

Science

Topic 1: Water

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1. Find the words about **water** in the word search.

<p> F U T G Q K F V S G G N P E H H S X O E Z G F H O E S G B J H O T S W E L I A E T J L S A Y I H N N T V I V A S P G M R G I E A S T I V G U D B H N L I C S R A E P N P Y V S E S I E E A D S O A P P C E S F C P N I R E L N L E N V I R O N M E N T L T Y P N R U R I E G S J E U E R I U O P A E N P R Q C T Q E P S I R B A L E M P S I W M Q E H S D F U E M A E O T O A I T G E Q O E W S J N S D </p>	<p> dangers environment hygiene pollution properties purification rain sources stagnant supply waste </p>
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2. Choose the correct words from the list to fill the gaps in the sentences about the **characteristics of water**.

colourless	flows	freezes	steam	dissolve	liquid	surface tension
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a)	Water is liquid at room temperature. It _____ to take the shape of its container.
b)	_____ water cannot be squeezed into a smaller space: it is incompressible.
c)	The surface of water has some strength due to _____. This is how insects are able to walk on water.
d)	Water is a good solvent. This means that substances such as sugar and salt _____ in it.
e)	Water is transparent, _____, and has no smell or taste.
f)	When it is cooled to zero degrees C, water _____ to solid ice.

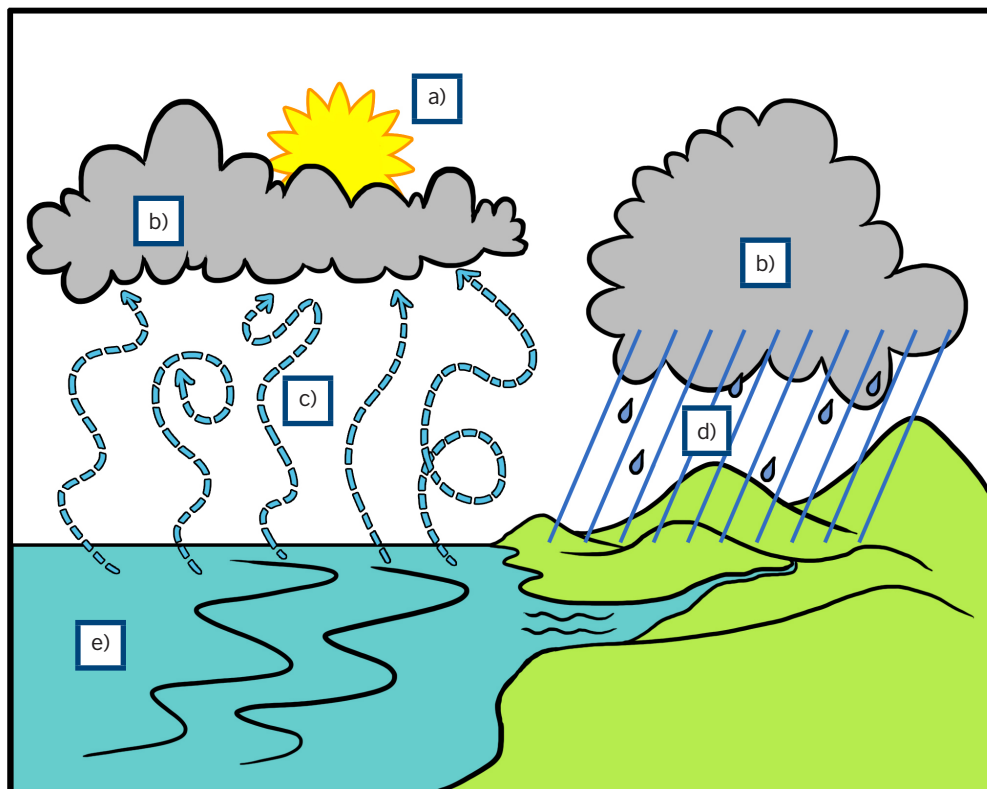
g) When water is heated to 100 degrees C, it boils to create _____.

3. Unscramble the letters to make words to fill the gaps in the sentences about **water supply**.

a)	smina	b)	lewl	c)	smger
d)	ingdrink	e)	dulletop	f)	unpooisos

If you live in or near a town, your water probably comes through pipes and taps from the a) _____ water supply. If you live in a village, your water may come from a borehole or a b) _____. Bottled water and mains water have been treated with chemicals to kill c) _____. This water is usually safe to drink and is commonly known as d) _____ water, but water from other sources may be e) _____ by germs or f) _____ chemicals.

