KS3 SCIENCE · BIOLOGY

Breathing and gas exchange

Word search

R	T	W	F	N	I	C	O	T	I	N	E
U	B	R	O	N	C	H	I	Y	C	R	V
D	N	U	E	B	F	C	H	C	C	H	P
B	O	V	D	I	F	F	U	S	I	O	N
E	A	V	G	R	U	I	N	T	V	O	L
A	T	Y	D	I	A	P	H	R	A	G	M
W	A	L	V	E	O	L	I	P	C	C	C
T	R	A	C	H	E	A	W	S	L	H	F
R	E	S	P	I	R	A	T	I	O	N	N
G	A	S	E	X	C	H	A	N	G	E	F
R	I	B	S	W	S	I	F	P	S	S	P
W	N	I	G	S	T	O	M	A	T	A	S

Find these 10 words

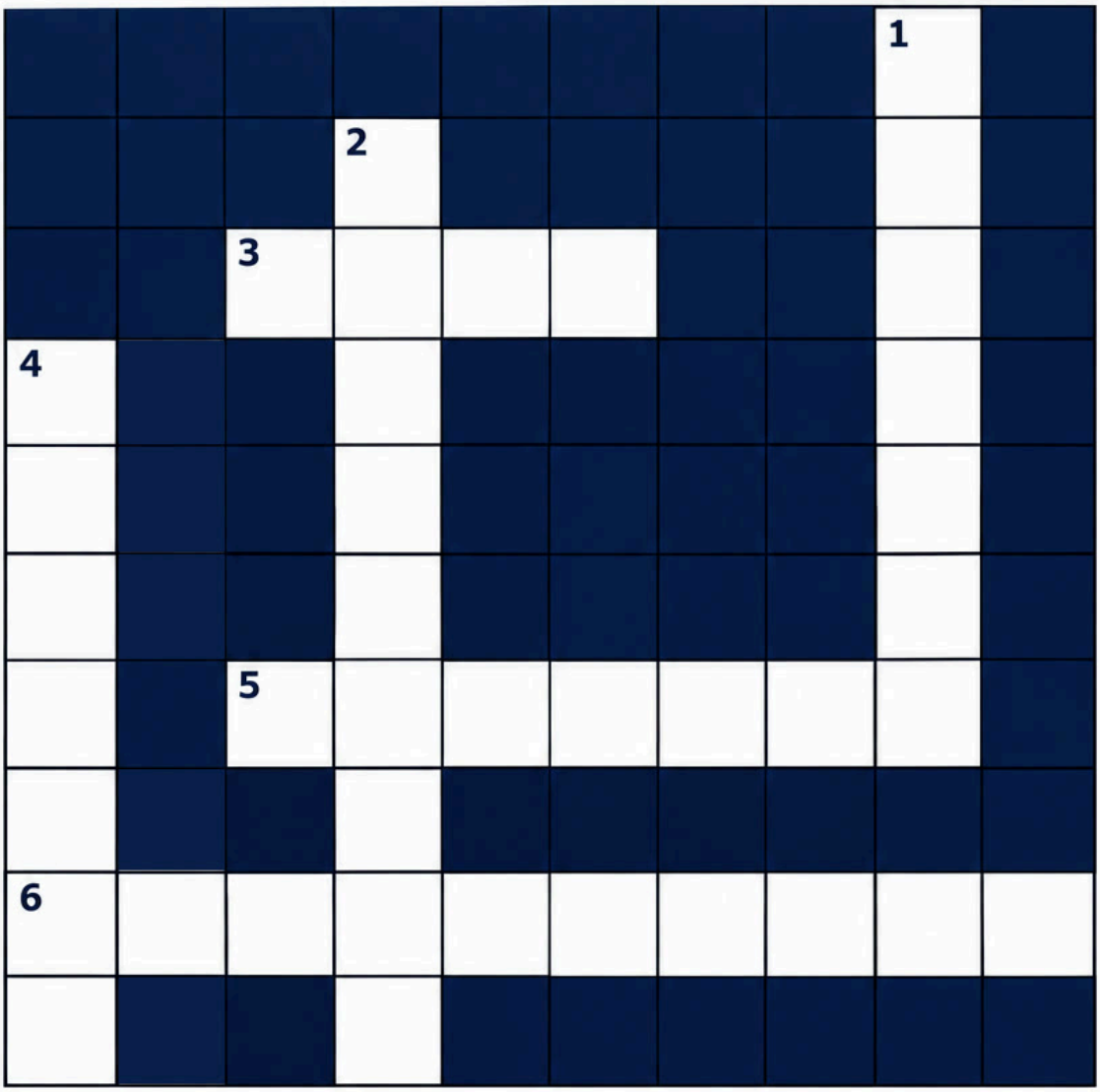
- ☐ ALVEOLI
- ☐ BRONCHI
- ☐ DIAPHRAGM
- ☐ DIFFUSION
- ☐ GAS EXCHANGE
- ☐ NICOTINE
- ☐ RESPIRATION
- ☐ RIBS
- ☐ STOMATA
- ☐ TRACHEA

Words go across, down or diagonally. Spaces are left out.

KS3 SCIENCE · BIOLOGY

Breathing and gas exchange

Crossword



Across

3 Bones that make a cage around the lungs (4)

5 The windpipe: carries air from the nose and mouth towards the lungs (7)

6 A measure of the amount of air breathed in or out (4,6)

Down

1 Tiny pores in a leaf that let gases in and out (7)

2 A sheet of muscle underneath the lungs (9)

4 Tiny air sacs at the ends of the bronchioles (7)

The number in brackets is how many letters the answer has.

KS3 SCIENCE · BIOLOGY

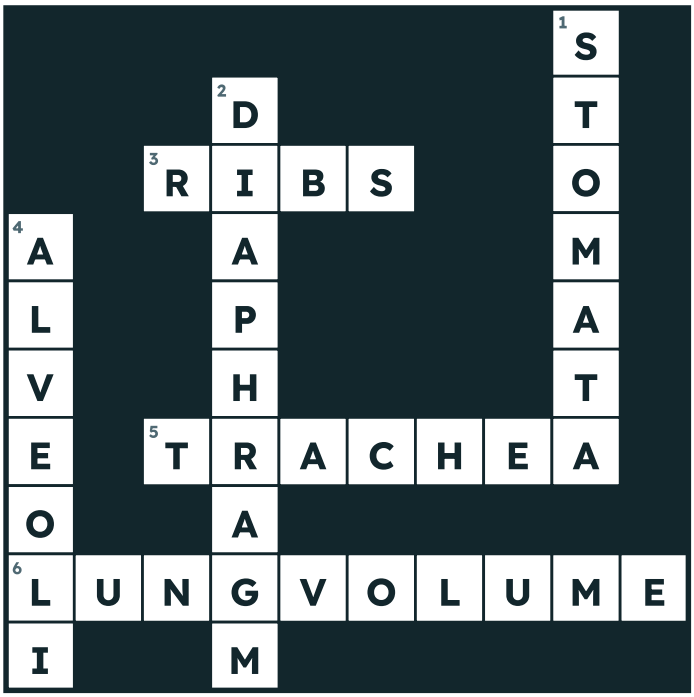
Breathing and gas exchange

Answers

Word search

R	T	W	F	N	I	C	O	T	I	N	E
U	B	R	O	N	C	H	I	Y	C	R	V
D	N	U	E	B	F	C	H	C	C	H	P
B	O	V	D	I	F	F	U	S	I	O	N
E	A	V	G	R	U	I	N	T	V	O	L
A	T	Y	D	I	A	P	H	R	A	G	M
W	A	L	V	E	O	L	I	P	C	C	C
T	R	A	C	H	E	A	W	S	L	H	F
R	E	S	P	I	R	A	T	I	O	N	N
G	A	S	E	X	C	H	A	N	G	E	F
R	I	B	S	W	S	I	F	P	S	S	P
W	N	I	G	S	T	O	M	A	T	A	S

Crossword



Across

3 Ribs
Bones that make a cage around the lungs (4)

5 Trachea
The windpipe: carries air from the nose and mouth towards the lungs (7)

6 Lung volume
A measure of the amount of air breathed in or out (4,6)

Down

1 Stomata
Tiny pores in a leaf that let gases in and out (7)

2 Diaphragm
A sheet of muscle underneath the lungs (9)

4 Alveoli
Tiny air sacs at the ends of the bronchioles (7)

In the word search, words go across, down or diagonally, and spaces are left out. The same puzzles can be played on the Breathing and gas exchange page of the KS3 Science revision site.

