

# Science

## Topic 9: Energy, Trees and the Environment

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1. Use the phrases about **energy** to label the pictures.

<p>a)</p> 	<p>b)</p> 	<p>c)</p> 
<p>d)</p> 	<p>e)</p> 	<p>f)</p> 

1	A burning fire produces heat energy.
2	A cable carries electricity to power a television.
3	A radio produces sound energy.
4	A speeding ball and a swinging bat have movement energy.
5	A torch is a source of light energy.
6	A stretched rubber band has elastic energy.

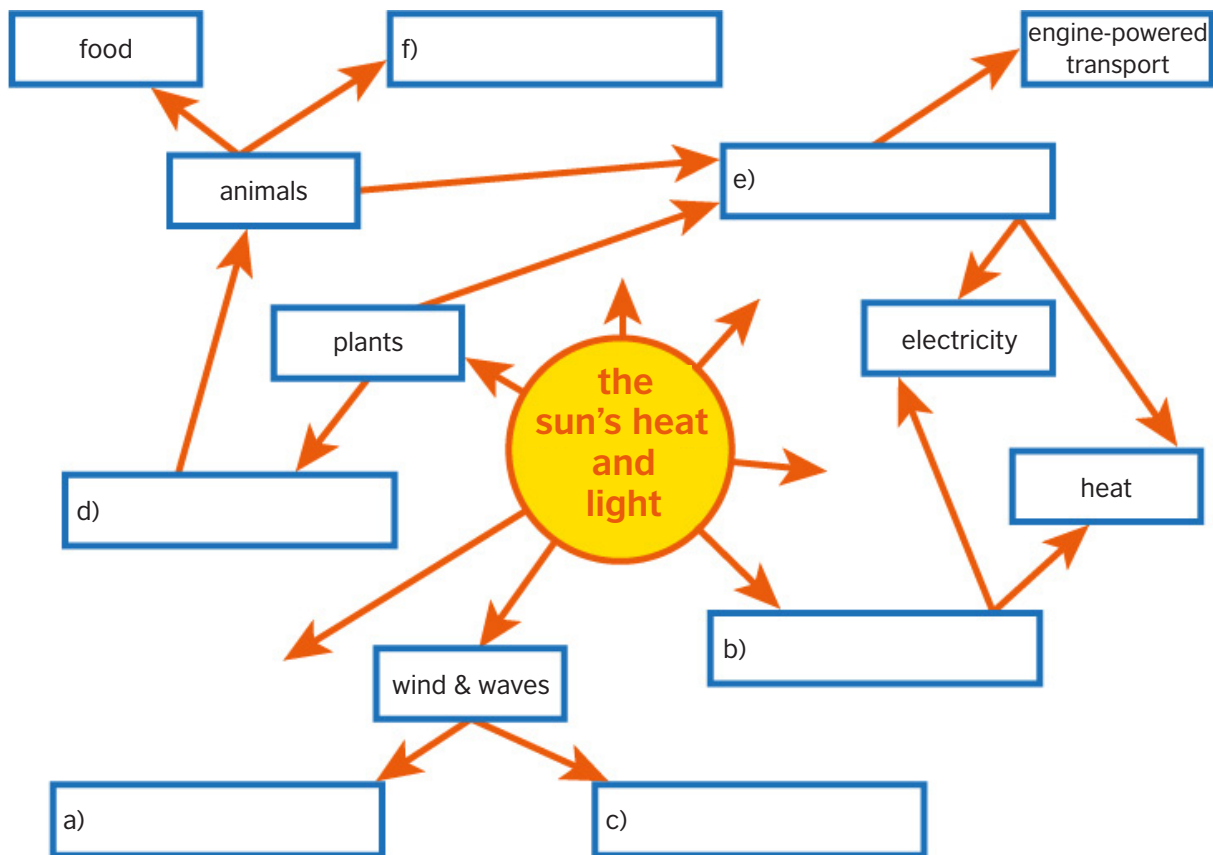
Write your answers here:

a)	b)	c)	d)	e)	f)

2. Use the words about **solar energy** to label the diagram.

animal-powered transport	electricity	food
fossil fuels	solar cells and panels	wind-powered transport


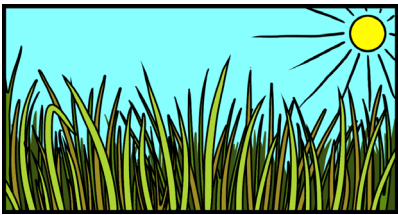
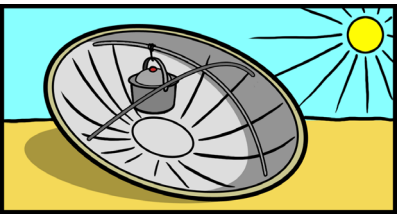
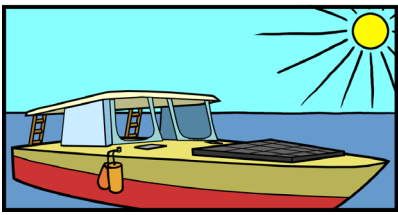
We can trace almost all the energy we use back to the sun. The sun is our ultimate energy source. Solar cells and panels capture the sun's energy to produce electricity and heat. Plants trap the energy of sunlight with their green leaves and produce food. Animals obtain this energy by eating the plants and in turn use that energy to provide transport. Fossil fuels are formed from the remains of dead plants and animals that were buried millions of years ago. This fuel is used to create electricity and run engine-powered transport. The sun's heat causes the air in the atmosphere to move, creating wind and wave energy that produce electricity. Wind energy is also used to power transport.

