

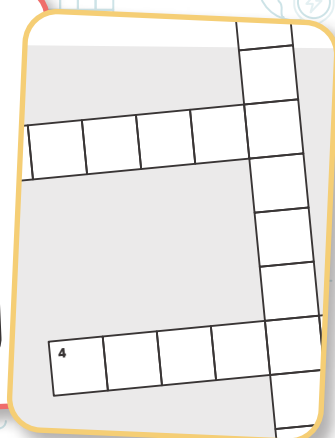
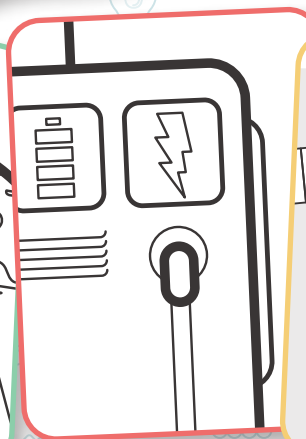
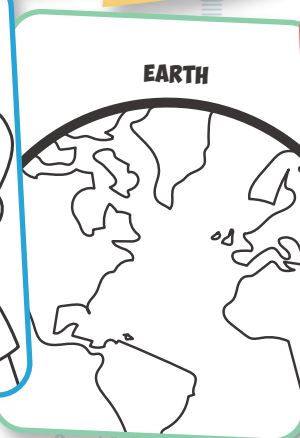
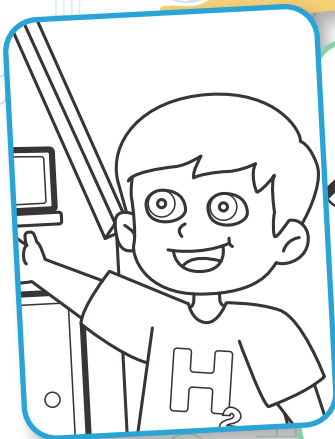