KS3 BIOLOGY · BREATHING AND GAS EXCHANGE · LESSON 1

The gas exchange system

Word search

F	T	F	E	I	H	H	U	E	N	V	U
R	A	D	B	N	L	R	P	B	O	Y	D
L	C	L	I	V	D	L	D	W	U	O	P
V	W	R	V	A	B	A	D	E	H	P	P
T	T	I	F	E	P	R	N	O	S	E	R
E	R	F	L	Y	O	H	O	L	Y	L	B
R	M	A	Y	B	O	L	R	N	Y	N	O
E	M	C	C	U	S	X	I	A	C	I	G
O	T	T	T	H	M	C	Y	Y	G	H	T
W	T	O	C	P	E	W	L	G	H	M	I
L	S	N	R	R	E	A	M	N	E	R	M
R	L	L	F	H	T	Y	Y	Y	A	N	V

Find these 6 words

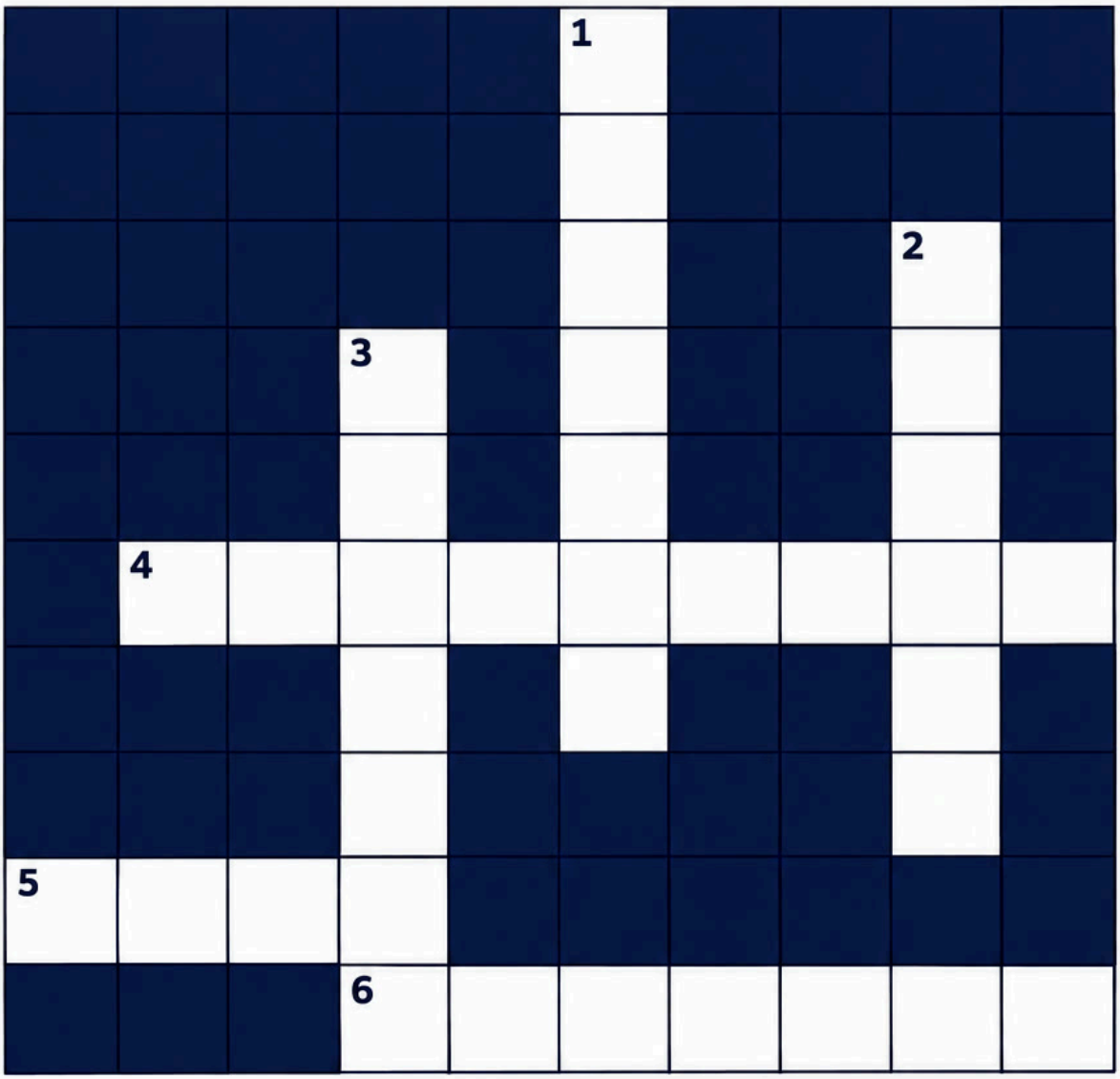
- ☐ ALVEOLI
- ☐ BRONCHI
- ☐ DIAPHRAGM
- ☐ NOSE
- ☐ OXYGEN
- ☐ TRACHEA

Words go across, down or diagonally. Spaces are left out.

KS3 BIOLOGY · BREATHING AND GAS EXCHANGE · LESSON 1

The gas exchange system

Crossword



Across

4 A sheet of muscle underneath the lungs, used for breathing (9)

5 Air goes in through your mouth or your ___ (4)

6 Tiny air sacs where gas exchange happens (7)

Down

1 The two tubes that the windpipe splits into, one for each lung (7)

2 The gas that passes into your blood (6)

3 The windpipe, which carries air towards the lungs (7)

The number in brackets is how many letters the answer has.

KS3 SCIENCE · BIOLOGY · BREATHING AND GAS EXCHANGE

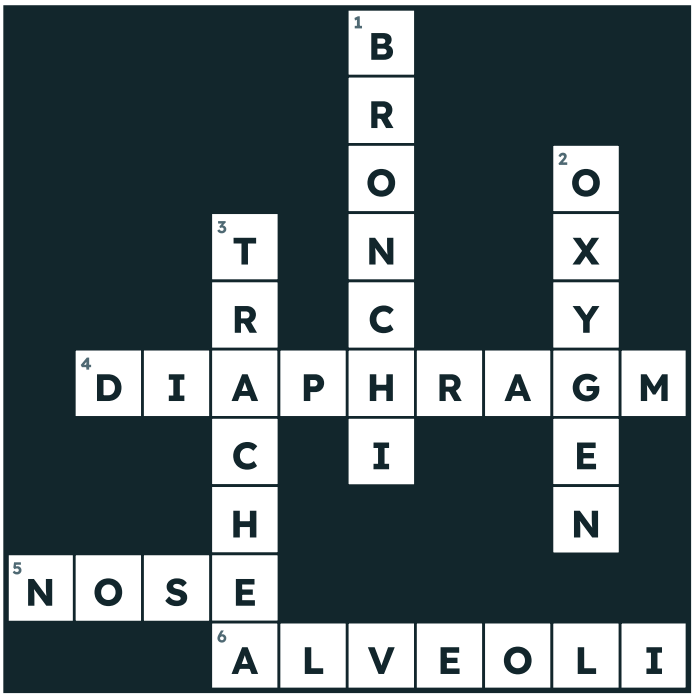
Lesson 1: The gas exchange system

Answers

Word search

F	T	F	E	I	H	H	U	E	N	V	U
R	A	D	B	N	L	R	P	B	O	Y	D
L	C	L	I	V	D	L	D	W	U	O	P
V	W	R	V	A	B	A	D	E	H	P	P
T	T	I	F	E	P	R	N	O	S	E	R
E	R	F	L	Y	O	H	O	L	Y	L	B
R	M	A	Y	B	O	L	R	N	Y	N	O
E	M	C	C	U	S	X	I	A	C	I	G
O	T	T	T	H	M	C	Y	Y	G	H	T
W	T	O	C	P	E	W	L	G	H	M	I
L	S	N	R	R	E	A	M	N	E	R	M
R	L	L	F	H	T	Y	Y	Y	A	N	V

Crossword



Across

4 Diaphragm
A sheet of muscle underneath the lungs, used for breathing (9)

5 Nose
Air goes in through your mouth or your ___ (4)

6 Alveoli
Tiny air sacs where gas exchange happens (7)

Down

1 Bronchi
The two tubes that the windpipe splits into, one for each lung (7)

2 Oxygen
The gas that passes into your blood (6)

3 Trachea
The windpipe, which carries air towards the lungs (7)

In the word search, words go across, down or diagonally, and spaces are left out. The same puzzles can be played on the Breathing and gas exchange lesson 1 page of the KS3 Science revision site.