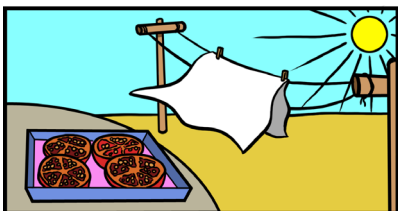
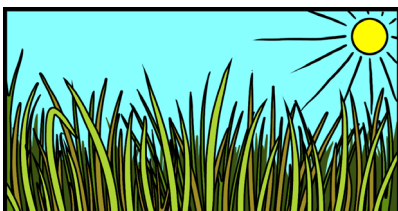


3. Use the descriptions about **solar energy** to label the pictures. Write your answers in each space provided.

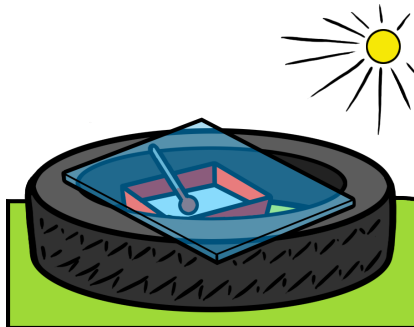
- a) Animals absorb heat from the sun to warm their bodies.
- b) Fossil fuels (coal, oil and gas) store the solar energy trapped by plants millions of years ago.
- c) A solar cooker heats food.
- d) Plants trap the energy of sunlight in their leaves, creating food for animals and releasing oxygen into the air.
- e) Solar cells can be used on different forms of transport to generate electricity from sunlight.
- f) Solar panels on buildings provide hot water for washing and heating.

Write your answers below each picture:

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<div data-bbox="220 1377 252 1422" style="border: 1px solid black; padding: 2px; width: 20px; text-align: center;">3</div> 	<div data-bbox="826 1377 858 1422" style="border: 1px solid black; padding: 2px; width: 20px; text-align: center;">4</div> 

<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <div style="border: 1px solid black; display: inline-block; padding: 2px 5px;">5</div>  </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <div style="border: 1px solid black; display: inline-block; padding: 2px 5px;">6</div>  </div>

4. Put the sentences in the correct order to make instructions about making a **solar cooker**. The first and last instructions have been provided.

<p>a) Cover the tyre with the glass.</p> <p>b) How hot does it get?</p> <p>c) Lay the tyre on the ground in a sunny spot.</p> <p>d) Record the temperature of the water every 2 minutes.</p> <p>e) Stand the dish of water inside the tyre.</p> <p>f) Place the thermometer in the water.</p> <p>g) You will need: an old car tyre, a sheet of glass, a dish of water, a thermometer.</p>	 <p style="text-align: center;">A simple solar cooker</p>
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Write your answers below:

1	2	3	4	5	6	7
g						b

5. Make sentences about **reducing air pollution** by matching the beginnings and endings. Write your answers in the grid below.

a)	Vehicles must be well	1	clean up their emissions.
b)	Walking and cycling do not	2	rather than burn it.
c)	Governments should pass laws to make industries	3	maintained and tested regularly.
d)	Healthy forests help to	4	cause pollution.

e)	Smoking pollutes the air you breathe with carbon monoxide and chemicals	5	causing cancer.
f)	It's better to recycle, compost or bury your waste	6	keep the air clean.

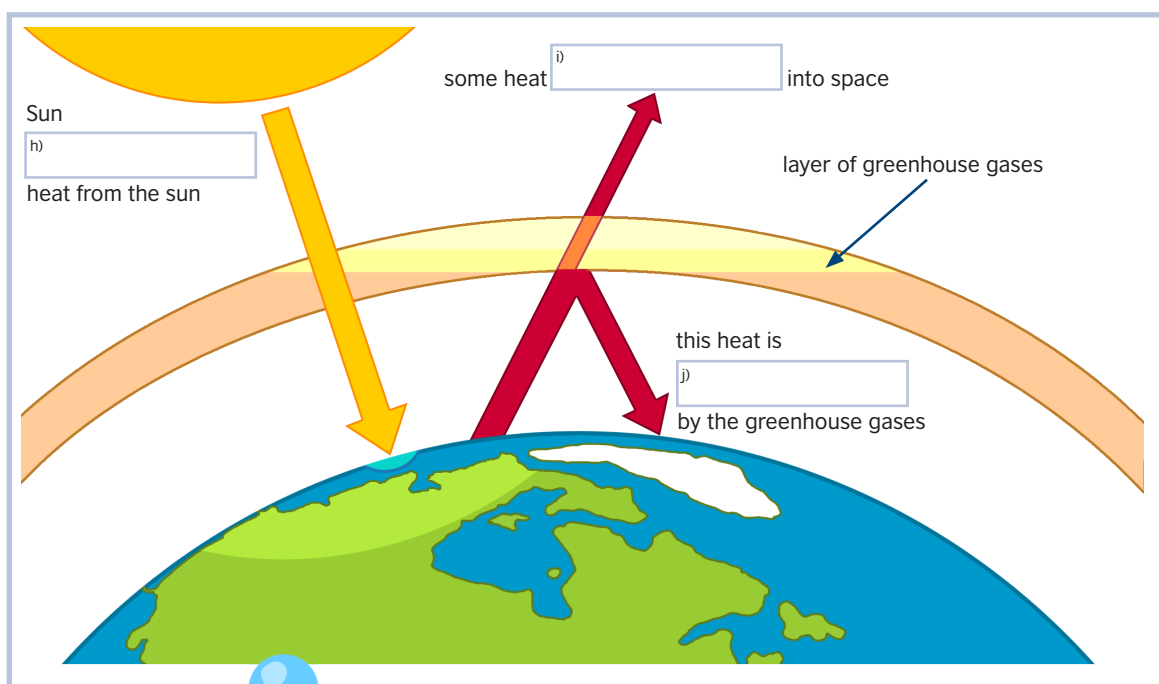
Write your answers here:

a)	b)	c)	d)	e)	f)