4. Label the parts of the **water cycle** in the diagram.



Write answers here:

a)		b)		c)	
d)		e)			

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

a)	People bathe, urinate or defecate in a river and	1	harm people and wildlife that drink it.
b)	Sewage contaminates rivers and	2	it is unsafe for humans to drink.
c)	Farmers use pesticides or fertilisers and	3	pollute rivers.
d)	Factories contaminate water with substances that	4	underground water supplies.
e)	Rubbish dumps	5	germs breed in the dirty water.
f)	Cattle dirty water so that	6	these are washed into rivers and underground water.

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

6. Write words in the gaps to complete the sentences giving advice on how to prevent **waterborne diseases**.

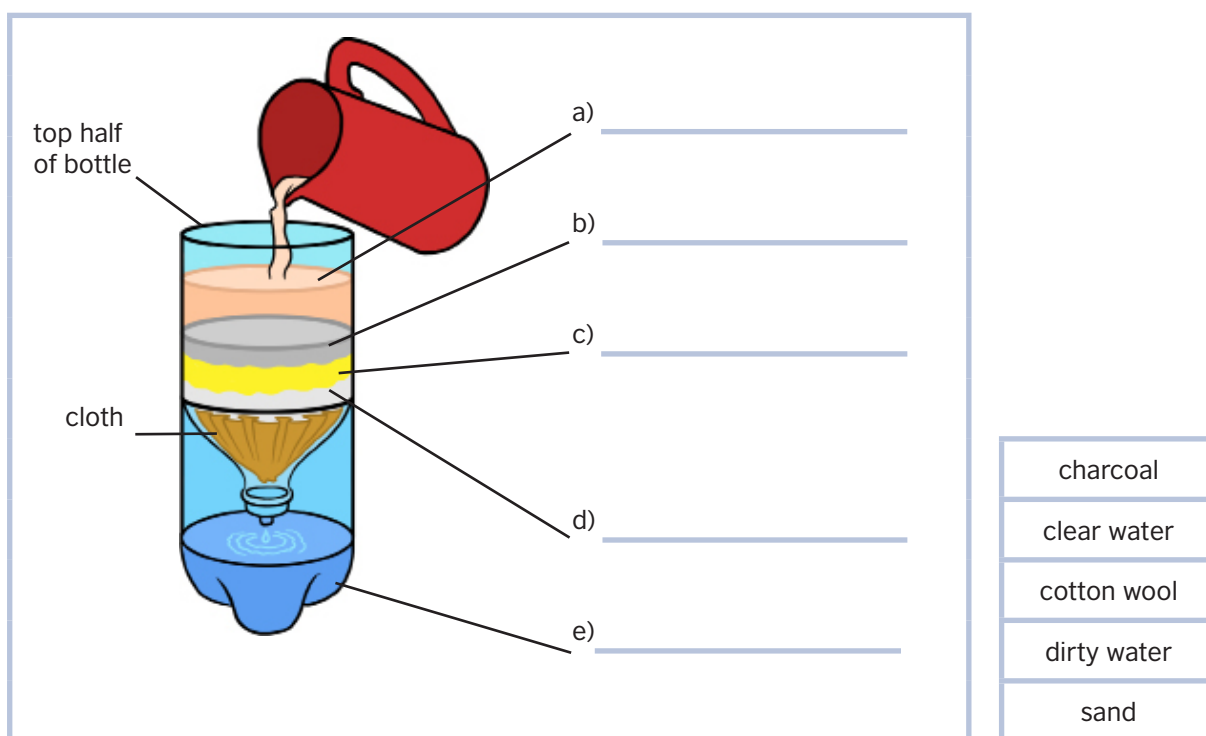
	Always use a proper toilet.
a)	Don't allow germs to _____ water supplies.
b)	Wash your hands with soap and water after visiting the _____.
c)	_____ your hands before handling food.
d)	Keep food covered to _____ it from contamination.
	Kill flies.
e)	_____ your kitchen, toilet and surroundings thoroughly and regularly to stop them getting dirty.
f)	Only drink clean water. Make sure water is germ free by _____ it in a pan or kettle.
	Cook your food well.