KS3 BIOLOGY · BREATHING AND GAS EXCHANGE · LESSON 2

Alveoli

Word search

W	N	I	A	B	T	F	W	V	S	R	E
F	H	H	D	C	S	D	V	F	R	D	G
C	A	P	I	L	L	A	R	I	E	S	U
B	G	R	G	G	A	L	V	E	O	L	I
O	R	C	O	G	C	T	L	F	Y	G	E
X	A	W	P	D	V	H	T	R	I	E	H
Y	P	S	N	D	F	I	O	M	M	Y	S
G	E	U	D	U	B	N	S	G	C	V	G
E	S	P	D	I	F	F	U	S	E	S	I
N	T	P	S	A	E	M	P	I	G	E	B
U	R	L	S	U	R	F	A	C	E	F	H
I	N	Y	E	V	S	M	W	Y	B	V	U

Find these 8 words

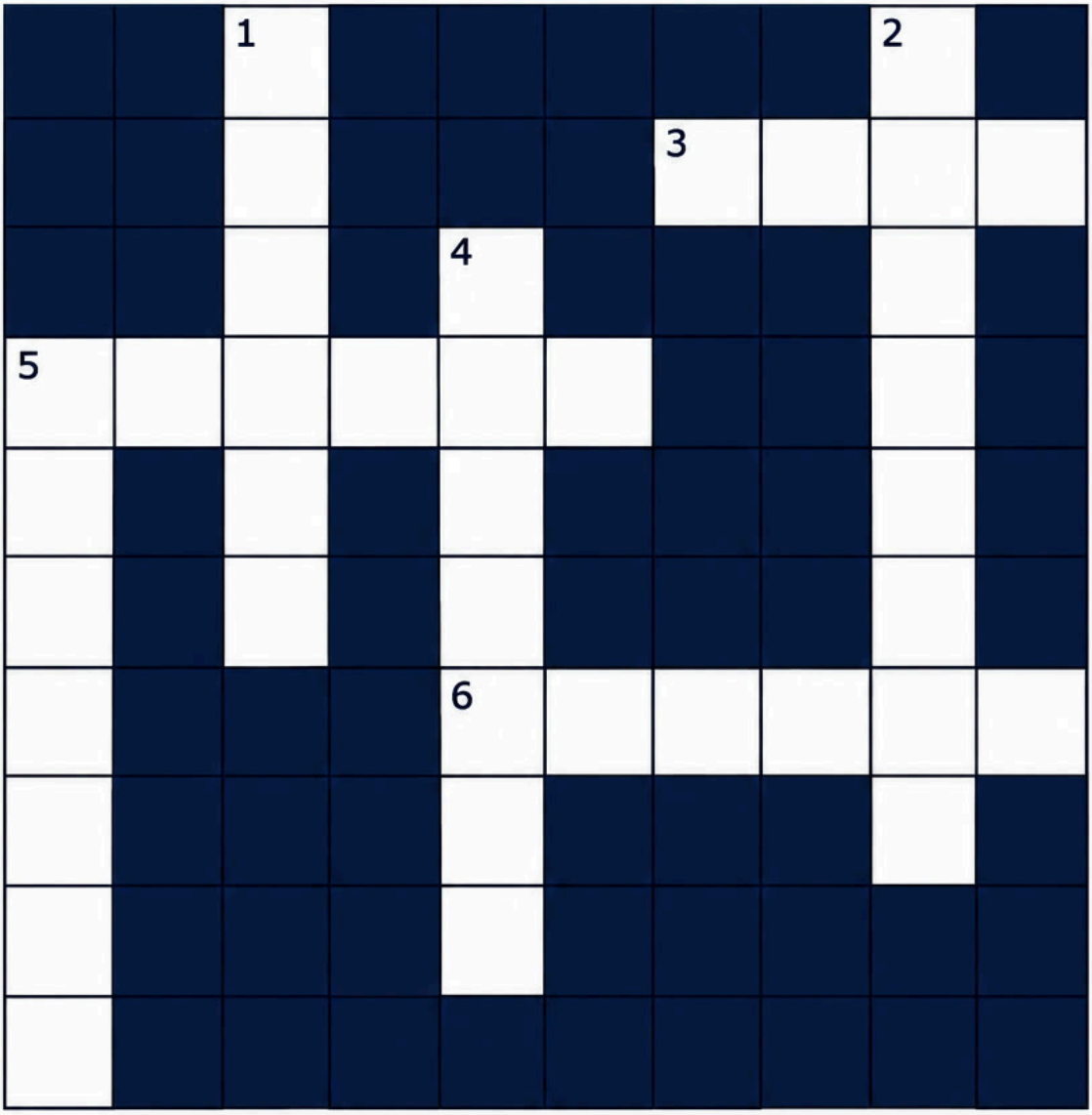
- ☐ ALVEOLI
- ☐ CAPILLARIES
- ☐ DIFFUSES
- ☐ GRAPES
- ☐ OXYGEN
- ☐ SUPPLY
- ☐ SURFACE
- ☐ THIN

Words go across, down or diagonally. Spaces are left out.

KS3 BIOLOGY · BREATHING AND GAS EXCHANGE · LESSON 2

Alveoli

Crossword



Across

3 Very ___ walls give only a short way to go (4)

5 A good blood ___ carries the gas away (6)

6 A gas that the blood carries away, so more keeps diffusing in (6)

Down

1 A fruit that hangs in a bunch from its stalk (6)

2 Carbon dioxide ___ from the blood into the air (8)

4 Tiny air sacs at the end of each bronchiole (7)

5 Millions of air sacs give a large ___ area for gas exchange (7)

The number in brackets is how many letters the answer has.

KS3 SCIENCE · BIOLOGY · BREATHING AND GAS EXCHANGE

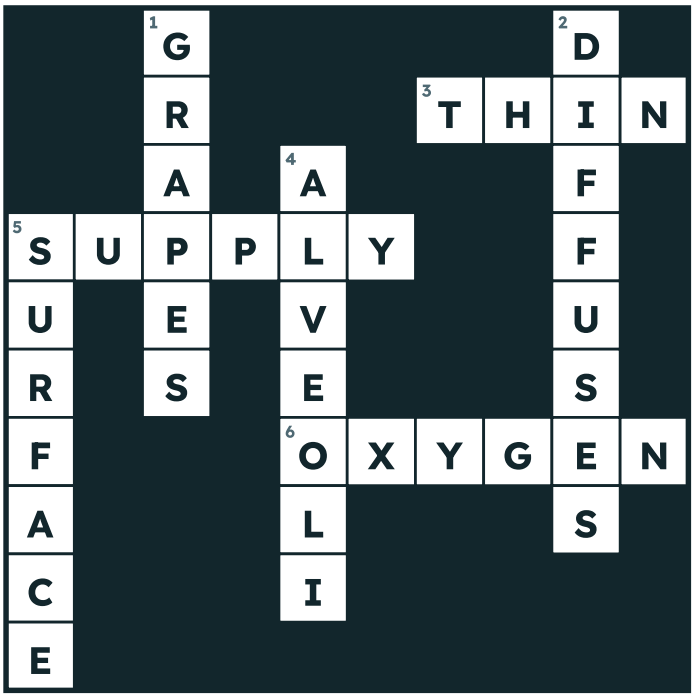
Lesson 2: Alveoli

Answers

Word search

W	N	I	A	B	T	F	W	V	S	R	E
F	H	H	D	C	S	D	V	F	R	D	G
C	A	P	I	L	L	A	R	I	E	S	U
B	G	R	G	G	A	L	V	E	O	L	I
O	R	C	O	G	C	T	L	F	Y	G	E
X	A	W	P	D	V	H	T	R	I	E	H
Y	P	S	N	D	F	I	O	M	M	Y	S
G	E	U	D	U	B	N	S	G	C	V	G
E	S	P	D	I	F	F	U	S	E	S	I
N	T	P	S	A	E	M	P	I	G	E	B
U	R	L	S	U	R	F	A	C	E	F	H
I	N	Y	E	V	S	M	W	Y	B	V	U

Crossword



Across

3 Thin
Very ___ walls give only a short way to go (4)

5 Supply
A good blood ___ carries the gas away (6)

6 Oxygen
A gas that the blood carries away, so more keeps diffusing in (6)

Down

1 Grapes
A fruit that hangs in a bunch from its stalk (6)

2 Diffuses
Carbon dioxide ___ from the blood into the air (8)

4 Alveoli
Tiny air sacs at the end of each bronchiole (7)

5 Surface
Millions of air sacs give a large ___ area for gas exchange (7)

In the word search, words go across, down or diagonally, and spaces are left out. The same puzzles can be played on the Breathing and gas exchange lesson 2 page of the KS3 Science revision site.