FreeHydroCells

Children's

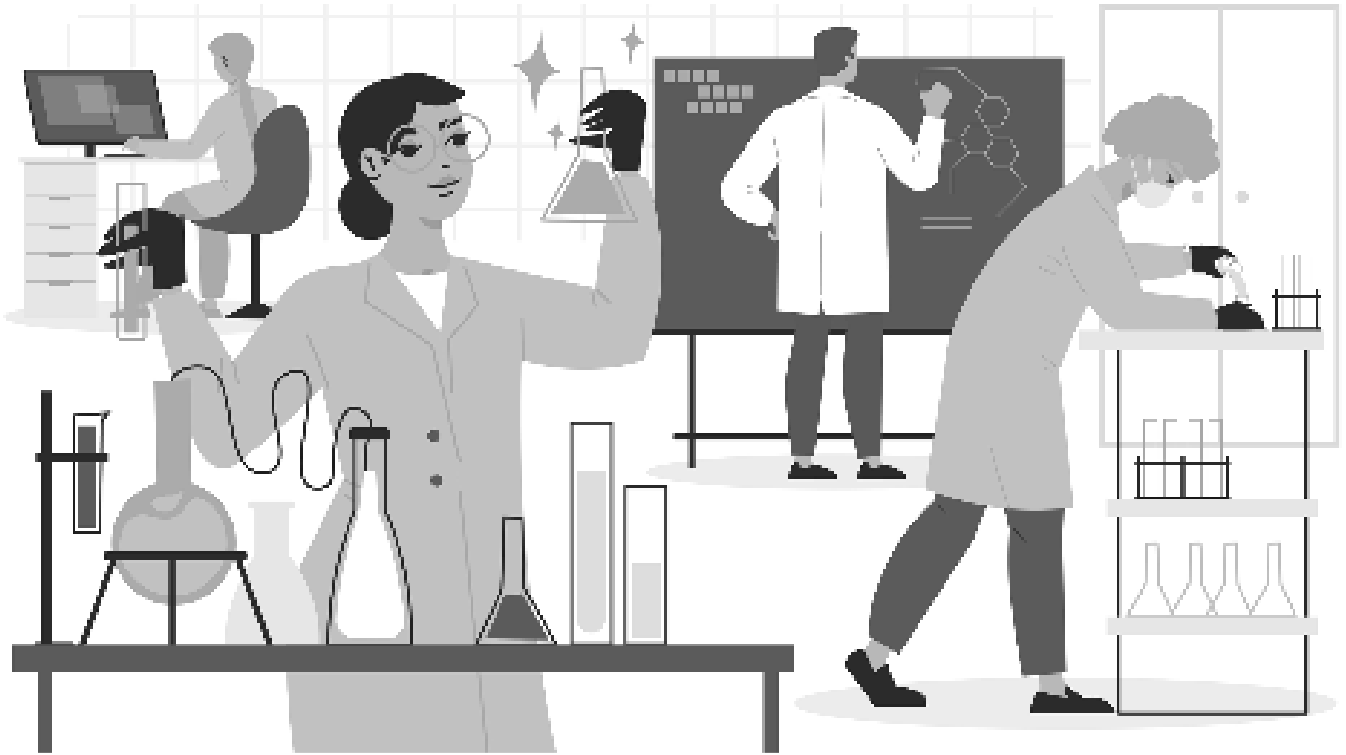
ACTIVITY

BOOK



Funded by the European Union

We are a team of scientists, and our job is to look for new, better ways to make energy.