7. Choose the correct words from the list to fill the gaps in the table about **serious waterborne diseases**.

polio	headache	faeces	fever	typhoid
diarrhoea	vaccinated	dehydration	antibiotic	

Disease	Symptoms	Treatment
a) _____	b) _____, high temperature, sickness and diarrhoea.	A doctor treats the patient with c) _____ medicine. People should be vaccinated in areas at risk.
Cholera	Sudden sickness and d) _____ – faeces almost like water.	The patient is given liquids to prevent e) _____. Don't give the patient solid food. Keep the patient warm in bed and call the doctor.
f) _____ (Poliomyelitis)	Fever, bad headache, pain and stiffness in the neck and back. In bad cases the patient can't walk or breathe without help.	There is no cure. Children must be g) _____.
Hepatitis A	Yellow skin, tiredness and h) _____.	No special treatment except rest. Most patients recover within a few months.
Bilharzia	Blood in urine and sometimes in i) _____, pain when urinating and tiredness.	A doctor treats the patient with a special medicine.

8. Label the diagram of a **water filter** with the words from the list.



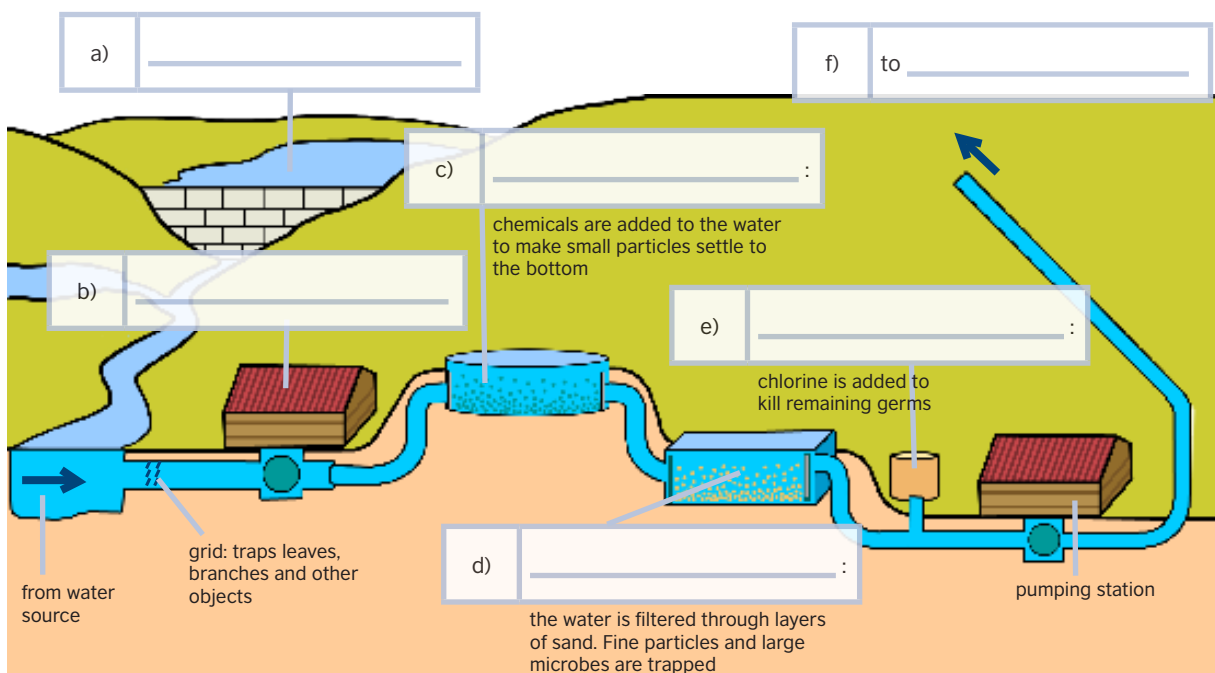
9. Choose the correct words from the list to fill the gaps in the text about **purifying water**.

a)	clean	dirty	transparent
b)	purify	conserve	remove
c)	pollution	rehydration	filtration
d)	plastic	safe	solvent
e)	microbes	ice	sugar
f)	saucepan	sewage	supply