KS3 BIOLOGY · BREATHING AND GAS EXCHANGE · LESSON 3

Breathing in and out

Word search

R	R	P	E	R	I	L	F	C	Y	F	O
I	E	N	R	W	E	C	M	I	R	V	D
B	N	S	R	E	P	L	E	U	U	V	I
B	E	T	P	A	S	F	A	W	P	F	A
N	R	L	E	I	R	S	H	X	S	W	P
R	D	E	L	R	R	T	U	B	D	R	H
V	C	U	A	O	C	A	R	R	T	Y	R
S	O	P	B	T	W	O	T	C	E	O	A
T	L	L	F	I	H	S	S	I	Y	S	G
U	P	P	U	F	S	I	D	T	O	W	M
D	V	R	S	M	S	V	N	Y	A	N	V
O	R	G	D	F	E	I	M	G	T	L	A

Find these 8 words

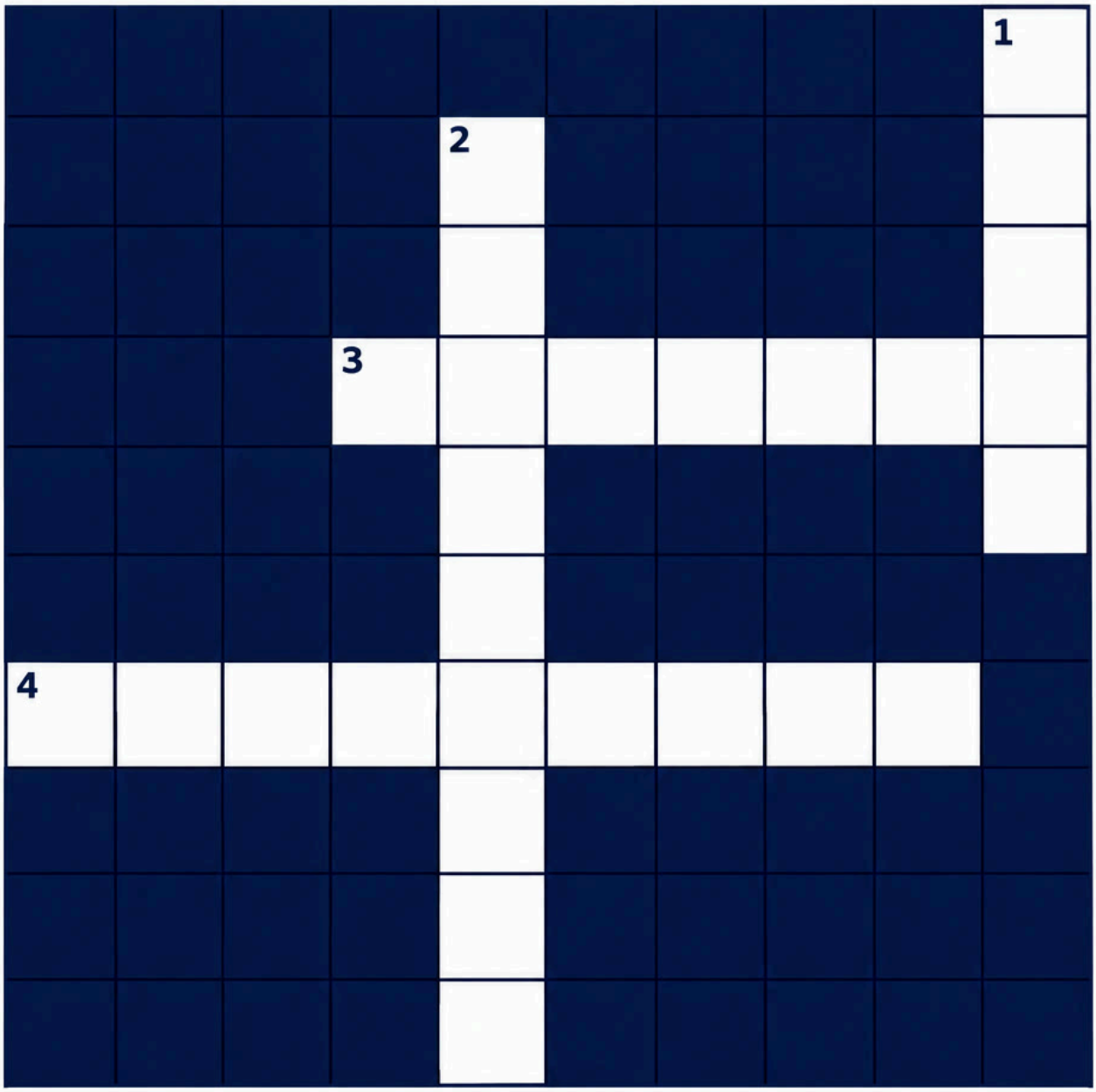
- ☐ BELLOWS
- ☐ BREATHING
- ☐ DIAPHRAGM
- ☐ INTERCOSTAL
- ☐ PRESSURE
- ☐ RELAX
- ☐ RESPIRATION
- ☐ VOLUME

Words go across, down or diagonally. Spaces are left out.

KS3 BIOLOGY · BREATHING AND GAS EXCHANGE · LESSON 3

Breathing in and out

Crossword



Across

3 A fireplace tool with folding sides that pumps air in and out (7)

4 A sheet of muscle that flattens when you breathe in (9)

Down

1 The part of the body that gets bigger when you breathe in (5)

2 Moving air in and out of the lungs (9)

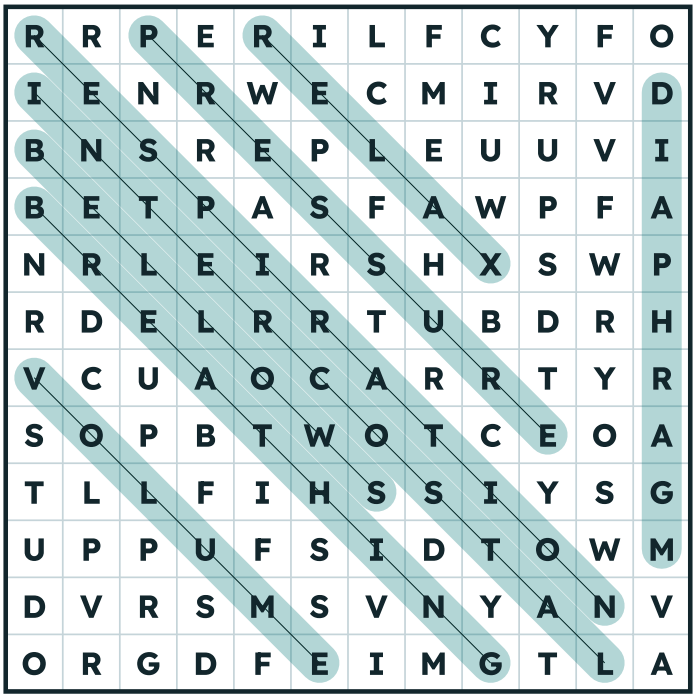
The number in brackets is how many letters the answer has.

KS3 SCIENCE · BIOLOGY · BREATHING AND GAS EXCHANGE

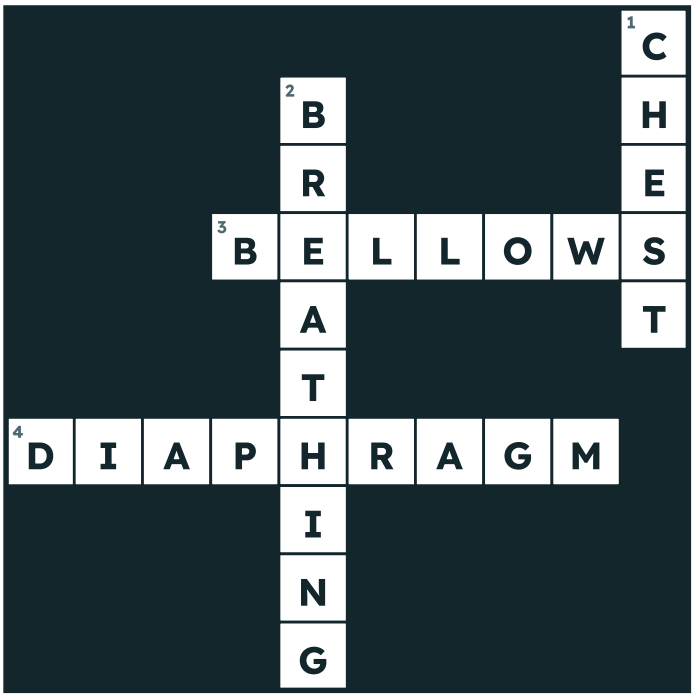
Lesson 3: Breathing in and out

Answers

Word search



Crossword



Across

3 Bellows
A fireplace tool with folding sides that pumps air in and out (7)

4 Diaphragm
A sheet of muscle that flattens when you breathe in (9)

Down

1 Chest
The part of the body that gets bigger when you breathe in (5)

2 Breathing
Moving air in and out of the lungs (9)

In the word search, words go across, down or diagonally, and spaces are left out. The same puzzles can be played on the Breathing and gas exchange lesson 3 page of the KS3 Science revision site.