6. Choose the correct words from the list to fill the gaps in the text about **wasting energy**.

burn	droughts	escapes	felling
heating	incoming	pollutes	power stations
trapped	waste		

We <sup>a)</sup> \_\_\_\_\_ fuel to drive cars and make electricity. This <sup>b)</sup> \_\_\_\_\_ the air, making the whole Earth hotter. If we <sup>c)</sup> \_\_\_\_\_ energy, global warming will cause more <sup>d)</sup> \_\_\_\_\_ in some places and more floods in others. Coal, oil and gas burnt in <sup>e)</sup> \_\_\_\_\_ and vehicles increase carbon dioxide in the atmosphere. <sup>f)</sup> \_\_\_\_\_ and burning trees is called deforestation. This releases carbon dioxide too. Carbon dioxide, and other greenhouse gases, act like a blanket around the Earth. They trap the sun's heat like the glass in a greenhouse. The <sup>g)</sup> \_\_\_\_\_ of the atmosphere due to this is called the **greenhouse effect**.



7. Match the tests and the images to do with **threats to the environment**. Write your answers in the grid below.

a)		1	<b>Water pollution</b> by factory waste and sewage harms wildlife and spreads disease.
b)		2	<b>Misuse of water</b> by individuals and industry creates water shortages. Lack of fresh water can affect crop production and health.
c)		3	<b>Air pollution</b> in towns and cities creates smog and affects public health. Large-scale air pollution by burning fossil fuels, and the release of chemicals called CFCs from old refrigerators and aerosol sprays, has created global environmental problems including acid rain, the destruction of the ozone layer, and global warming.
d)		4	<b>Overuse of pesticides and fertilisers</b> causes pesticides enter the food chain, killing helpful insects as well as harmful ones. They pollute water and concentrate in the bodies of predators such as osprey. Fertilisers may damage ponds and rivers by causing too many algae to grow.
e)		5	<b>Waste dumping and burning</b> pollutes sensitive ecosystems. Burning waste creates poisonous fumes.

f)		6	<b>Oil spills</b> damage delicate coastal ecosystems, killing seabirds and polluting beaches.
g)		7	<b>Habitat destruction</b> threatens species as forest and other habitats are cleared and polluted. Deforestation (cutting down forests) may contribute to global warming. Reafforestation can help return the habitat to its former state.

Write your answers here:

a)	b)	c)	d)	e)	f)	g)

8. Match the definitions with the correct compound phrase about **fossil fuel pollution**. Write your answers in the grid below.

a)	A layer in the Earth's atmosphere that protects the Earth from the heat of the sun.	1	Acid rain
b)	A large building that contains machines that produce energy, especially electricity.	2	Carbon dioxide
c)	A fuel such as coal or oil, made from decayed material from animals or plants that lived many thousands of years ago.	3	Carbon monoxide
d)	A gas that is found inside the Earth that can be used for heating or cooking.	4	Climate change
e)	Rain containing a high level of acid that can damage the environment. It is caused by pollution in the air.	5	Crude oil
f)	A poisonous gas with no colour or smell, produced by the engines of vehicles.	6	Electric motor
g)	Oil that is still in its natural state and has not yet been refined for use by chemical processes.	7	Fossil fuel
h)	The changes that are thought to be affecting the world's weather causing it to gradually become warmer.	8	Global warming
i)	The slow increase in the Earth's temperature caused partly by the greenhouse effect increasing the amount of carbon dioxide in the atmosphere.	9	Greenhouse effect



j)	The process in which heat is unable to escape from the atmosphere and causes the temperature of the Earth to rise.	10	Natural gas
k)	The part of a machine that makes it work or move using electricity.	11	Ozone layer
l)	A gas without colour or smell that is produced when you breathe out or when substances are burnt.	12	Power station

a)	b)	c)	d)	e)	f)	g)	h)	i)	j)	k)	l)

9. Find the words about the **environment** in the word search.

A S S M C O G A P E S E N A F N I X E Q S R X V T E L G C P F C J B E I E I M D S D N H A D E D E O T A D S I E S E E R R T L K H T X E K P H R S F T A E O F I E H Z F I M O U H O E V J T T D B C N A O N R I R A I L H H U W U B X R H E E E S R I T L D V E R G E C V A C N D O R I P I D J N E E O R A Y I P U N S W E N A W O U N Z H C S P E C I E Y Z B C H A S E A L W S W U E F A R U R I X E E R E L P T G W N E X N G Q D R R M A B S O R B W R A D S M J V D E S T R O Y F V S C C A V E E M S G Y E I S I Y J T F	absorb burn care conserve destroy drive fell generate harm overuse poison recycle reduce reuse rot spoil trap
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10. Complete the crossword by answering the following questions. All the correct answers are words about **environmental problems and solutions**.

#### Across

- Chemicals used for killing insects, especially those that damage crops.
- A thick, dark, smooth liquid from under the ground, used for making petrol and other fuels.
- Oil found under the ground or under the bottom of the sea that is used for making fuel for cars and other chemical products.
- The situation when an animal, plant, or language no longer exists.
- The process of putting new trees in the ground in an area where trees used to grow.
- A black substance made from burnt wood that can be used as a fuel, especially for cooking

food outside. You can also use sticks of this for drawing.