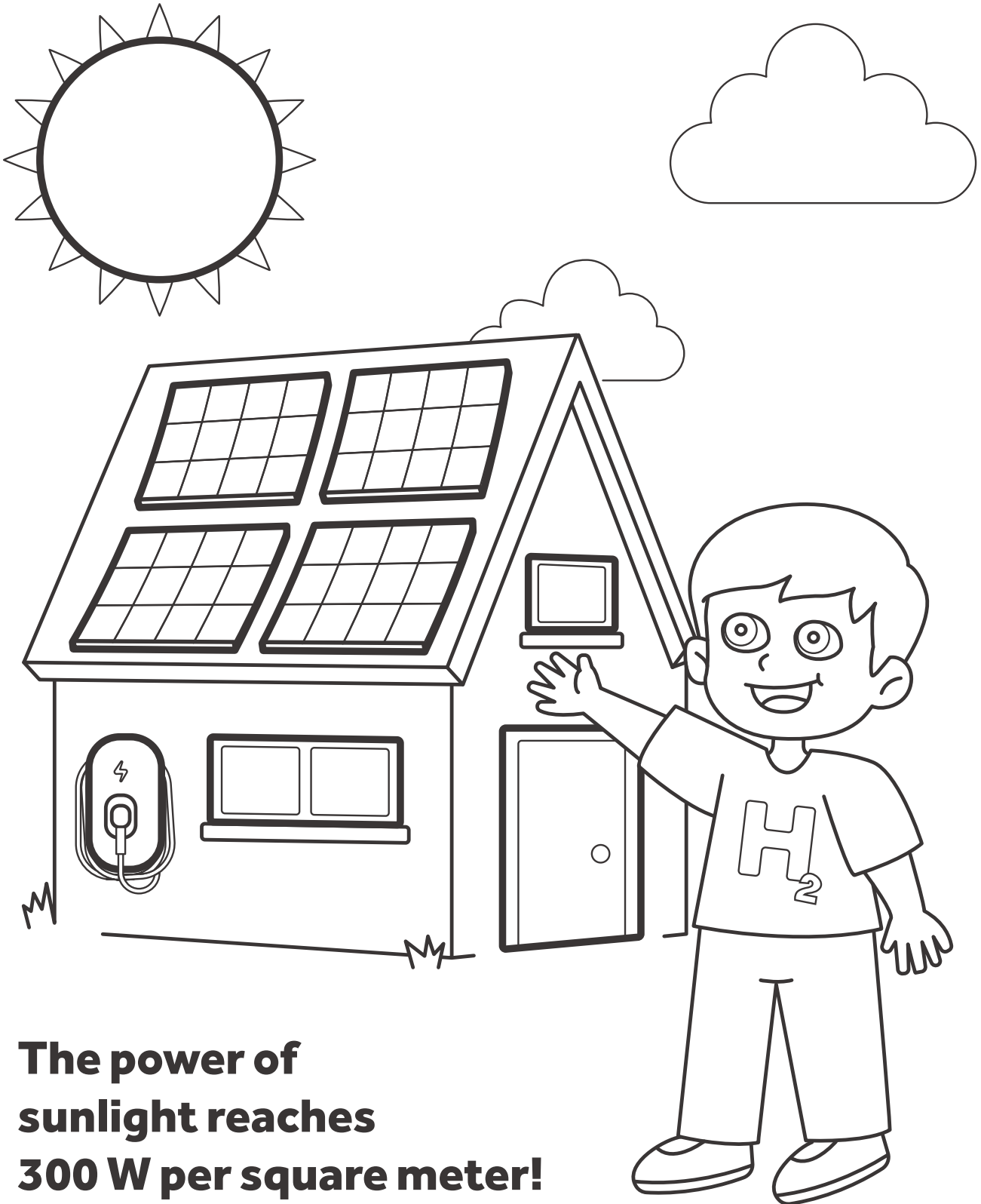
We all need energy to heat our houses, make food and drive cars. Right now, most of this energy comes from burning oil or gas which makes the air we breathe dirty.