KS3 BIOLOGY · BREATHING AND GAS EXCHANGE · LESSON 4

Measuring lung volume

Word search

N	R	L	I	T	R	E	S	W	Y
G	B	I	E	Y	N	F	E	R	E
G	A	L	B	D	S	I	I	E	A
N	H	O	O	E	C	S	H	S	R
U	O	W	T	E	A	L	C	U	N
E	P	D	T	P	L	G	L	L	R
N	G	T	L	E	E	R	A	T	G
F	E	U	E	S	D	S	I	S	I
U	L	B	E	T	H	R	M	W	C
N	M	E	V	O	L	U	M	E	T

Find these 8 words

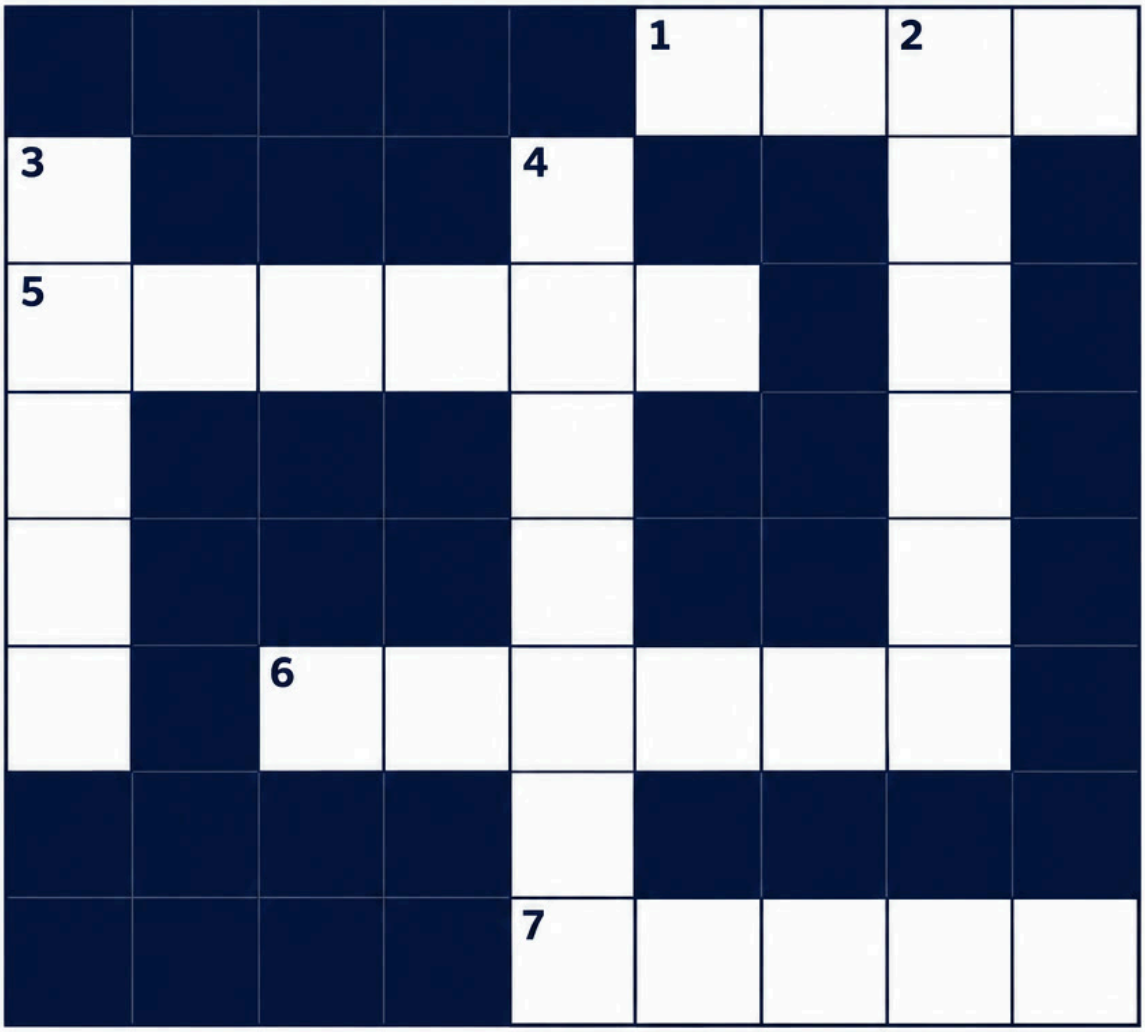
- ☐ BOTTLE
- ☐ CLAIM
- ☐ DEEPEST
- ☐ LITRES
- ☐ RESULTS
- ☐ SCALE
- ☐ TUBE
- ☐ VOLUME

Words go across, down or diagonally. Spaces are left out.

KS3 BIOLOGY · BREATHING AND GAS EXCHANGE · LESSON 4

Measuring lung volume

Crossword



Across

1 You breathe out through this, pushed up into the neck of the upturned container (4)

5 The unit for the air you breathed out (6)

6 A measure of how much air you breathe in or out (6)

7 The numbered markings you read at the water level (5)

Down

2 It is filled with water and stood upside down to collect your breath (6)

3 A statement that someone says is true, which measurements can test (5)

4 The findings of the lung-measuring investigation (7)

The number in brackets is how many letters the answer has.

KS3 SCIENCE · BIOLOGY · BREATHING AND GAS EXCHANGE

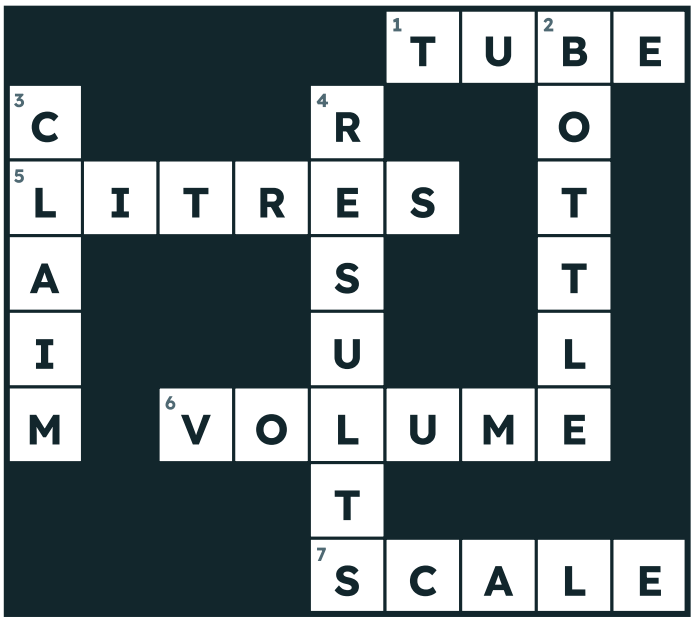
Lesson 4: Measuring lung volume

Answers

Word search

N	R	L	I	T	R	E	S	W	Y
G	B	I	E	Y	N	F	E	R	E
G	A	L	B	D	S	I	I	E	A
N	H	O	O	E	C	S	H	S	R
U	O	W	T	E	A	L	C	U	N
E	P	D	T	P	L	G	L	L	R
N	G	T	L	E	E	R	A	T	G
F	E	U	E	S	D	S	I	S	I
U	L	B	E	T	H	R	M	W	C
N	M	E	V	O	L	U	M	E	T

Crossword



Across

1 Tube
You breathe out through this, pushed up into the neck of the upturned container (4)

5 Litres
The unit for the air you breathed out (6)

6 Volume
A measure of how much air you breathe in or out (6)

7 Scale
The numbered markings you read at the water level (5)

Down

2 Bottle
It is filled with water and stood upside down to collect your breath (6)

3 Claim
A statement that someone says is true, which measurements can test (5)

4 Results
The findings of the lung-measuring investigation (7)

In the word search, words go across, down or diagonally, and spaces are left out. The same puzzles can be played on the Breathing and gas exchange lesson 4 page of the KS3 Science revision site.

