



# St. Antony's Catholic College

Aspire - Believe - Achieve

## Year 7 Science – Zones 1 & 2

Once your work is completed you do not need to submit it. You can mark it in green when the answers are published and keep it neatly and safely until you return to school. **If** you wish to submit a **good** piece of work, **after** you have marked it yourself, please do so using the SUBMIT button on ShowMyHomework.

See <https://help.teamsatchel.com/en/articles/2912000-submitting-my-work-online> for instructions on how to do this.

If you've any issues understanding this work please comment on Showmyhomework and we will respond to you.

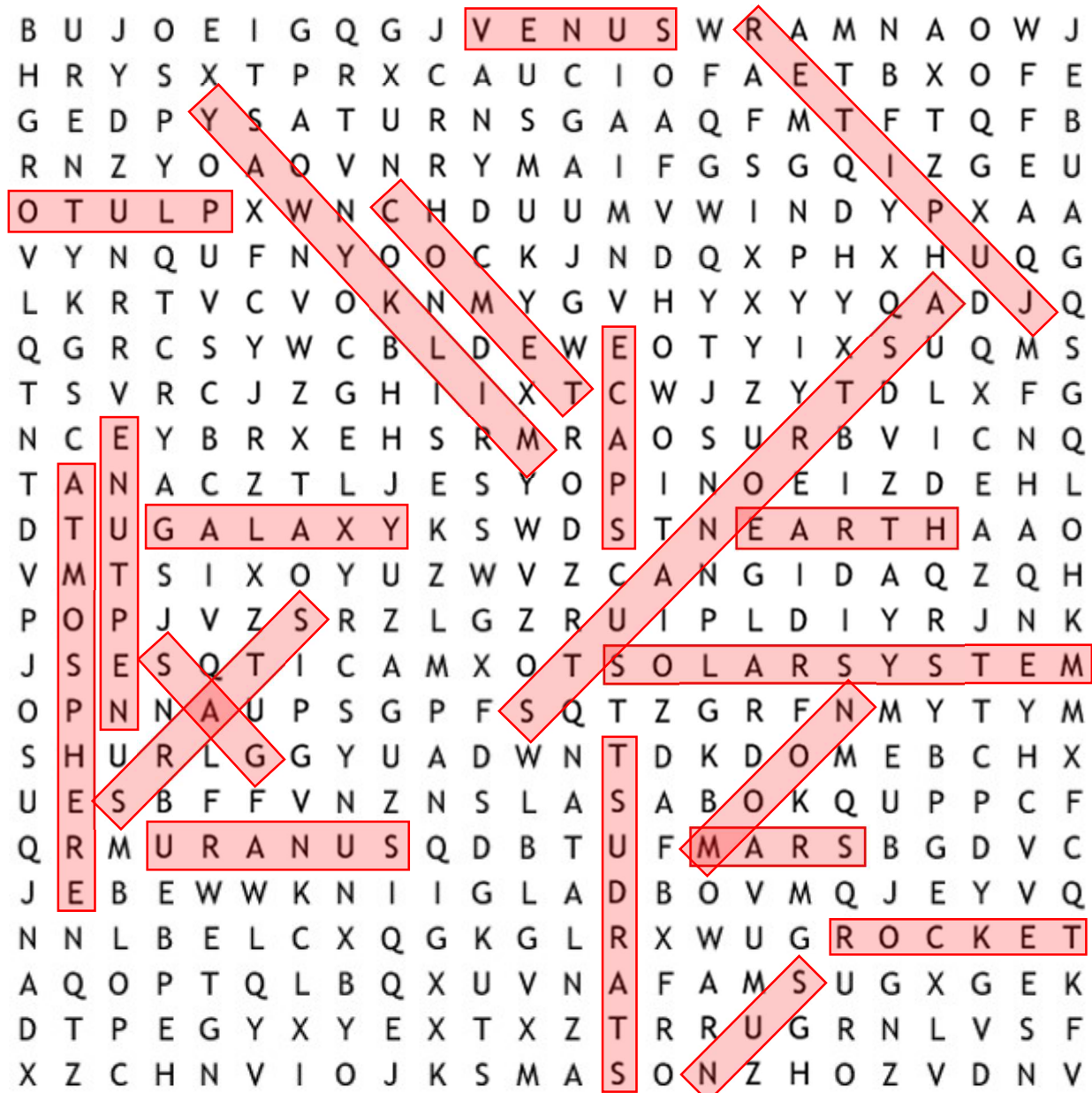
If you do not have the textbook, I have attached images of these pages at the end of this document.