So how can we do better?

Well, have you ever noticed how plants love rain and sunshine, and grow really well in summertime? This is because plants take in energy from the sun and water and they use this to grow bigger and stronger! We are trying to learn from plants and build something new that creates clean energy – this means it will not make the air dirty like oil or gas.

We will take a layer made from special materials and put it into water. When the sun shines down on top of this underwater layer, it traps the energy from the sun, and the special materials allow us to use this energy in a way that is not bad for the air we breathe – like a plant!

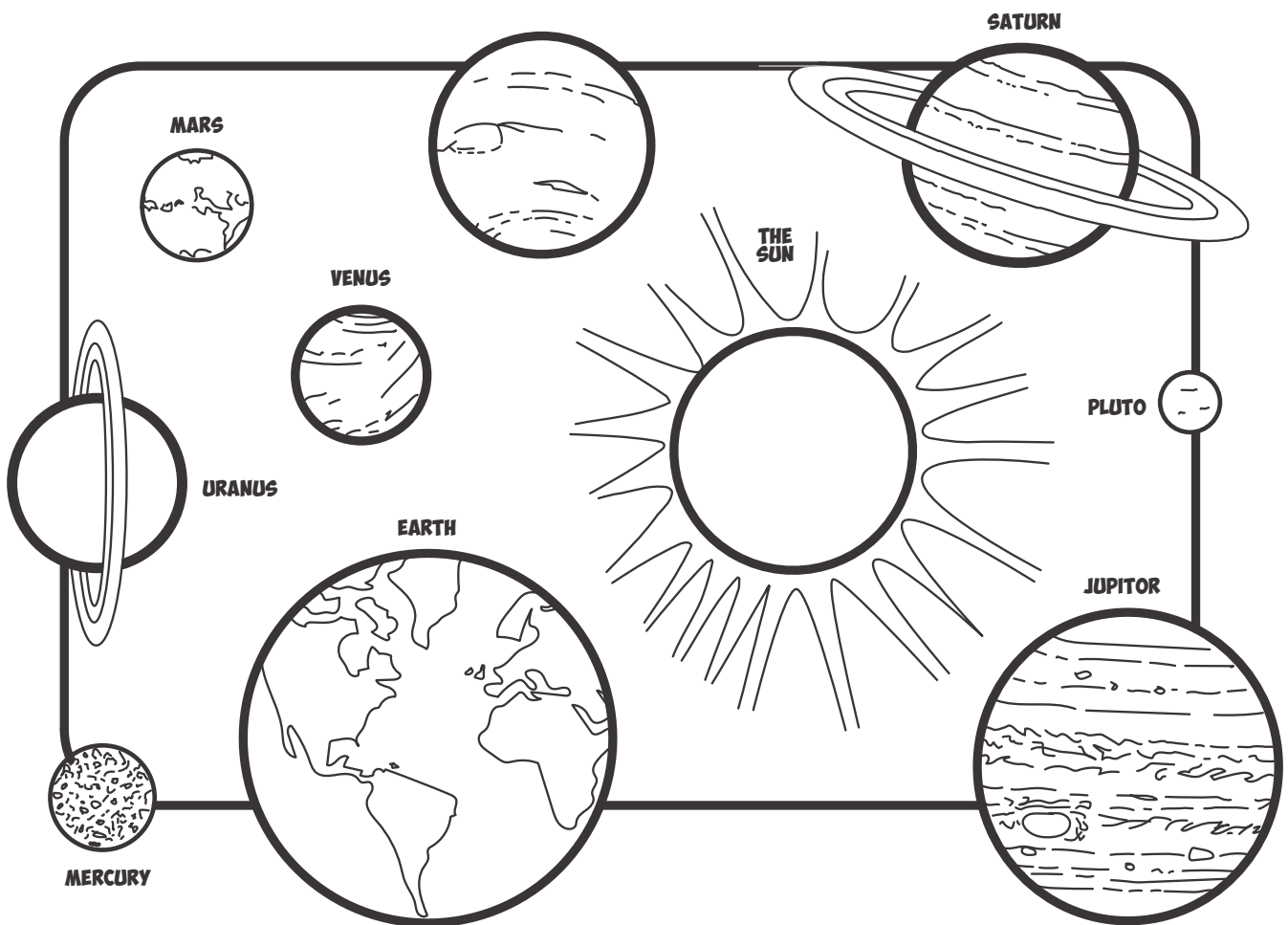
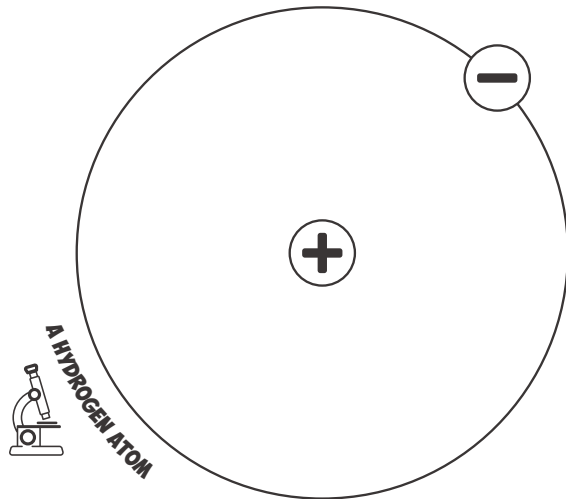
This is really exciting because we can use this clean energy instead of oil and gas. This would make life better for people, animals, plants, flowers, trees – the whole planet!