KS3 BIOLOGY · BREATHING AND GAS EXCHANGE · LESSON 5

Exercise and breathing

Word search

M	P	M	G	R	A	P	H	E	S
E	U	F	D	U	N	D	V	X	L
N	N	S	G	T	C	M	F	E	O
E	I	R	C	P	V	R	F	R	W
R	P	O	E	L	U	F	I	C	L
G	R	X	I	S	E	G	E	I	Y
Y	A	Y	S	S	T	S	V	S	N
H	T	G	G	W	L	I	D	E	E
R	E	E	L	N	V	C	N	F	G
E	T	N	F	P	W	W	L	G	N

Find these 8 words

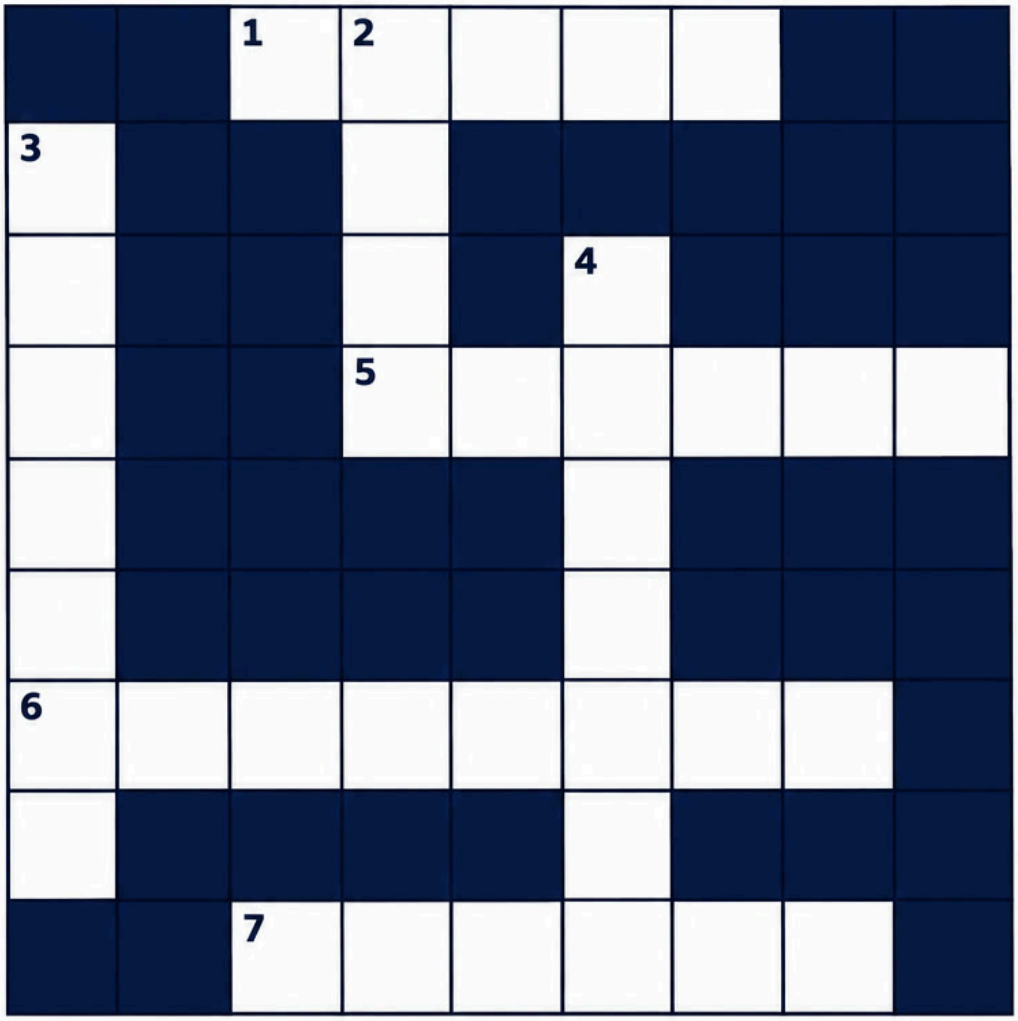
- ☐ ENERGY
- ☐ EXERCISE
- ☐ GRAPH
- ☐ MUSCLES
- ☐ OXYGEN
- ☐ RATE
- ☐ RESTING
- ☐ SLOWLY

Words go across, down or diagonally. Spaces are left out.

KS3 BIOLOGY · BREATHING AND GAS EXCHANGE · LESSON 5

Exercise and breathing

Crossword



Across

1 You use this to plot the number of breaths per minute against time (5)

5 Cells respire to release this (6)

6 Physical activity that makes you breathe faster and more deeply (8)

7 Faster, deeper breaths bring in extra of this gas (6)

Down

2 Breathing ___: the number of breaths you take in one minute (4)

3 The working body parts that respire faster during physical activity (7)

4 When you are at rest, your breaths per minute are at their ___ value (7)

The number in brackets is how many letters the answer has.

KS3 SCIENCE · BIOLOGY · BREATHING AND GAS EXCHANGE

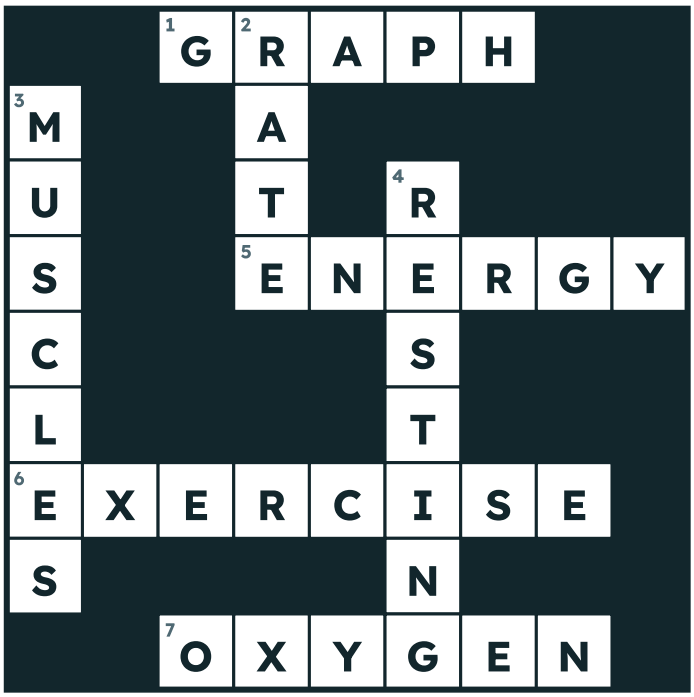
Lesson 5: Exercise and breathing

Answers

Word search



Crossword



Across

1 Graph
You use this to plot the number of breaths per minute against time (5)

5 Energy
Cells respire to release this (6)

6 Exercise
Physical activity that makes you breathe faster and more deeply (8)

7 Oxygen
Faster, deeper breaths bring in extra of this gas (6)

Down

2 Rate
Breathing ___: the number of breaths you take in one minute (4)

3 Muscles
The working body parts that respire faster during physical activity (7)

4 Resting
When you are at rest, your breaths per minute are at their ___ value (7)

In the word search, words go across, down or diagonally, and spaces are left out. The same puzzles can be played on the Breathing and gas exchange lesson 5 page of the KS3 Science revision site.

KS3 BIOLOGY • BREATHING AND GAS EXCHANGE • LESSON 6

Asthma

Word search

P	I	C	S	N	V	S	L	N	T
W	O	O	L	C	S	S	F	O	R
M	H	L	N	H	C	M	N	A	I
M	S	E	L	A	O	O	A	Y	G
M	U	A	E	E	N	K	R	D	G
U	W	S	V	Z	N	E	R	M	E
C	A	T	C	C	E	I	O	I	R
U	R	H	C	L	W	S	W	A	S
S	S	M	V	D	E	B	E	Y	H
D	L	A	M	M	A	S	R	D	F