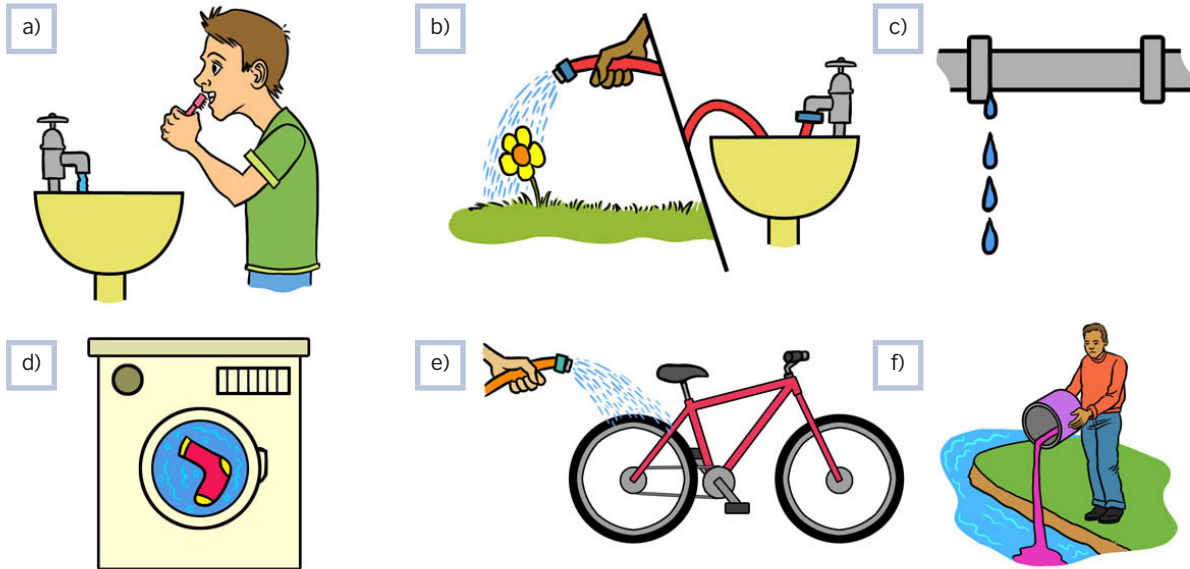
Sometimes we use water from sources that may be ^{a)} _____ and unsafe. We must ^{b)} _____ this water. ^{c)} _____ removes small particles of dirt from the water but the water is still not ^{d)} _____ as it may contain germs or other ^{e)} _____. Germs are small enough to pass through a filter. To make the water safe, you must boil it to kill the germs. Tap water is not safe in every country. Sometimes germs can get into the water ^{f)} _____. If you are not certain that your water is safe, you must boil it before you drink it.

10. Use the words about the **water purification process** to label the diagram.

chlorination plant	filter bed	pumping station
reservoir	sedimentation tank	storage tank



11. These pictures show some of the ways we **waste and misuse water**. Match the sentences with the correct pictures:



Write answers here:

1	Using the washing machine for only one item.	
2	Not repairing a leak.	
3	Using a hose to clean a bicycle or a car.	
4	Watering the garden with drinking water.	
5	Causing water pollution.	
6	Leaving taps running as you clean your teeth.	

12. These are some of the ways we can conserve **water**. Choose the right ending for each sentence.

a)	Only turn a tap on for the water you need	1	for watering plants.
b)	Repair	2	leaks.
c)	Collect rainwater or use washing-up water	3	and not during the hottest part of the day.
d)	Water in the early morning or evening	4	rather than a hose for cleaning cars.
e)	Wait until you have a full load	5	and then turn it off again.
f)	Use a bucket	6	before you turn on the washing machine.

Write answers here:

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

Glossary

afforestation	/əˈfɒriˈsteɪʃ(ə)n/ noun [U] the process of planting many trees on an area of land.
antibiotic	/ˌæntɪbaɪˈɒtɪk/ noun [C] a drug, for example penicillin, that cures illnesses and infections caused by bacteria.
bilharzia	/bɪlˈhɑː(r)tsiə/ noun [U] a serious tropical disease caused by flukes in rivers, lakes etc, which enter the body through the skin and live in the bloodstream. Bilharzia causes anaemia and fever.
boil	/bɔɪl/ verb [I/T] if a liquid boils, or if you boil it, it becomes so hot that bubbles rise to the surface as its molecules quickly turn to vapour. A pure substance always boils at the same temperature.
borehole	/ˈbɔː(r), hɔʊl/ noun [C] a very deep narrow hole in the ground that is made in order to get water.
bucket	/ˈbʌkɪt/ noun [C] a round open container with a handle, used for carrying liquid and other substances.
can	/kæn/ noun [C] a metal container with round sides, used for holding food or drink or other liquids.
charcoal	/ˈtʃɑː(r), kəʊl/ noun [U] a black substance made from burnt wood, used as a fuel.
chlorinate	/ˈklɔːn, neɪt/ verb [T] to treat water with chlorine, especially in order to kill harmful organisms — chlorination /ˈklɔːn, neɪʃ(ə)n/ noun [U]: <i>chlorination plant</i> .
cholera	/ˈkɒləərə/ noun [U] a serious, highly infectious disease that causes severe vomiting and diarrhoea, and can cause death. It is typically caught from an infected water supply.
clean	/kliːn/ adj not dirty or polluted: <i>a clean supply of water</i> .
clear	/kliə(r)/ adj transparent: <i>the water was clear after it had been filtered</i> .
colourless	/ˈkʌlə(r)ləs/ adj without any colour: <i>Carbon monoxide is a colourless, poisonous gas</i> .
conservation	/ˌkɒnsə(r)ˈveɪʃ(ə)n/ noun [U] the management of land and water in ways that prevent them from being damaged or destroyed: <i>a water conservation project</i> .
conserve	/kənˈsɜː(r)v/ verb [T] to use very little of something such as electricity or water so that it is not wasted.
contaminate	/kənˈtæmɪneɪt/ verb [T] to make something dirty, polluted, or poisonous by adding a harmful substance: <i>Industrial sewage continues to contaminate our beaches</i> — contamination /kənˈtæmɪˈneɪʃ(ə)n/ noun [U].
cotton wool	/ˈkɒt(ə)n wʊl/ noun [U] soft fibres of cotton used for cleaning and in filters.
cure	/kjʊə(r)/ noun [C] a medicine or treatment that makes someone who is ill become healthy: <i>Doctors say there are several possible cures for the disease</i> .
danger	/ˈdeɪndʒə(r)/ noun [U] a situation in which serious harm, death, or damage is possible: <i>There is danger from unhygienic water</i> .
defecate	/ˈdefəkeɪt/ verb [I] to get rid of solid waste from the body through the anus — defecation /ˌdefəˈkeɪʃ(ə)n/ noun [U].

dehydration	/ˌdiːhaɪˈdreɪʃ(ə)n/ noun [U] a dangerous lack of water in the body that results from not drinking enough or from extreme loss through sweating, vomiting, or diarrhoea.
diarrhoea	/ˌdaɪəˈriːə/ noun [U] an illness in which the faeces are like liquid, usually as a result of food poisoning or another disease.
dirty	/ˈdɜː(r)ti/ (dirtier, dirtiest) adj not clean: <i>dirty water</i> .
disposal	/dɪˈspəʊz(ə)/ noun [U] the process of getting rid of something: <i>the disposal of domestic waste</i> .
dissolve	/dɪˈzɒlv/ verb [I/T] if a solid substance dissolves in a liquid, or if someone dissolves it, it mixes into the liquid and becomes included in it.
domestic	/dəˈmestɪk/ adj relating to people's homes and family life: <i>domestic waste</i> .
drainage	/ˈdreɪnɪdʒ/ noun [U] a system of pipes and passages that take away water or waste liquid from an area, or the process of taking this waste away.
drinking water	/ˈdrɪŋkɪŋ ˈwɔːtə(r)/ noun [U] water that is safe to drink.
dump	/dʌmp/ verb [T] to get rid of something that is no longer wanted or needed: <i>Waste chemicals were being dumped into the sea</i> .
environment	/ɪnˈvaɪrənmənt/ noun the natural world, including land, water, air, plants, and animals: <i>Industrial development is causing widespread damage to the environment</i> .
evaporation	/ɪˌvæpəˈreɪʃ(ə)n/ noun [U] a process in which a liquid slowly changes into a vapour without being boiled.
faeces	/ˈfiːsiːz/ noun [plural] solid waste from the body.
fertilizer	/ˈfɜː(r)təlaɪzə(r)/ noun [C/U] a substance that is added to soil in order to help plants grow.
fever	/ˈfiːvə(r)/ noun [C/U] a medical condition in which the temperature of the body is very high.
filter	/ˈfɪltə(r)/ noun [C] a piece of equipment that removes substances that are present in a liquid or gas: <i>filter bed</i> .
filtration	/fɪlˈtreɪʃ(ə)n/ noun [U] the process of removing the solid parts from a mixture, for example water or air, by passing it through a filter.
flow	/fləʊ/ noun [C/U] the continuous movement of something: <i>the flow of blood to the heart</i> .
freeze	/friːz/ (freezes, freezing, froze, frozen) verb [I/T] if a liquid freezes, or if something freezes it, it has cooled to the temperature at which it becomes solid. When water freezes, at 0° C, it becomes ice: <i>Liquid nitrogen freezes at minus 209 degrees Celsius</i> .
germ	/dʒɜː(r)m/ noun [C] a form of bacteria that spreads disease.
headache	/ˈhedeɪk/ noun [C] a pain in your head: <i>I had a bad headache yesterday</i> .
hepatitis A	/ˌhepəˈtaɪtɪs eɪ/ noun [U] an infectious disease of the liver.
hygiene	/ˈhaɪdʒiːn/ noun [U] the practice of keeping yourself and the things around you clean in order to prevent infection and disease.
ice	/aɪs/ noun [U] water that has frozen and become solid: <i>a block of ice</i> .