**The power of
sunlight reaches
300 W per square meter!**

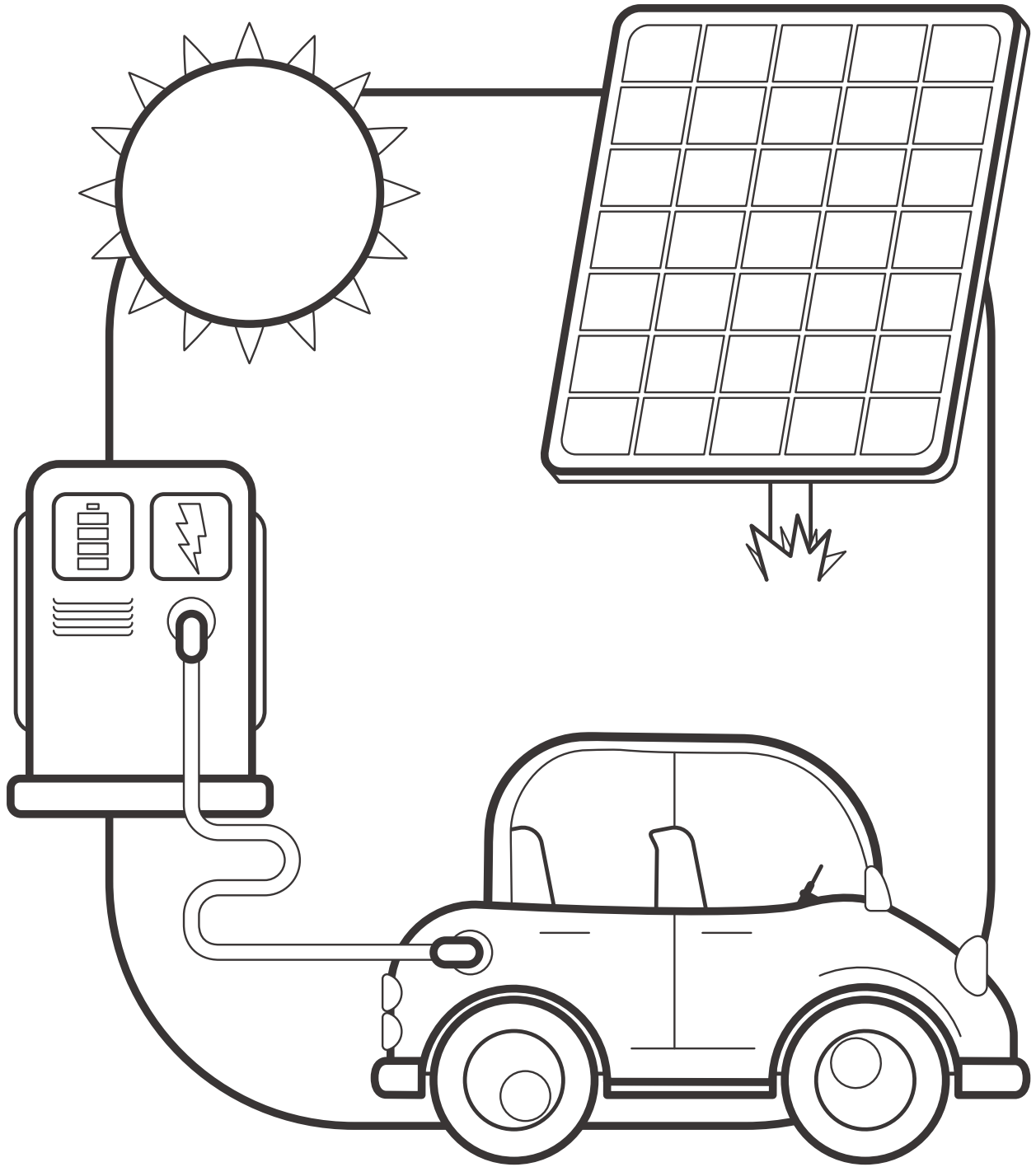
It will be clean and completely free energy. If you collect this energy from the entire roof of the house, you can use it to watch TV!

How else could you use this energy in your home?



Hydrogen is the lightest and most abundant atom in the Universe.

It consists of only one positively charged proton and one negatively charged electron, and is the first element on the Periodic Table.



Sunlight can be converted into electricity using PV panels.

You can charge your car with this electricity and drive around without running out of petrol.

Green Hydrogen

Can you find all seven words
hidden in the word search?

S U N W A G R R
D G N Q N M M L
V Z R O S O J E
H Y D R O G E N
F H S O L R R E
U U E L A E N R
E M A R R E W G
L I G H T N U Y

