

A) USA

B) Japan

C) China

D) South Korea

SCOUTS GO SOLAR

How fast does the performance level of a typical solar panel decrease per year?

- A) 10%
- B) 30%
- C) 6%
- D) 1%

SCOUTS GO SOLAR

The orbit of the sun has the form of...

A) a circle

B) an ellipsis

C) an egg

D) a square

SCOUTS GO SOLAR

Which of these declarations about solar energy is NOT true?

- A) Solar energy is highly scalable, so it can be used on a very small, but also on a very big level
- B) In many countries, the production of solar energy is cheaper than the production of other sources of energy
- C) At the moment (status 2022), solar energy is used more than hydropower

SCOUTS GO SOLAR

After how much time of functioning a solar panel has compensated the energy that has been used for its production?

A) 9 monthsB) Almost 15 yearsC) The life span of a solar panel is too short to compensate this energy

SCOUTS GO SOLAR

The seasons are caused by...

A) the inclination of the earth axisB) the distance to the sunC) cold winds from the cosmos

SCOUTS GO SOLAR

How fast is the speed of light?

A) About 100 km/s

B) About 365 km/s

C) About 300 000 km/s

D) About 1 000 000 000 km/s



Which of these declarations about the sun are NOT true?

A) The sun is an almost perfectly ball-shaped
B) Astronauts at the ISS can see 15 sunrises and sunsets per day
C) On the sun, there is no gravitation

SCOUTS GO SOLAR

At what moment there is the smallest distance between the earth and the sun?

A) In July

B) In January

C) The distance is always the same

SCOUTS GO SOLAR

What kind of star is the sun?

A) The sun is not a star

B) white giant

C) A yellow dwarf

D) A firestar

SCOUTS GO SOLAR

How many tons of dynamite would you need to explode per second to produce the same amount of energy as the sun does?

A) 35 tons
B) 0.8 tons
C) 48,000 tons
D) 100 billion tons

SCOUTS GO SOLAR

The sun is the biggest object in our sun system. What percentage of the overall mass of the sun system does the sun have?

A) Hardly 28%B) Exactly 54%C) More than 75%D) More than 98%

SCOUTS GO SOLAR

One square meter of the sun shines brighter than ...

A) 1 million light bulbs

B) 20,000 light bulbs

C) 350 light bulbs

SCOUTS GO SOLAR

You can power a car by fuel made from plants or by electricity made by solar systems. Both need areas with sunlight. Which of these two techniques need larger areas (fields or solar panels)?

A) Both need more or less the same area sizeB) The plant-based fuel needs at least 200 times more

C) The electricity from sunlight needs about 100 times more

SCOUTS GO SOLAR

Photovoltaics transform 20% of the solar energy to electricity. What percentage of the sunrays' energy is chemically stocked in the plants by photosynthesis?

A) 0,5%
B) 2%
C) 20%
D) 45%

	C) On the sun, there is no gravitation.
D) More than 98%	On the contrary, the gravitation is several times stronger than on earth.
A) 1 million light bulbs	B) In January. The difference compared to July (when the distance is the biggest) is about 5 million kilometres
SCOUTS GO SOLAR	SCOUTS GO SOLAR
B) The plant-based fuel needs at least 200 times more	C) A yellow dwarf. Compared to other stars, the sun is only average in size.
A) 0,5%	D) 100 billion tons. What a firework
-	

Which innovator was the first who created a device capable of generating alternative electricity?

A) Thomas EdisonB) Nicola TeslaC) Benjamin FranklinD) Michael Pupin

SCOUTS GO SOLAR

A flywheel stores ... energy

- A) potential (position)
- B) kinetic (movement)
 - C) chemical
 - D) electrical

SCOUTS GO SOLAR

When and where has the first solar panel made of silicon been produced?

- A) 1932 in Switzerland
 - B) 1985 in Japan
 - C) 2004 in China
 - D) 1954 in the USA

SCOUTS GO SOLAR

SCOUTS GO SOLAR

The heat energy stored in the uppermost 10km of the Earth's crust is equivalent to how many times the total energy stored in all the world's oil and gas?

- A) 50 000 times more
 B) 500 times more
 C) 5 times more
 D) Half as much

SCOUTS GO SOLAR

Who was the first in discovering the photovoltaic effect, meaning the fact that you can produce electricity from sunlight?

A) Alexandre Edmond
Becquerel
B) Marie Curie
C) Gyro Gearloose
D) Alessandro Volta

SCOUTS GO SOLAR

In 1956, the first solar cells were sold. For how much money?

A) 7 \$ per watt
B) 100 \$ per watt
C) 300 \$ per watt
D) 2500 \$ per watt

SCOUTS GO SOLAR	B) Nicola Tesla
A) 50 000 times more	Tesla, who has been born in Aus- tria-Hungary in 1856, emigrated to the United States, where he sold the patent on his alternative cur- rent generating device to the Ameri- can inventor and industrialist George Westinghouse.
A) Alexandre Edmond Becquerel,	SCOUIS GO SOLAR
in 1839	B) kinetic energy
SEOUTS GO SOLAR	SCOUTS GO SOLAR
	D) 1954 in the USA, at the Bell Laboratories.
C) 300 \$ per watt	A little bit earlier, there has been the first solar panel made from selenium and gold
	<u> </u>
	SCOUTS BO SOLAR