16. Gas, especially methane, that is produced when bacteria cause plants to decay, used as fuel.

17. The process of removing the trees from an area of land.

18. The process of damaging the environment with chemicals or other substances.

### Down

2. A long period of time when there is little or no rain causing crops to die.

3. Heavy oil used as fuel instead of petrol in some engines.

5. A mixture of decaying plants and vegetables that is added to soil to improve its quality.

6. Substances that can be separated into very small parts by bacteria so they are not harmful to the environment.

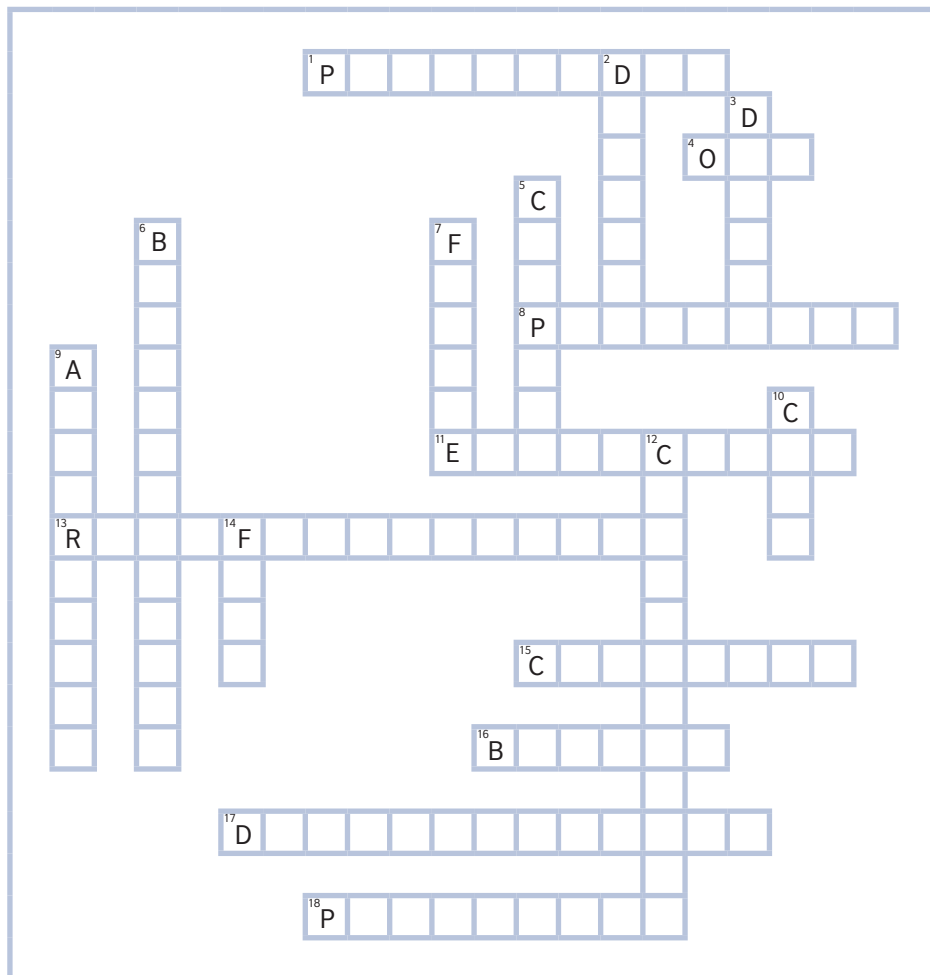
7. A serious lack of food that continues for a long time and causes many people in a country to become ill or die.