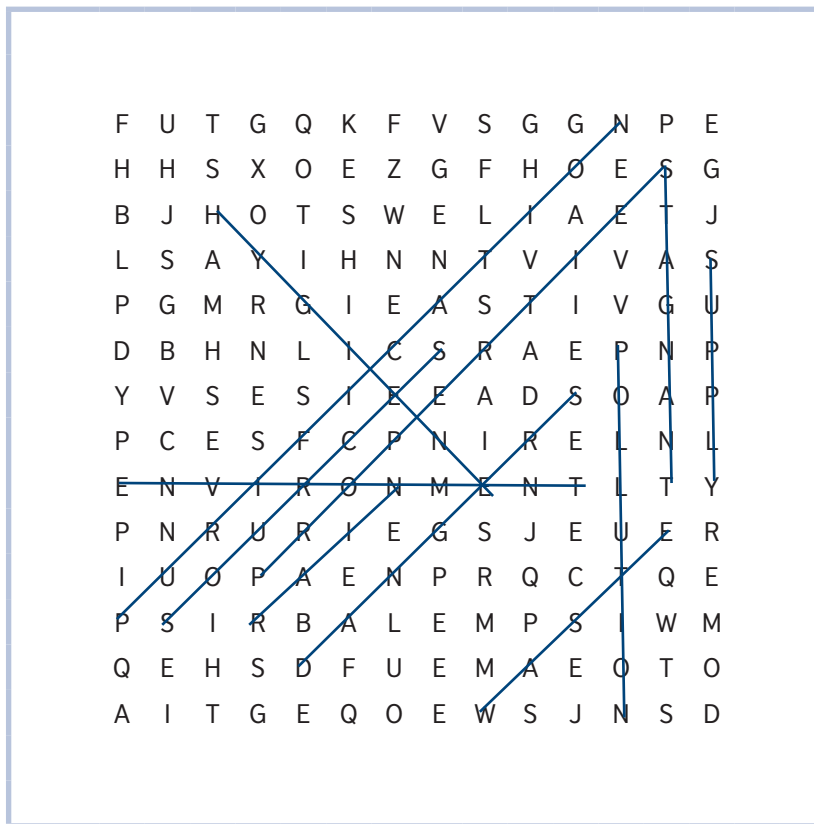
industrial	/ɪnˈdʌstriəl/ adj relating to industries, or to the people who work in them: <i>industrial waste</i>
intestinal	/ɪnˈtestɪn(ə)/ adj relating to the intestines: <i>intestinal worms</i> .
leak	/li:k/ verb [I/T] if a pipe, container, roof etc leaks, or if it leaks something, liquid or gas comes out of it through a hole: <i>The roof is still leaking.</i>
liquid	/ˈlɪkwɪd/ noun [C/U] one of the three forms of matter that has a fixed volume but a changing shape and can also flow. Water is a liquid: <i>a glass of colourless liquid</i> .
mains water	/meɪnz ˈwɔ:tə(r)/ noun [U] the public supply of water for people to use in their homes.
malaria	/məˈleəriə/ noun [U] a very serious illness that you can get if a mosquito infected with a particular parasite bites you. Malaria causes fever, shivering, and sweating, and it can be fatal.
microbe	/ˈmaɪkrəʊb/ noun [C] a microorganism, especially a bacterium or virus that causes disease.
mosquito	/mɒˈski:təʊ/ (plural mosquitos or mosquitoes) noun [C] a small flying insect of the fly family. Female mosquitos bite the skin of mammals in order to feed on their blood. Some types of mosquito can spread diseases such as malaria, dengue fever, and yellow fever.
parasite	/ˈpærəsait/ noun [C] an organism that lives in or on another living thing and feeds on it. Lice, fleas, and tapeworms are all types of parasite.
pesticide	/ˈpestisaɪd/ noun [C/U] a chemical used for killing insects that damage crops.
plastic	/ˈplæstɪk/ noun [C/U] a very common light, strong, non-metal polymer that is produced artificially. Plastics are used for making many different things: <i>plastic bottle</i> .
poisonous	/ˈpɔɪz(ə)nəs/ adj containing poison: <i>poisonous gases</i> .
polio	/ˈpəʊliəʊ/ noun [U] a serious infectious disease caused by a virus that can destroy muscles and affect the ability to control movement. Polio is short for poliomyelitis.
pollutant	/pəˈlu:t(ə)nt/ noun [C] a substance that is harmful to the environment, especially a chemical.
pollute	/pəˈlu:t/ verb [T] to damage the air, water, land, or organisms with chemicals or other substances: <i>The oil spillage has polluted the harbour.</i> —polluted adj: <i>a heavily polluted river.</i> pollution /pəˈlu:ʃ(ə)n/ noun [U].
property	/ˈprɒpə(r)ti/ (plural properties) noun [C] a quality or feature of something: <i>The plants are believed to have healing properties.</i>
protect	/prəˈtekt/ verb [T] to keep someone or something safe: <i>protect the environment</i> .
pumping station	/pʌmpɪŋ ˈsteɪʃ(ə)n/ noun [C] a place where water or gas is pumped along a pipe or out of the ground up to a tank, where it is stored.
purify	/ˈpjʊərɪfaɪ/ (purifies, purifying, purified) verb [T] to make something clean by removing dirty or harmful substances from it —purification noun [U].
rain	/reɪn/ noun [U] water that falls in drops from clouds in the sky.
recover	/rɪˈkʌvə(r)/ verb [I] to become fit and healthy again after an illness or injury: <i>I haven't fully recovered from the flu.</i>
rehydration	/riˈhaɪdreɪʃ(ə)n/ noun [U] a process of replacing the water, salts etc that have been lost in someone whose body has become severely dehydrated (=lost a lot of water), especially through diarrhoea.