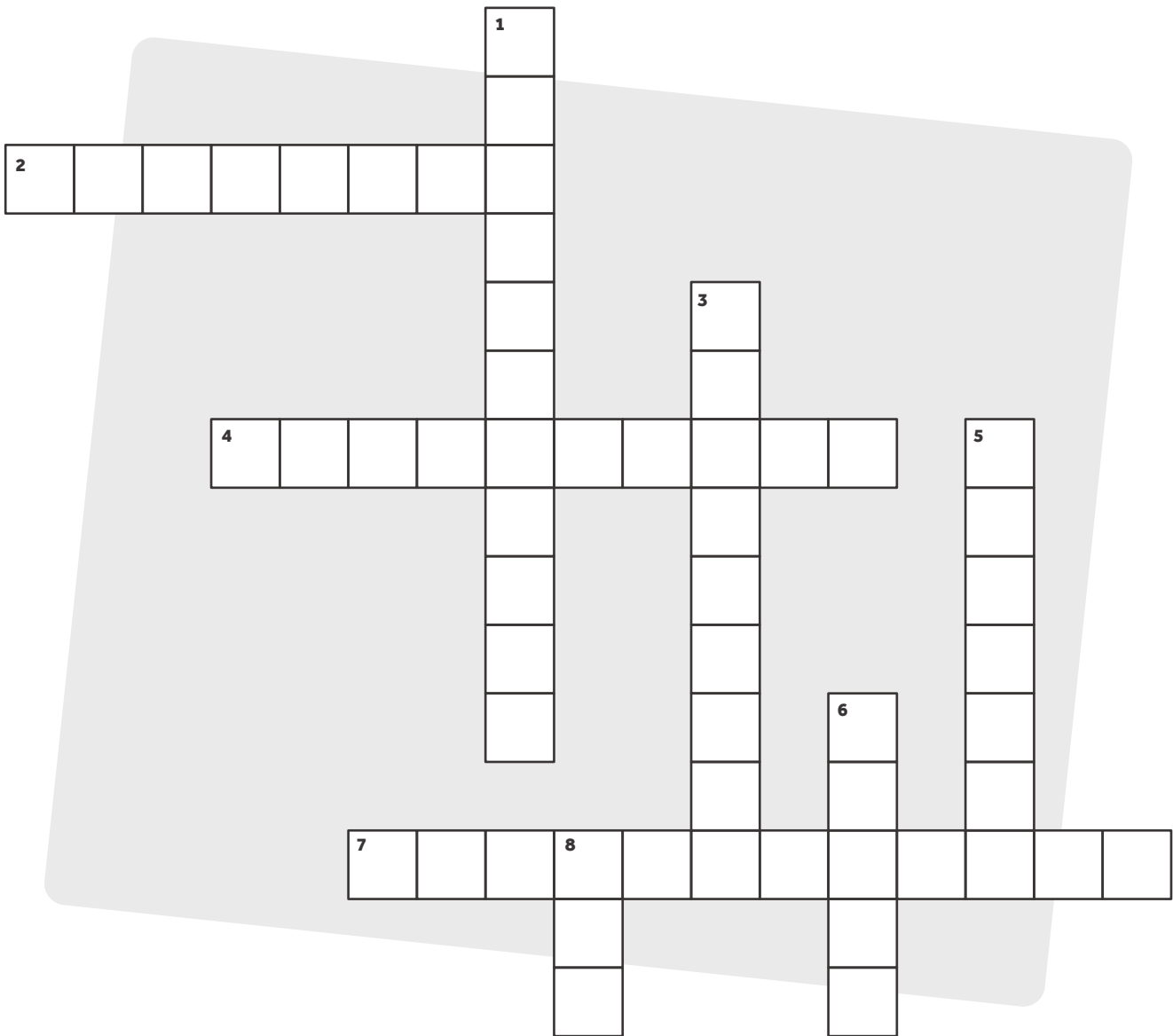
When you find the
words draw around
them & cross them
off the list!

SOLAR
GREEN
ENERGY
FUEL

SUN
HYDROGEN
LIGHT

The answers are on the last page just in case you get stuck

CROSSWORD TIME!