9. The process by which something takes in a substance, form of energy or liquid.

10. A hard black substance that is dug from the ground and burned as fuel to provide heat.

12. The management of land and water in ways that prevent it from being damaged or destroyed.

14. A substance such as oil, gas, coal, or wood that produces heat or power when it is burned.



## Glossary

absorb	/əb'zɔ:(r)b/ verb [T] take in a gas, liquid, or other substance.
absorption	/əb'zɔ:(r)pʃ(ə)n/ noun [U] the process by which something takes in a substance, form of energy, or liquid.
acid rain	/ 'æsid rein/ rain containing a high level of acid that can damage the environment. It is caused by pollution in the air.
algae	/ 'ældʒi:/ noun plural plants that have no roots, stems, or leaves and grow in water or in other wet places.
artificial	/ ,ɑ:(r)tɪ'fɪj(ə)l/ adj made by people and used instead of something natural, fake, not real.
biodegradable	/ ,baɪəʊdɪ'greɪdəb(ə)l/ adj separated into very small parts by bacteria so that they are not harmful to the environment.
biogas	/ 'baɪəʊ ,gæs/ noun [U] gas, especially methane, that is produced when bacteria cause plants to decay. It can be used as fuel.
blanket	/ 'blæŋkɪt / a cover normally used on a bed, here a layer of gas covering the planet
breeding places	/ 'bri:diŋ pleɪsɪz/ areas animals use for conceiving, feeding and raising their young.
buried	/ 'berɪd/ adj put in the ground and covered with earth.
burn	/bɜ:(r)n/ verb [I/T] destroy or consume with fire and flames.
bury waste	/ 'beri weɪst/ verb phrase put rubbish into the ground.
carbon dioxide	/ ,kɑ:(r)bən daɪ'ɒksaɪd/ noun [U] a gas without colour or smell, produced when you breathe out or when substances containing carbon are burnt. The fact that the earth is getting hotter because of carbon dioxide in the atmosphere is called the greenhouse effect.
carbon monoxide	/ 'kɑ:(r)bən mə'nɒksaɪd/ noun [U] a poisonous gas with no colour or smell, produced by the engines of vehicles.
care for something	/keə(r) fə(r) 'sʌmθɪŋ/ treat something carefully so that it stays in good condition.
cfc's	/ ,si: ef 'si:/ noun plural chlorofluorocarbon: a gas used in fridges and in some aerosol containers. CFCs are not often used any more because they damage the ozone layer of the Earth's atmosphere.
charcoal	/ 'tʃɑ:(r) ,kəʊl/ noun [U] a black substance made from burnt wood, used as a fuel, especially for cooking food outside. You can also use sticks of charcoal for drawing.
charcoal stove	/ 'tʃɑ:(r) ,kəʊl stəʊv/ a machine or a piece of equipment that provides heat for cooking or heating a room, using charcoal.
chemicals	/ 'kemɪk(ə)lz/ noun plural substances used in chemistry or produced by a process involving chemistry.
clean and efficient	/kli:n ænd ɪ'fɪj(ə)nt/ not dirty, simple and well-working, using supplies etc in the most effective way.
clean up emissions	/kli:n ʌp ɪ'mɪʃ(ə)nɪz/ recycle carbon dioxide and carbon monoxide in the atmosphere, produced by vehicles and industrial processes.
climate change	/ 'klaɪmət tʃeɪndʒ/ noun phrase the changes that are thought to be affecting the world's weather so that it is becoming warmer.

coal	/kəʊl/ noun [C/U] a hard black substance that is dug from the ground and burned as fuel to provide heat.
coastal communities	/ˈkəʊst(ə)l kəˈmjuːnətiːz/ the people who live in an area on land beside a sea.
components	/kəmˈpəʊnənts/ noun plural the different parts that something consists of.
compost	/ˈkɒmpəʊst/ noun [U] a mixture of decaying plants and vegetables that is added to soil to improve its quality.
consequences	/ˈkɒnsɪkwənsɪz/ noun [C] results or effect of something.
conservation	/ˌkɒnsə(r)ˈveɪʃ(ə)n/ noun [U] the management of land and water in ways that prevent it from being damaged or destroyed.
conserve	/kənˈsɜː(r)v/ verb [T] prevent land, water, or other natural resources from being damaged or destroyed.
construction materials	/kənˈstrʌkʃ(ə)n məˈtɪəriəlz/ noun phrase substances, elements especially used for building purposes.
crop production	/krɒp prəˈdʌkʃ(ə)n/ noun phrase the process of making or growing plants, in large quantities, especially in a factory or on a farm, so that they can be sold.
crude oil	/kruːd ɔɪl/ oil that is still in its natural state and has not yet been refined for use by chemical processes.
cycling	/ˈsaɪk(ə)lɪŋ/ noun [U] travelling by bicycle.
danger	/ˈdeɪndʒə(r)/ noun [C/U] a situation in which harm, death, damage, or destruction is possible.
deforestation	/diːˌfɒrɪˈsteɪʃ(ə)n/ noun [U] the process of removing the trees from an area of land.
destroy habitats	/diˈstrɔɪ ˈhæbɪtæts/ verb phrase damage the type of place that a particular animal usually lives in or a particular plant usually grows in, for example a desert, forest, or lake, so severely that it no longer exists or can never return to its normal state.
diesel	/ˈdiːz(ə)l/ noun [C/U] heavy oil used as fuel instead of petrol in some engines.
domestic use	/dəˈmestɪk juːz/ noun phrase something meant to help in people's homes and family life.
domestic waste	/dəˈmestɪk weɪst/ noun phrase the useless materials, substances, or parts that are left after you use something at one's place or home.
drilling	/ˈdrɪlɪŋ/ noun [U] make a hole using a special tool or machine, using a platform in the sea.
drive	/draɪv/ verb [I/T] control a vehicle so that it moves somewhere.
drought	/draʊt/ noun [C] a long period of time when there is little or no rain and crops die.
economical	/ˌiːkəˈnɒmɪk(ə)l/ adj something that is not expensive to make, buy, or use.
ecosystems	/ˌiːkəʊˈsɪstəmz/ noun plural all the plants and animals in a particular area, considered as a system with parts that depend on one another.
elastic energy	/ɪˈlæstɪk ˈenə(r)dʒi/ noun phrase potential energy stored in objects that are stretched.
electric motor	/ɪˈlektɪk ˈməʊtə(r)/ noun phrase the part of a machine that makes it work using electricity.