remove	/rɪ'mu:v/ verb [T] to take someone or something away from a place: <i>Purification removes unwanted things from the water supply.</i>
reservoir	/ˈrezə(r),vwɑː(r)/ noun [C] a lake, often an artificial one, where water is stored so that it can be supplied to houses, factories etc.
safe	/seɪf/ adj not likely to cause damage or harm: <i>The water is safe to drink.</i>
salt	/sɔːlt/ noun [U] a white substance that is often added to food to improve its flavour. Salt is found naturally in sea water and under the ground, and is also present in the fluids of all living things.
sand	/sænd/ noun [U] a pale brown substance that forms a beach or covers a desert, formed from very small pieces of rock: <i>The children were playing in the sand.</i>
saucepan	/ˈsɔːspən/ noun [C] a round deep metal container with a long handle. It is used for cooking food on a cooker.
sedimentation tank	/ˌsedɪmen'teɪʃ(ə)n tæŋk/ noun [C] a large tank that water from a river or reservoir passes through in the process of being cleaned and supplied to homes, factories etc.
sewage	/ˈsuːɪdʒ/ noun [U] waste from people's bodies that is removed from houses and other buildings by a system of large underground pipes called sewers.
shortage	/ˈʃɔː(r)tɪdʒ/ noun [C/U] a lack of something that you need or want: <i>The villagers are facing serious food and fuel shortages. _ a shortage of clean water.</i>
sickness	/ˈsɪknəs/ noun [U] a condition in which you have an illness 2 [C] a particular illness.
soil erosion	/sɔɪl ɪ'reʊʒ(ə)n/ noun [U] the process by which soil is gradually removed by the rain, wind, or sea.
solid	/ˈsɒlɪd/ adj relating to a substance that is not a liquid or a gas and does not change in shape or volume.
solvent	/ˈsɒlv(ə)nt/ noun [C] the liquid part of a solution in which a solute dissolves.
source	/sɔː(r)s/ noun [C] a person, place, or thing that provides something that you need or want: <i>a source of drinking water.</i>
sponge	/spʌndʒ/ noun [C] a soft substance that takes in water easily.
stagnant	/ˈstæɡnənt/ adj stagnant water does not flow and often smells bad.
steam	/stiːm/ noun [U] the small drops of water, like a hot cloud, that are produced when water vapour starts to condense.
stone	/stəʊn/ noun [C/U] the hard substance that rocks are made of, or a small piece of rock: <i>a layer of stones was used in the filtration system.</i>
storage tank	/ˈstɔːndʒ tæŋk/ noun [U] 1 the act of storing something, or the space where something is stored: <i>the water is pumped into a storage tank.</i>
stove	/stəʊv/ noun [C] a piece of equipment that provides heat for cooking or for heating a room.
suffer	/ˈsʌfə(r)/ verb [I/T] to have a particular illness or physical problem.
sugar	/ˈʃʊɡə(r)/ noun [U] a sweet substance that is added to food or drinks to make them taste sweet.
supply	/səˈplaɪ/ (plural supplies) noun [C] an amount or quantity of something that is available to use: <i>The crops need a constant supply of water.</i>