Find these 8 words

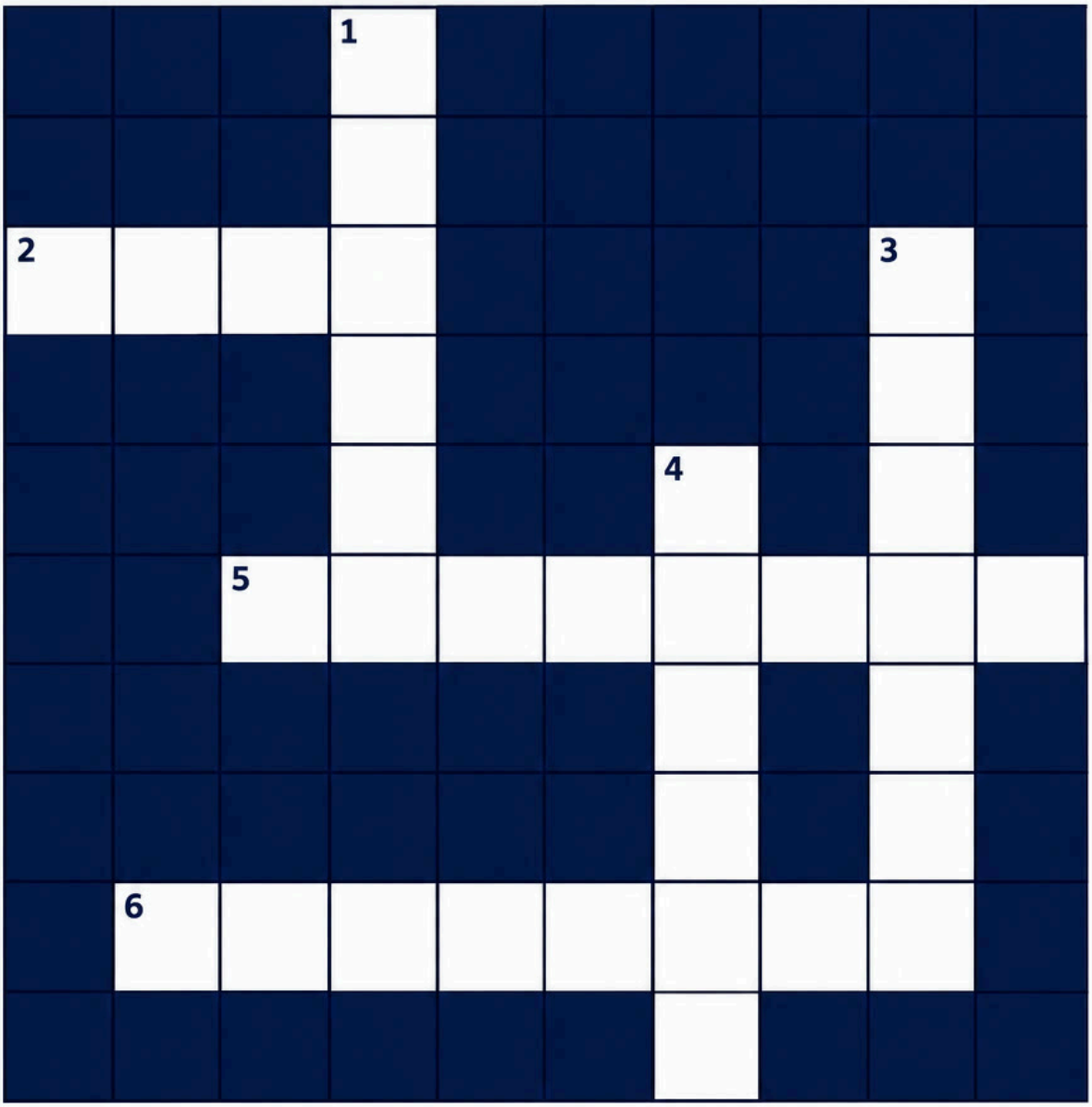
- ☐ ASTHMA
- ☐ MUCUS
- ☐ MUSCLES
- ☐ NARROWER
- ☐ POLLEN
- ☐ SMOKE
- ☐ TRIGGERS
- ☐ WHEEZES

Words go across, down or diagonally. Spaces are left out.

KS3 BIOLOGY · BREATHING AND GAS EXCHANGE · LESSON 6

Asthma

Crossword



Across

2 Tiny dry particles in a room that can set off an attack (4)

5 The opposite of wider, describing the airways during an attack (8)

6 Things that can set off an attack are called ___ (8)

Down

1 A condition that makes the airways sensitive (6)

3 In an attack the person ___, coughs and feels short of breath (7)

4 Something from flowers that can set off an attack (6)

The number in brackets is how many letters the answer has.

KS3 SCIENCE · BIOLOGY · BREATHING AND GAS EXCHANGE

Lesson 6: Asthma

Answers

Word search



Crossword



Across

2 Dust
Tiny dry particles in a room that can set off an attack (4)

5 Narrower
The opposite of wider, describing the airways during an attack (8)

6 Triggers
Things that can set off an attack are called ___ (8)

Down

1 Asthma
A condition that makes the airways sensitive (6)

3 Wheezes
In an attack the person ___, coughs and feels short of breath (7)

4 Pollen
Something from flowers that can set off an attack (6)

In the word search, words go across, down or diagonally, and spaces are left out. The same puzzles can be played on the Breathing and gas exchange lesson 6 page of the KS3 Science revision site.

KS3 BIOLOGY · BREATHING AND GAS EXCHANGE · LESSON 7

Smoking and the lungs

Word search

I	O	M	A	C	V	Y	N	D	B
P	N	V	L	L	O	Y	O	M	S
I	O	F	W	C	V	V	P	A	S
C	S	I	E	N	O	E	W	R	I
C	A	U	S	C	A	U	O	F	M
Y	I	N	R	O	T	I	G	L	U
L	I	L	C	F	N	I	T	H	I
F	P	M	I	E	A	O	O	R	N
H	G	Y	U	A	R	C	U	N	R
N	I	C	O	T	I	N	E	S	S

Find these 8 words

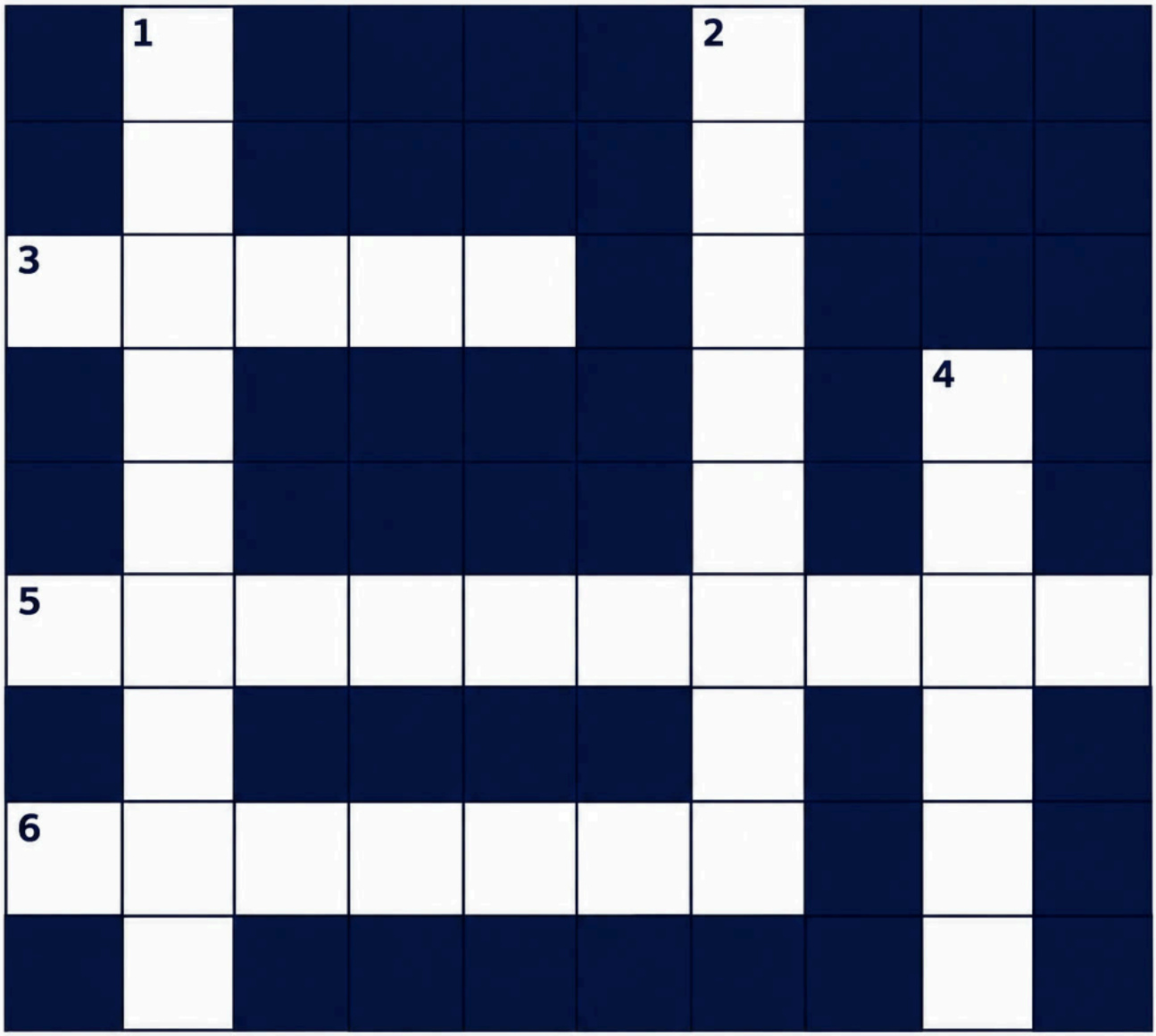
- ☐ ALVEOLI
- ☐ CANCER
- ☐ CILIA
- ☐ COUGH
- ☐ INFECTIONS
- ☐ NICOTINE
- ☐ POISONOUS
- ☐ SURFACE

Words go across, down or diagonally. Spaces are left out.