electricity	/ɪˌlekˈtrɪsəti/ noun [U] a form of energy that can produce light, heat, and power for machines.
endangered	/ɪnˌdeɪndʒə(r)d/ adj describes a type of animal or plant that may soon become extinct.
environmental problems	/ɪnˌvaɪrənˈment(ə)l ˈprɒbləmz/ issues, trouble relating to the natural world and the effect that human activity has on it.
extinction	/ɪkˈstɪŋkʃ(ə)n/ noun [C] the situation when an animal, plant, or language no longer exists.
famine	/ˈfæmɪn/ noun [C/U] a serious lack of food that continues for a long time and causes many people in a country to become ill or die.
fell	/felɪŋ triːz/ verb [T] cut down trees.
fertiliser	/ˈfɜː(r)təˌlaɪzə(r)/ noun plural a substance added to soil in order to help plants grow.
firewood	/ˈfaɪə(r)ˌwɒd/ noun [U] wood used as fuel for a fire.
flood	/flʌdz/ noun [C/U] a large amount of water that covers an area that was dry before.
forest destruction	/ˈfɒrɪst dɪˈstrʌkʃ(ə)n/ damage that is so severe that a large area of land covered by trees and other plants growing close together stop existing or can never return to its normal state.
formed from	/fɔː(r)m d frɒm/ adj phrase something made to start to exist or develop out of something.
fossil fuel	/ˈfɒs(ə)l ˈfjuːəl/ noun [C/U] a fuel such as coal or oil, made from decayed material from animals or plants that lived many thousands of years ago.
fractional distillation	/ˈfrækʃ(ə)nəl ˌdɪstɪˈleɪʃ(ə)n/ the process of making a liquid more pure by heating it until it becomes a gas and then making it colder so that it becomes a liquid again.
fuel	/ˈfjuːəl/ noun [C/U] a substance such as oil, gas, coal, or wood that produces heat or power when it is burned. Coal and wood are sometimes called solid fuel.
gas	/gæs/ noun [C/U] a substance such as air that is neither a solid nor a liquid.
generate electricity	/ˈdʒenəreɪt ɪˌlekˈtrɪsəti/ verb phrase produce a form of energy that can produce light, heat, and power for machines, computers, televisions etc.
global warming	/ˈɡləʊb(ə)l ˈwɔː(r)mɪŋ/ noun phrase the slow increase in the temperature of the Earth caused partly by the greenhouse effect increasing the amount of carbon dioxide in the atmosphere.
greenhouse effect	/ˈɡriːnˌhaʊs ɪˈfekt/ noun phrase the process in which heat is unable to escape from the atmosphere and causes the temperature of the Earth to rise.
habitat destruction	/ˈhæbɪtæt dɪˈstrʌkʃ(ə)n/ noun phrase severe damage on a type of a place that a particular animal usually lives in or a particular plant usually grows in, like a desert, forest, or lake.
habitat loss	/ˈhæbɪtæt lɒs/ noun phrase the state of no longer having a type of a place that a particular animal usually lives because it has been taken from you or destroyed.
harm the environment	/hɑː(r)m ðə ɪnˈvaɪrənmənt/ verb phrase destroy, damage the natural world around us.
heat energy	/hiːt ˈenə(r)dʒi/ noun phrase energy produced when the temperature of something changes.
heating	/ˈhiːtɪŋ/ noun [U] the process of making something warm.

hunting	/ˈhʌntɪŋ/ noun [U] the activity of chasing and killing wild animals.
hurricanes	/ˈhʌrɪkənz/ noun plural a violent storm with extremely strong winds and heavy rain.
improved wood	/ɪmˈpruːvd wʊd/ noun phrase better than usual or before substance that forms the main part of a tree and is used for making things such as furniture.
kerosene	/ˈkerəsiːn/ noun [U] a clear oil with a strong smell that is used for fuel.
lack of fresh water	/læk ðv freʃ ˈwɔːtə(r)/ noun phrase you do not have any, or enough, of the clear liquid that falls as rain and is used for things such as drinking and washing, that you need or want.
leftover food	/ˈleft,əʊvə(r) fuːd/ noun phrase remaining after you have finished eating the things that people or animals eat, such as meat, bread, etc.
light energy	/laɪt ˈenə(r)dʒi/ noun phrase brightness from the sun used to produce power, usually in the form of electricity.
lighting	/ˈlaɪtɪŋ/ noun [U] light of a particular type or quality, or the equipment that produces it.
man-made	/mæn meɪd/ adj something that has been made by people and does not exist naturally.
mechanical energy	/mɪˈkænik(ə)l ˈenə(r)dʒi/ a form of power, relating to or produced by physical forces, such as electricity, heat, or light that is used for making things work.
misuse of water	/mɪsˈjuːs ðv ˈwɔːtə(r)/ the use of the clear liquid that falls as rain and is used for things, such as drinking and washing, in the wrong way or for the wrong purpose.
natural	/ˈnætʃ(ə)rəl/ adj existing in nature and not produced or caused by people.
natural gas	/ˈnætʃ(ə)rəl ɡæs/ noun phrase a gas that is found inside the earth and that can be used for heating or cooking.
natural resources	/ˈnætʃ(ə)rəl rɪˈzɔː(r)sɪz/ noun phrase valuable substances such as wood and oil that exist in a country's land and sea.
non-living	/nɒn ˈlɪvɪŋ/ adj artificial, not alive.
not renewable	/nɒt rɪˈnjuːəb(ə)l/ energy and natural materials which do not replace themselves by natural processes, so that they can be completely used up.
oil	/ɔɪl/ noun [C/U] a thick dark smooth liquid from under the ground, used for making petrol and other fuels.
oil refinery	/ɔɪl rɪˈfaɪnəri/ noun phrase a factory where a thick dark smooth liquid, extracted from under the ground, is turned into used petrol and other fuels.
oil spills	/ɔɪl spɪlz/ noun phrase amount of liquid that has accidentally flowed out of its container.
oven	/ˈʌv(ə)n/ noun [C] a large piece of equipment in a kitchen that you heat, usually with electricity or gas, to cook food in. An oven often has a grill in it.
over-development	/ˈəʊvə(r)dɪˈveləpmənt/ noun [U] too much of, an excess of, change, growth, or improvement over a period of time.
overfishing	/ˌəʊvə(r)ˈfɪʃɪŋ/ noun [U] fishing damaging a river or a sea because too many fish are caught.
overuse	/ˌəʊvə(r)ˈjuːz/ verb [T] use something so much that it is no longer effective.
ozone layer	/ˈəʊzəʊn ˈleɪə(r)/ noun phrase a layer of ozone in the Earth's atmosphere that protects the Earth from the heat of the sun.