surface tension	/ˈsɜː(r)fɪs ˈtenʃ(ə)n/ noun [U] the force which makes it possible for small insects to walk on the surface of water.
terrace	/ˈterəs/ noun [plural - terraces] [C] land on the side of a hill that has been made into thin flat sections that look like steps so that it can be used for farming.
tired	/ˈtaɪə(r)d/ adj needing to rest or sleep — tiredness noun [U].
toilet	/ˈtɔɪlət/ noun [C] 1 a structure like a seat over a hole where you get rid of waste from your body 2 a room that contains a toilet.
transparent	/trænsˈpærənt/ adj a transparent surface is clear enough to allow a lot of light to pass through it: <i>a transparent plastic bottle.</i>
treatment plant	/ˈtriːtmənt plɑːnt/ noun [C] a place where something such as sewage (=waste water and human waste products) is treated to make it safe.
typhoid	/ˈtaɪfɔɪd/ noun [U] a serious infectious disease that affects only humans. It is caused by bacteria that live in water or in the faeces of infected people.
urinate	/ˈjʊərɪneɪt/ verb [I] to get rid of urine from the body — urination noun [U].
urine	/ˈjʊərɪn/ noun [U] a liquid that contains waste products such as urea and salts from the body that are filtered out through the kidneys.
vaccinate	/ˈvæksɪneɪt/ verb [T] to treat a person or animal with a vaccine in order to protect them against a disease — vaccination noun [C/U].
wash	/wɒʃ/ verb [T] to clean something with water or with soap and water: <i>I've got to wash my hands.</i>
waste	/weɪst/ noun [C/U] the useless materials, substances, or parts that are left after you have used something: <i>waste water.</i>
water cycle	/ˌwɔːtə(r) ˈsaɪk(ə)l/ noun [singular] the continuous process by which water in seas, rivers, soil, living things etc evaporates into the atmosphere, where it forms clouds that produce rain, snow, or hail so that it goes back into the seas, rivers, soil etc again.
waterborne	/ˌwɔːtə(r) ˌbɔː(r)n/ adj a waterborne disease is spread through water.
well	/wel/ noun [C] a deep hole that is dug in the ground where there is a supply of water, oil, or gas.

Key:

1.



2. a) flows, b) Liquid, c) surface tension, d) dissolve, e) colourless, f) freezes, g) steam

3. a) mains b) well c) germs d) drinking e) polluted f) poisonous

4. 1) sun, 2) clouds, 3) evaporation, 4) rain, 5) seas and oceans

5. a) 5, b) 4, c) 6, d) 1, e) 3, f) 2

6. a) contaminate, b) toilet, c) Wash, d) protect, e) Clean, f) boiling

7. a) Typhoid, b) Headache, c) antibiotic, d) diarrhoea, e) dehydration, f) Polio, g) vaccinated, h) fever, i) faeces

8. a) dirty water, b) sand, c) charcoal, d) cotton wool, e) clear water

9. a) dirty, b) purify, c) filtration, d) safe, e) microbes, f) supply

10. a) reservoir, b) pumping station, c) sedimentation tank, d) filter bed, e) chlorination plant, f) storage tank

11. 1) f, 2) d, 3) b, 4) a, 5) c, 6) e

12. a) 5, b) 2, c) 1, d) 3, e) 6, f) 4