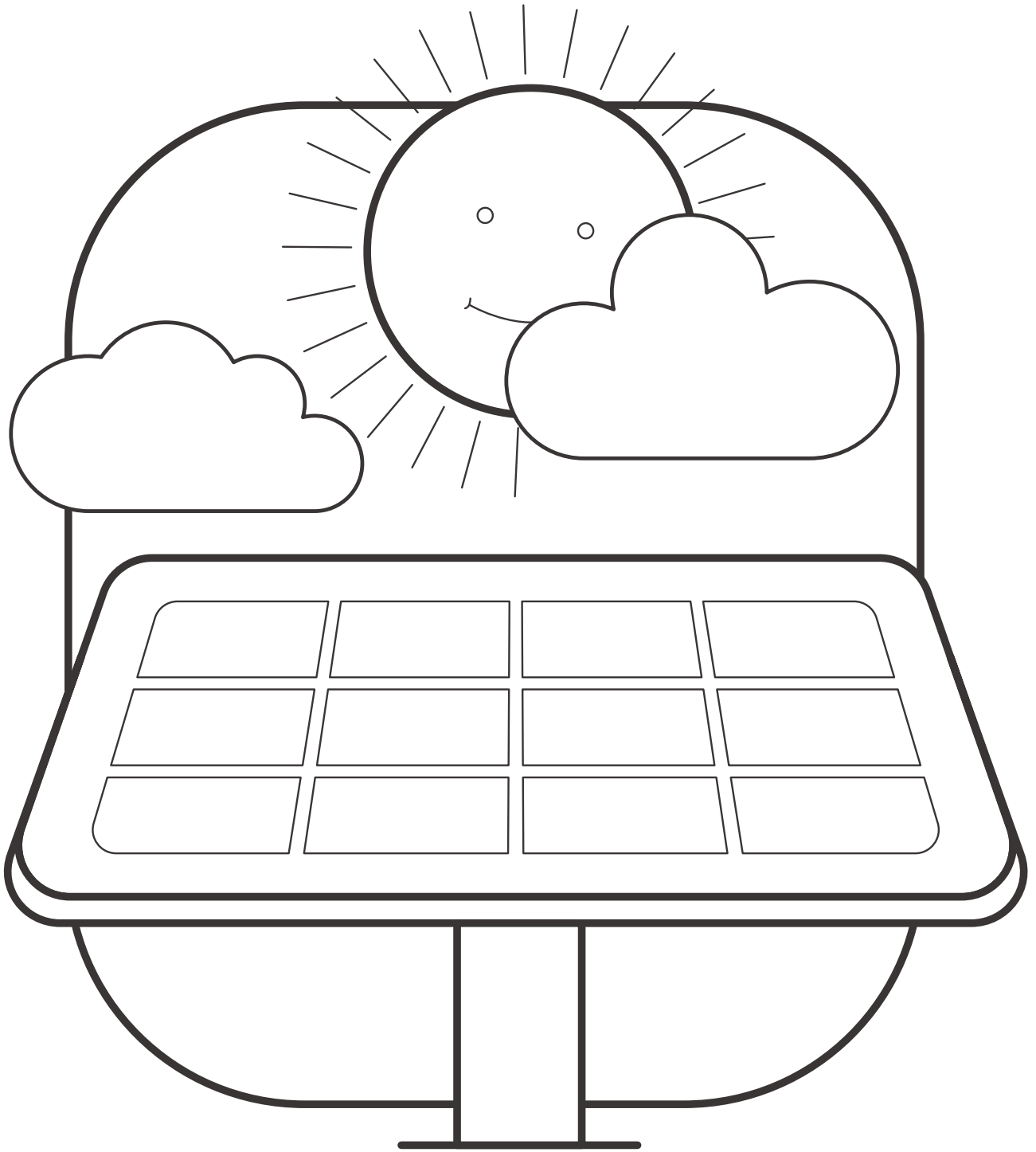
ACROSS

- 2. Clean energy source from splitting water using renewable electricity
- 4. Devices that convert sunlight into electricity
- 7. The process of producing hydrogen from water using electricity

DOWN

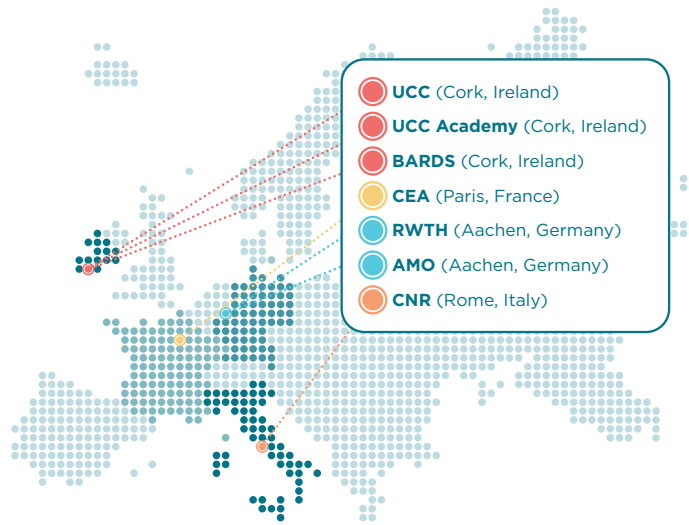
- 1. Large structures that harness wind energy
- 3. Renewable energy generated by wind
- 5. Renewable energy source from organic materials
- 6. Type of renewable energy from the sun
- 8. Common greenhouse gas produced by burning fossil fuels

The answers are on the last page just in case you get stuck



The amount of energy that the Sun sends to Earth is 10,000 times greater than all the energy consumed by humans.

FreeHydroCells



Led by UCC in Cork, Ireland, the project consortium comprises seven research institutions and organisations from across Europe (project ID: 101084261).

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