pesticides	/ˈpestɪsaɪds/ noun plural a chemical used for killing insects, especially those that damage crops.
petroleum	/pəˈtrɒliəm/ noun [U] oil found under the ground or under the bottom of the sea and used for making petrol for cars and chemical products.
planting trees	/plɑːntɪŋ triːz/ noun phrase putting very tall plants that have deep roots, thick stems made of wood, and many branches in soil or the ground so that they will grow there.
plastics	/ˈplæstɪks/ noun plural a very common light, strong substance produced by a chemical process and used for making many different things.
poison v	/ˈpɔɪz(ə)n/ verb [T] create pollution that damages part of the environment.
poisonous fumes	/ˈpɔɪz(ə)nəs fjuːmz/ noun phrase smoke or gas that has an unpleasant smell, especially harmful smoke or gas containing poison.
polar ice caps	/ˈpəʊlə(r) aɪs kæps/ noun phrase a large area of ice that covers the land and sea around the North or South Pole.
pollution	/pəˈluːʃ(ə)n/ noun [U] process of damaging the environment with chemicals or other substances.
power stations	/ˈpaʊə(r) ˈsteɪʃ(ə)nz/ noun phrase large building that contains machines which produce power, especially electricity.
production	/prəˈdʌkʃ(ə)n/ noun [U] the process of making or growing things in large quantities, especially in a factory or on a farm, so that they can be sold.
protect trees	/prəˈtekt triːz/ verb phrase keep very tall plants that have deep roots, thick stems made of wood, and many branches, safe from harm, damage, or loss.
protected	/prəˈtektɪd/ adj used about animals, plants, and other things that the law prevents people from harming.
provide	/prəˈvaɪd/ verb [T] cause something to exist or be available.
purification of air	/ˌpjʊərəfɪˈkeɪʃ(ə)n ɒv eə(r)/ noun phrase the process of making the gas we, humans, breathe, clean by removing dirty or harmful substances from it.
rainfall	/ˈreɪn ˌfɔːl/ noun [C/U] the amount of rain that falls in a particular area during a particular period of time.
reafforestation	/ˌriːəfɔːreɪˈsteɪʃ(ə)n/ noun [U] the process of putting new trees in the ground in an area where trees used to grow.
recycle	/riːˈsaɪk(ə)l/ verb [T] change waste materials such as newspapers and bottles so that they can be used again.
reduce air pollution.	/rɪˈdjuːs eə(r) pəˈluːʃ(ə)n/ verb phrase make the process of damaging the air with chemicals or other substances smaller or less in amount, importance etc.
release energy	/rɪˈliːs ˈenə(r)dʒi/ verb phrase let a form of power such as electricity spread into the area or atmosphere around it, especially as part of a chemical reaction.
renewable energy	/rɪˈnjuːəb(ə)l ˈenə(r)dʒi/ noun phrase forms of energy for providing electricity, for example from the sun or wind.
reserves of fuels	/rɪˈzɜː(r)vz ɒv ˈfjuːəlz/ noun phrase supplies of substances such as oil, gas, coal, that a country or an organization can use when they need to.
reuse	/riːˈjuːz/ verb [T] use something again, sometimes for a different purpose.
rot away	/rɒt əˈweɪ/ verb [I/T] decay by a gradual natural process.
rubbish	/ˈrʌbɪʃ/ noun [U] things that you throw away because they are no longer useful, such as old food, paper or plastic used for wrapping things, and empty containers.