Watch

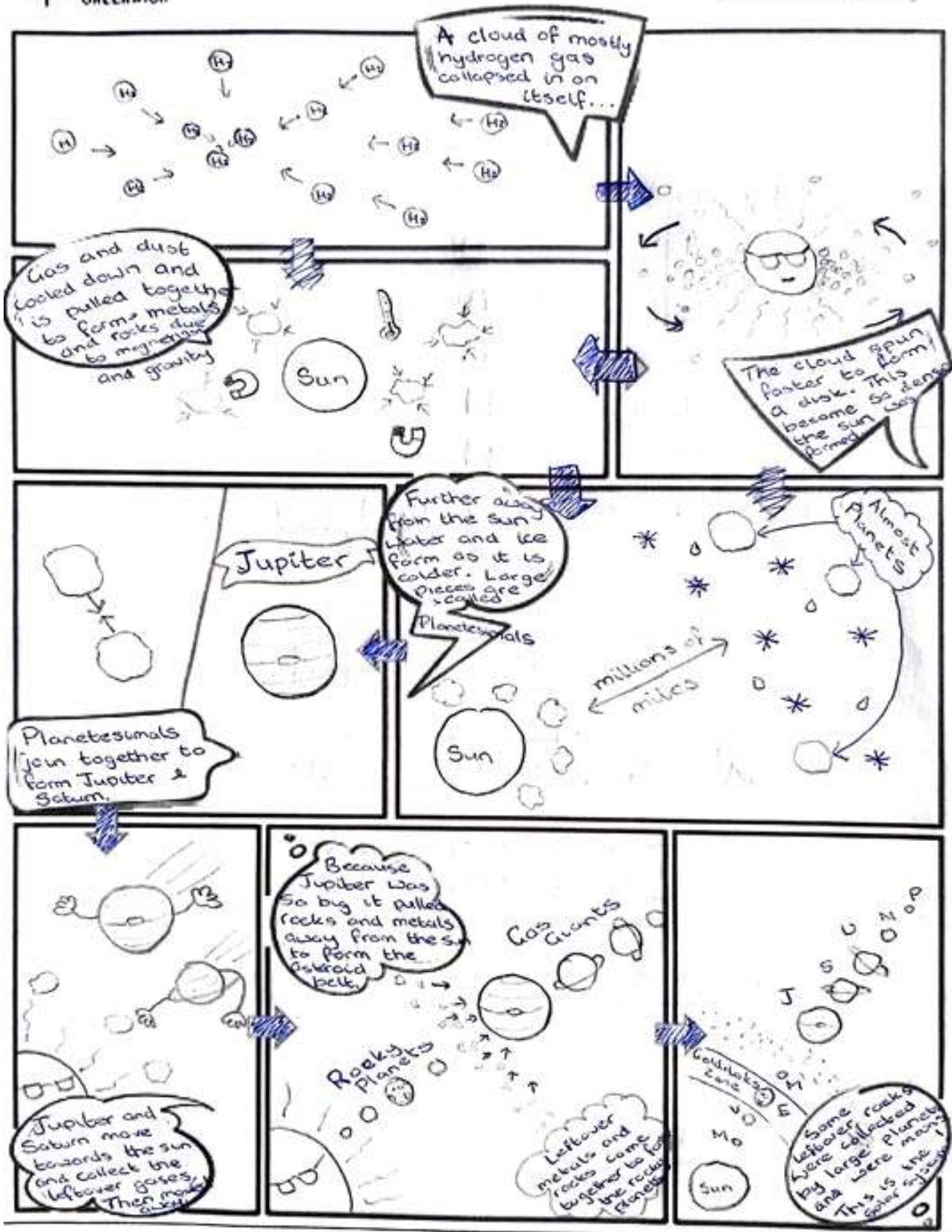
<https://www.youtube.com/watch?v=C-Y9J0FyH4w>

Self-assess last week's work:

# Planets



- |                         |                       |                      |                    |
|-------------------------|-----------------------|----------------------|--------------------|
| <del>astronauts</del>   | <del>atmosphere</del> | <del>Space</del>     | <del>Gas</del>     |
| <del>Star Dust</del>    | <del>Moon</del>       | <del>Rocket</del>    | <del>Comet</del>   |
| <del>Neptune</del>      | <del>Venus</del>      | <del>Uranus</del>    | <del>Galaxy</del>  |
| <del>Solar System</del> | <del>Sun</del>        | <del>mars</del>      | <del>Jupiter</del> |
| <del>Stars</del>        | <del>Earth</del>      | <del>Milky Way</del> | <del>Pluto</del>   |



# 7Ld Focus on: Exploring Mars

How Science Works

## Could there ever have been life on Mars?

People have been able to see Mars for thousands of years, but it was not until the invention of the telescope that astronomers could look for features on its surface.

Giovanni Schiaparelli (1835–1910) published a map of Mars in 1877 and regularly updated it with new observations. He drew some straight features, which he called channels.

