3 WE ARE NATURE

1 How are humans using nature? Write a sentence about each photo.

a 

b 

c 

d 

e 

f 

a _____

b _____

c _____

d _____

e _____

f _____

2 Match each word to its definition. Write 1–4.

a heterotroph

b autotroph

c unicellular

d multicellular

1 An organism that is made up of only one cell.

2 An organism that is made up of more than one cell.

3 An organism that consumes other organisms to get its nutrients.

4 An organism that can produce its own food through photosynthesis.

3 Read the text and answer the questions. For each question, circle the correct answer *a*, *b*, *c* or *d*.

Extremophiles

Can you imagine living at the bottom of the ocean or at the top of Mount Everest? The organisms that call hydrothermal vents, ice packs and even toxic waste home are properly named extremophiles!

Extremophiles are found in all five kingdoms, though most are microorganisms. These creatures survive in the most intense habitats: under high pressure, in extremely hot or cold temperatures, in salt, acid or alkaline, and without oxygen. One archaic bacterium grows at 122°C, the highest recorded on Earth!

Studying species from extreme environments has applications when searching for life beyond Earth. Extremophiles are considered model organisms for extra-terrestrial life. The organisms found in the Rio *Tinto*, for instance, may be similar to potential living things on Mars.

Not only do extremophiles tell us about the range of conditions that make life possible, scientists are also investigating their use for biofuels, medicines, chemicals, and even lactose-free milk! For example, metal-loving species are able to remove metals from the soil, which prevents water pollution. Therefore, extremophiles may help us save the environment!

1 Which organism could not be an extremophile?

a a protist
b a fungus
c a human
d a plant

2 Some extremophiles live ...

a without light.
b on the moon.
c in your classroom.
d in milk.

3 Why are extremophiles useful for scientists to study?

a Because they need medicine.
b Because they are so small.
c Because they can easily adapt to all environments.
d Because they survive conditions similar to other places in the universe.

4 What would be a good introduction to this article?

a Extremophiles live in all places in our Solar System.
b In this article, a scientist explains why extremophiles are useful.
c Understanding extreme environments is important for people who are allergic to lactose.
d If you want to know how organisms survive in the ocean, then read this article.

4 Write definitions for the following words. Give two examples of each.

a Omnivore: _____

_____

b Carnivore: _____

_____

c Herbivore: _____

_____

5 Answer the questions about the five kingdoms.

a Which kingdoms are autotrophs?

_____

_____

b In which kingdoms do the organisms reproduce sexually?

_____

c In which kingdoms are the organisms unicellular?

_____

d List two subgroups of the plant and animal kingdoms.

Plant kingdom: _____

Animal kingdom: _____

6 Circle the odd one out, then write which kingdom the other organisms belong to.

a octopus / swan / butterfly / oak tree _____

b rose / mushroom / grass / oak tree _____

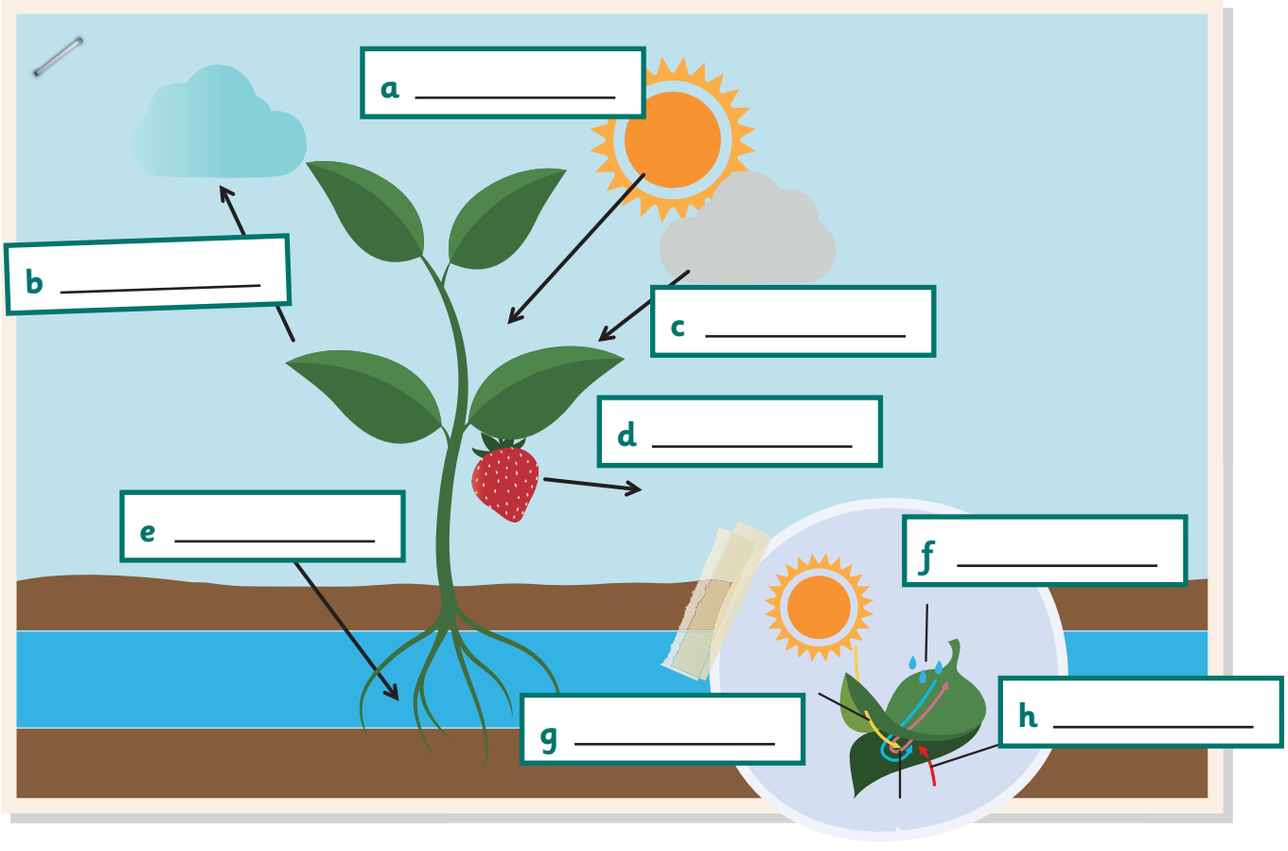
c mushroom / yeast / bacteria / mould _____