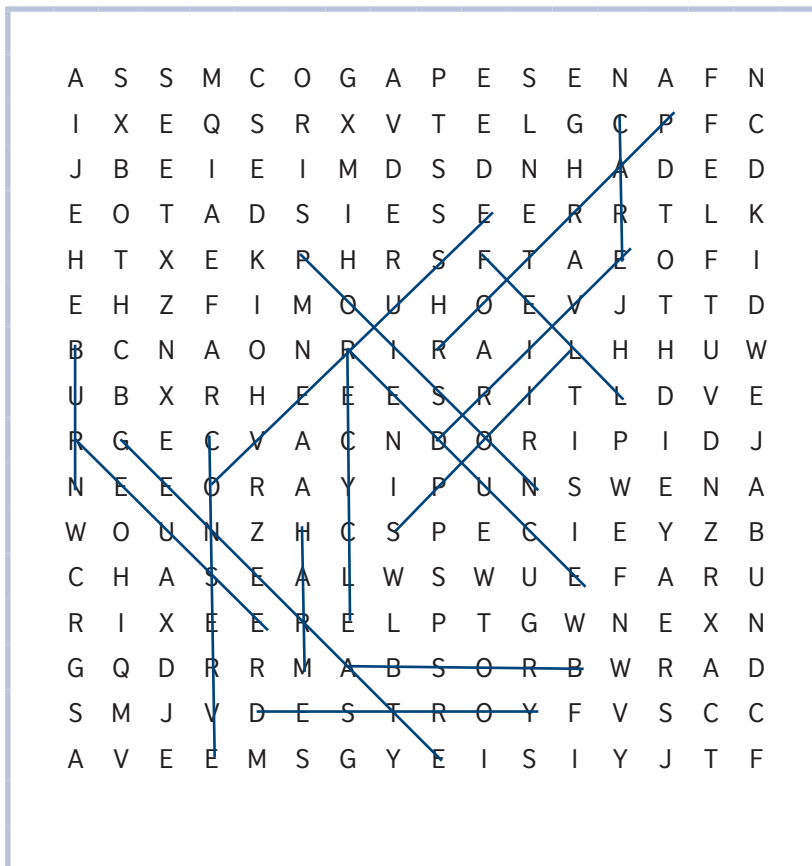
sewage	/ˈsuːɪdʒ/ noun [U] waste substances, especially waste from people's bodies, removed from houses and other buildings by a system of large underground pipes called sewers.
smog	/smɒɡ/ noun [U] polluted air that is a mixture of smoke and fog.
smoke	/sməʊk/ noun [C/U] a grey, black, or white cloud produced by something that is burning.
solar cells	/ˈsəʊlə(r) selz/ noun phrase pieces of equipment that uses the Sun's energy to produce electricity to make something work.
solar cooker	/ˈsəʊlə(r) ˈkʊkə(r)/ noun phrase a large piece of kitchen equipment that is used for cooking and uses the Sun's energy to work. The American word is stove.
solar energy	/ˈsəʊlə(r) ˈenə(r)dʒi/ noun phrase a form of power such as electricity, heat, or light that is used for making things work, that uses the power of the Sun's light and heat.
solar installation	/ˈsəʊlə(r) ˌɪnstəˈleɪʃ(ə)n/ noun phrase a system or piece of equipment that has been installed somewhere that uses the power of the Sun's light and heat to produce electricity.
solar panel	/ˈsəʊlə(r) ˈpæn(ə)l/ noun phrase a flat piece of special glass, or other material that forms part of something such as a cell that uses the power of the Sun's light and heat to produce electricity.
sound energy	/saʊnd ˈenə(r)dʒi/ noun phrase energy that travels through air or water a human ear can hear.
sources	/sɔː(r)s/ noun plural a person, place, or thing that provides something that you need or want.
spoil the environment	/spɔɪl ðə ɪnˈvaɪrənmənt/ verb phrase affect the place in which people live and work, including all the physical conditions that affect them, in a way that makes it worse.
spread disease	/spred diˈziːz/ verb phrase gradually affect human beings or animals as an illness that affects people or animals, especially one is caused by infection, is passed from one person to another.
storms	/stɔː(r)mz/ noun plural an occasion when a lot of rain falls very quickly, often with very strong winds or thunder and lightning.
sun	/sʌn/ noun [C/U] the star in the sky that provides light and warmth to the Earth.
sunlight	/ˈsʌnˌlaɪt/ noun [U] the light from the sun.
thermal stations	/ˈθɜː(r)m(ə)l ˈsteɪʃ(ə)ns/ noun phrase buildings where electricity is produced by using heat.
tin cans	/tɪn kænz/ noun phrase metal containers with round sides and a lid, for holding liquids.
torch	/tɔː(r)tʃ/ noun [C] a piece of wood with a flame at one end that is used to give light.
transformation	/ˌtrænsfə(r)ˈmeɪʃ(ə)n/ noun [C] a change into someone or something completely different, or the process by which this happens.
trap	/træp/ verb [T] keep something such as air, gas, or energy in a particular place.
unprotected	/ˌʌnpɹəˈtektɪd/ adj in danger of being harmed, damaged, attacked, or infected because you do not have suitable protection.
use up	/juːz ʌp/ phr verb use all of a supply of something
walking	/ˈwɔːkɪŋ/ noun [U] the activity of going for walks.



waste dumping	/weɪst 'dʌmpɪŋ/ noun phrase the process of or the place where large amounts of waste are taken and left.
water shortages	/'wɔ:tə(r) 'ʃɔ:(r)tɪdʒz/ noun phrase lack of the liquid we drink that we need or want.
wave energy	/weɪv 'enə(r)dʒi/ noun phrase a form of power such as electricity, heat, or light used for making things work, produced by the lines of water that rise up on the surface of a sea, lake, or river.
wave generators	/weɪv 'dʒenə'reɪtə(r)s/ noun phrase machines that produces electricity by using the lines of water on the surface of oceans or seas.
well maintained	/wel meɪn'teɪnd/ adj in a good condition.
wind energy	/wɪnd 'enə(r)dʒi/ noun phrase a form of power such as electricity, heat, or light used for making things work, produced by the natural current of air moving fast enough for you to feel it.

## Key:

1. a) 2, b) 5, c) 4, d) 3, e) 1, f) 6
2. a) wind-powered transport, b) solar cells and panels, c) electricity, d) food, e) fossil fuels, f) animal-powered transport
3. 1 a), 2 d), 3 c), 4 e), 5 f), 6 b)
4. 1) g, 2) c, 3) e, 4) f, 5) a, 6) d, 7) b
5. a) 3, b) 4, c) 1, d) 6, e) 5, f) 2
6. a) burn, b) pollutes, c) waste, d) droughts, e) power stations, f) Felling, g) heating, h) incoming, i) escapes, j) trapped
7. a) 7, b) 5, c) 4, d) 6, e) 2, f) 3, g) 1
8. a) 11, b) 12, c) 7, d) 10, e) 1, f) 3, g) 5, h) 4, i) 8, j) 9, k) 6, l) 2
- 9.



10. **Across:** 1. pesticides, 4. oil, 8. petroleum, 11. extinction, 13. reafforestation, 15. charcoal, 16. biogas, 17. deforestation, 18. pollution; **Down:** 2. drought, 3. diesel, 5. compost, 6. biodegradable, 7. famine, 9. absorption, 10. coal, 12. conservation, 14. fuel