KS3 BIOLOGY · BREATHING AND GAS EXCHANGE · LESSON 7

Smoking and the lungs

Crossword



Across

3 Tiny hairs on the cells that line the airways (5)

5 Illnesses caused by microbes that become more common in smokers' chests (10)

6 Less ___ area is left for gas exchange (7)

Down

1 Able to poison you: a property of carbon monoxide (9)

2 A drug in smoke that makes blood vessels narrower (8)

4 The disease that tar causes in the lungs (6)

The number in brackets is how many letters the answer has.

KS3 SCIENCE · BIOLOGY · BREATHING AND GAS EXCHANGE

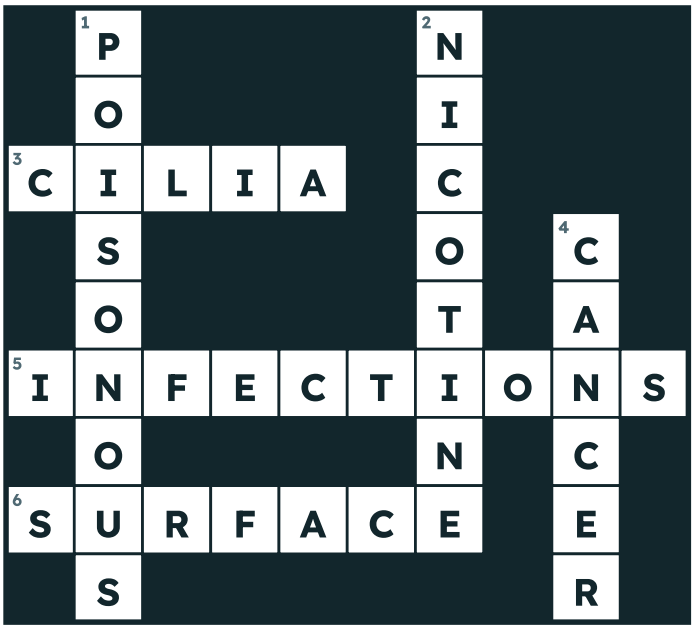
Lesson 7: Smoking and the lungs

Answers

Word search



Crossword



Across

3 Cilia
Tiny hairs on the cells that line the airways (5)

5 Infections
Illnesses caused by microbes that become more common in smokers' chests (10)

6 Surface
Less ___ area is left for gas exchange (7)

Down

1 Poisonous
Able to poison you: a property of carbon monoxide (9)

2 Nicotine
A drug in smoke that makes blood vessels narrower (8)

4 Cancer
The disease that tar causes in the lungs (6)

In the word search, words go across, down or diagonally, and spaces are left out. The same puzzles can be played on the Breathing and gas exchange lesson 7 page of the KS3 Science revision site.

KS3 BIOLOGY · BREATHING AND GAS EXCHANGE · LESSON 8

Stomata

Word search

M	S	I	S	T	O	M	A	T	A
U	I	D	I	F	F	U	S	E	S
G	T	C	O	X	Y	G	E	N	U
G	U	A	R	D	C	E	L	L	S
S	E	G	E	O	D	E	Y	O	G
F	C	S	F	E	S	H	O	E	L
G	N	D	F	N	P	C	C	E	M
W	R	P	O	R	E	S	O	Y	E
T	F	R	F	S	H	A	T	P	H
I	U	N	D	E	R	S	I	D	E

Find these 7 words

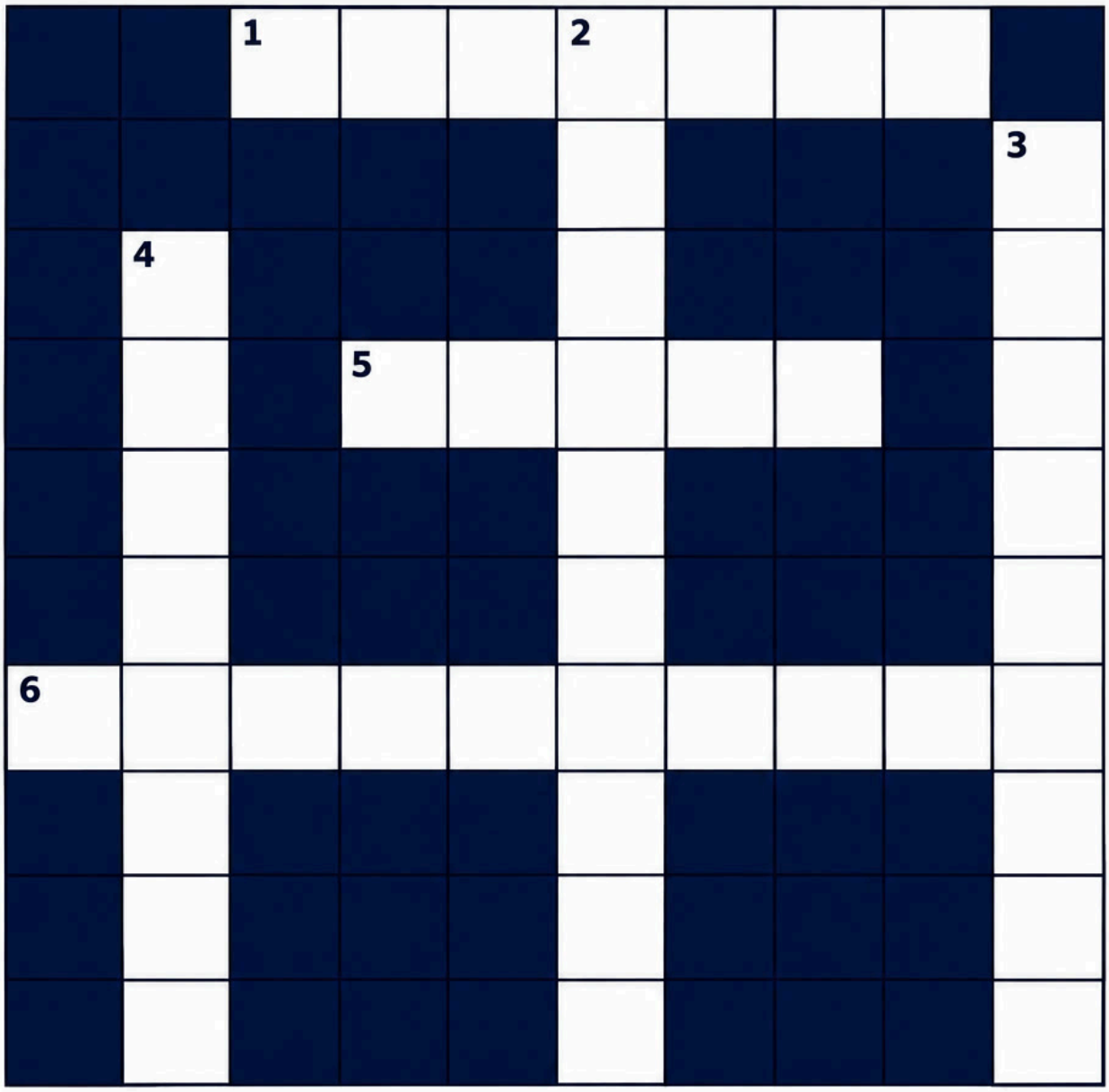
- ☐ DIFFUSES
- ☐ GUARD CELLS
- ☐ MICROSCOPE
- ☐ OXYGEN
- ☐ PORES
- ☐ STOMATA
- ☐ UNDERSIDE

Words go across, down or diagonally. Spaces are left out.

KS3 BIOLOGY · BREATHING AND GAS EXCHANGE · LESSON 8

Stomata

Crossword



Across

1 They open and close to let gases in and out of a leaf (7)

5 Tiny holes in the surface of a leaf (5)

6 Two of these, one each side of a pore, open and close it (5,5)

Down

2 You need one of these to see and count the tiny holes in a leaf (10)

3 The bottom surface of a leaf (9)

4 In the light, carbon dioxide ___ into the leaf (8)

The number in brackets is how many letters the answer has.

KS3 SCIENCE · BIOLOGY · BREATHING AND GAS EXCHANGE

Lesson 8: Stomata

Answers

Word search



Crossword



Across

1 Stomata
They open and close to let gases in and out of a leaf (7)

5 Pores
Tiny holes in the surface of a leaf (5)

6 Guard cells
Two of these, one each side of a pore, open and close it (5,5)

Down

2 Microscope
You need one of these to see and count the tiny holes in a leaf (10)

3 Underside
The bottom surface of a leaf (9)

4 Diffuses
In the light, carbon dioxide ___ into the leaf (8)

In the word search, words go across, down or diagonally, and spaces are left out. The same puzzles can be played on the Breathing and gas exchange lesson 8 page of the KS3 Science revision site.