d yeast / seaweed / alga / protozoan _____

e Which kingdom is missing? _____

7 Label the diagram of photosynthesis with the words and phrases from the box.

carbon dioxide carbon dioxide enters leaf through stomata
glucose light energy oxygen sugar leaves leaf
water and minerals water enters leaf



8 How do plants use sunlight to make their own food? Order the sentences. Write 1–5.

a Water and minerals reach the plant's leaves, carbon dioxide enters through stomata, and light energy is absorbed by chlorophyll.

b Water and minerals move up the xylem in the plant's stem.

c Oxygen is released into the air, while the phloem transports the glucose to other parts of the plant.

d The roots of a plant take up water and minerals from the soil.

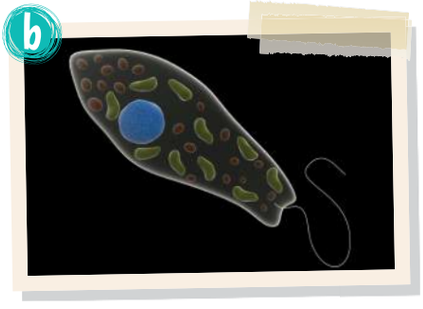
e Light energy is used to combine carbon dioxide with water and minerals.

9 How do these organisms use water? For each organism, write 1–6.

1 As a habitat
2 To transport molecules
3 For bodily functions
4 To move around the environment
5 To make energy
6 To absorb food

a 

_____

b 

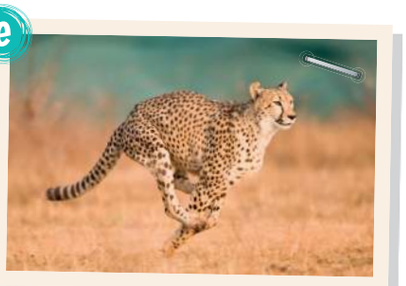
_____

c 

_____

d 

_____

e 

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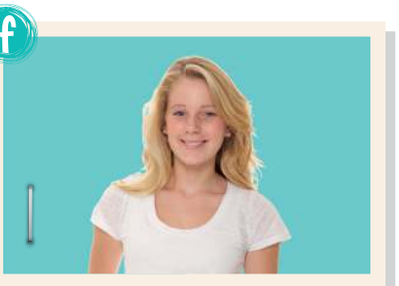
f 

_____

10 In what other ways do humans use water? Make a list.

-
-
-
-
-
-
-
-
-
-

11 Are the sentences about water *true* or *false*?

a Water is an unlimited resource. _____

b Humans transform rivers for drinking water and electricity. _____

c Humans never affect the aquatic habitats of other organisms. _____

d The water from your kitchen tap can come from groundwater. _____

e Salt water is not useful. _____

f Cleaning polluted water is easy and cheap. _____

12 Who is protecting the environment? Tick the boxes.

a Trees are cut down for farmland.	☐	Trees are planted.	☑
b A boy throws rubbish in the bin.	☐	A boy throws rubbish on the ground.	☐
c A company mines for gold, coal or oil.	☐	Products are recycled and ores reused.	☐
d Waste water flows into a river.	☐	Waste water is treated.	☐
e A farm collects and treats its runoff.	☐	A farm produces agricultural runoff.	☐
f A city grows without control.	☐	A city develops sustainably.	☐

13 Complete the sentences using the words on the right.

a _____ eliminates many organisms' habitats by cutting down too many trees.

agricultural runoff

b A _____ is an organism that shows us when an ecosystem is unbalanced.

bioindicator

c Through _____ , it is possible to restore ecological equilibrium by sharing land space with other living things.

deforestation

d Chemicals and toxins from farms, called _____ , pollute river water.

land management

e Although we need wood as a resource, it is still important to protect _____ .

natural forests