Schiaparelli's map got a lot of people interested. Perhaps the channels were artificial? This would mean there could be intelligent life on Mars. People could see the polar ice caps on Mars, which meant there was some water there, and water is essential for life to exist. The dark and light areas also looked like land and oceans. If there was water on the planet, it was possible that life existed on Mars.

Percival Lowell (1855–1916) was keen on this idea. He carried out observations of his own, and published books supporting the idea of life on Mars.

Other scientists thought that there was no liquid water on Mars, as the atmosphere was too thin. The answer came in 1964, when Mariner 4 flew past Mars. It sent pictures back to Earth which showed rocky land with no water and no plants.



**A** An updated map published by Schiaparelli in 1888.



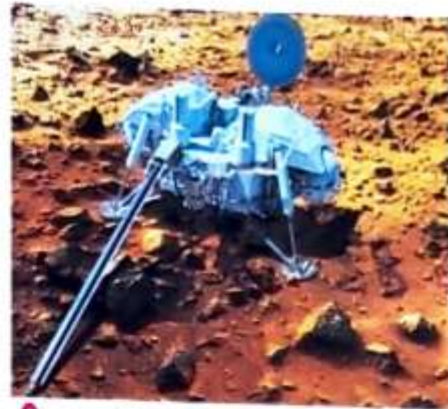
**B** This photograph of Mars was taken by the Hubble Space Telescope.

**!**  
The biggest volcano in the Solar System is Olympus Mons on Mars. It is 25 km high.

## Mars exploration highlights

Over half of the spacecraft sent to investigate Mars never got there, or crashed on landing. These are some of the successful ones.

- 1964 First flypast of the planet by Mariner 4.
- 1971 Mars 2, sent by the former USSR, was the first spacecraft to go into orbit around Mars. It orbited for nearly a year and sent back information about the surface and the atmosphere. The lander it sent down crashed.
- 1976 The Viking 1 lander was the first spacecraft to land safely on Mars. It carried out some experiments on the Martian soil. Most scientists agree that the experiments did not detect any signs that life existed there.
- 1997 Mars Global Surveyor went into orbit around Mars. It sent back detailed pictures and photos for nearly 10 years. Some ground features in the images are similar to features on Earth that were formed by flowing water.
- 2003 Mars Express went into orbit around Mars. This was the first spacecraft sent to another planet by the European Space Agency. It is sending back very detailed images and information about the types of rock on the surface. The lander it sent down (Beagle 2) crashed.
- 2004 Two NASA rovers, Spirit and Opportunity, landed on Mars.



**C** An artist's impression of Viking 1 on Mars.



**D** Artist's impression of Spirit on Mars.



**E** The surface of Mars, made up from photographs taken by the Spirit rover.

- 1 Why do scientists want to find out if there is water on Mars?
- 2 a Before 1964, some people thought there might be life on Mars. Describe the evidence for and against this idea.  
b What new evidence has been found since 1964?
- 3 How has technology helped scientists to find out more about Mars?
- 4 Most of the spacecraft sent to investigate other planets have gone to Mars. Suggest as many reasons for this as you can.

Then complete questions 1 & 2 on page 173 of your textbook (as per the above pages). Answers will be shared at the end of the week.

Create a fact-file for a planet of your choice from the solar system and find answers to all the following questions.

Planet name:	Picture:
Age:	
The planet is made up of:	
This planet was discovered by:	
The first satellite to take a picture of this satellite was:	
Has a satellite landed on this planet?	If a satellite has landed on it what was its name?
What percentage of the planet is water?	What percentage of the planet is rock?

## Optional Activities

Go to

<https://quizlet.com/142384346/mars-exploration-history-flash-cards/>

Complete the learn activity and then the test.

Or

Go to <https://app.senecalearning.com/classroom/course/419c7523-d408-4bc7-9b96-f7f12abdacae/section/4a6ee968-ad87-46c8-8428-0c52ed6d1cc7/session>

Or

Go to <https://www.bbc.co.uk/bitesize/tags/zf9yy9q/year-7-lessons/1> and work through the Science lessons set each week.

Or

Go to <https://www.thenational.academy/online-classroom/year-7/science/#subjects> and work through the Y7 science lessons shared there.

Or

Complete the wordsearch below.

**Fantastic Friday** – Please email Mrs Wright (f.wright@st-antony.com) by 12pm on a Friday if you'd like to share some of your best work of the week with her. She'd love to see it!

## Exploring Mars

(?) PLANETS (?) SUN (?) MERCURY (?) MARS (?) MOON (?) EARTH  
 (?) VENUS (?) JUPITER (?) URANUS (?) NEPTUNE (?) PLUTO  
 (?) SOLAR SYSTEM (?) COMET (?) ASTEROID (?) METEOR (?) STARS  
 (?) ORBIT (?) SKY (?) SPACE SHIP (?) ROCKET (?) LAUNCH  
 (?) ASTRONAUT (?) SPACE (?) EXPLORATION

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