



Transition Science Project



Name:



Space Anagrams

- raeht
- sevnu
- nrtusa
- tpnunee
- rtpujie
- yceemru
- samr
- suaurn

Wordsearch for Space, the solar system and planets

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

GALAXY

VENUS

UNIVERSE

MERCURY

MARS

SOLAR SYSTEM

YEAR

JUPITER

ASTRONOMER

POLE

SATURN

NIGHT

SATELLITE

PLANET

MONTH

MOON

ORBIT

SPINNING

EARTH

COMET

AXIS

DAY

GRAVITY

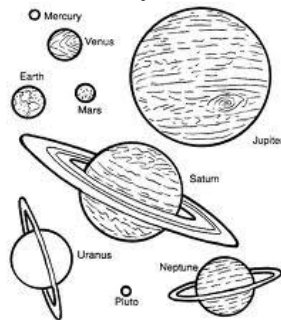
SKY

SUN

STAR

Some ideas about space... What do **you** think?

For each idea, put a **tick** in one of these boxes



Write a **reason** for your opinion here...

Idea	Agree	Disagree	I'm not sure	Because...
We have 'Summer' when the Earth gets closer to the Sun.				
The Earth orbits around the Sun, and the Moon orbits around the Earth.				
We can see the Sun, stars and the Moon because they all give out light.				
The Earth is one of nine planets that orbit around the Sun. This is called the Solar System.				
The Sun is not a star because it's much bigger than a star.				
The tides of the sea are caused because the moon's gravity pulls the water.				
The Earth takes $365 \frac{1}{4}$ days to go around the Sun once.				



Space Research Task - choose one planet

My planet is.....

My planet is from the sun	miles
A day for my planet is	hours
A year for my planet is	days
The planets diameter is	meters
My planet is <i>correct answer</i>	rocky / gaseous <i>(circle correct answer)</i>
My planet	does / does not have an atmosphere
My planet	does / does not have rings
My planet has	moons
There names are,	
2 more facts about my planet are	
1.	
2.	
Draw a diagram of your planet and colour it in	

Space Quiz 1

1. What is the order of the planets, starting from the Sun?
2. Which planet is the biggest?
3. Which planet is the smallest?
4. What keeps us from floating off into the sky and keeps the planets in orbit around the Sun?
5. What scientist first discovered this force?
6. Who was the first man to walk on the moon? What was the year this happened?
7. What was the first animal in space? What was its name?
8. What is the name of the comet that orbits the sun once every 76 years?
9. What is a satellite?
10. What star is closest to Earth?
11. How come astronauts in space can float around?
12. Why would you weigh more on Earth than on the Moon?



Handy five - Draw around your hand and write down 5 facts about space and the Solar System



Intergalactic Tours

Sprog the alien is going on an intergalactic holiday. He has packed his suitcase and made sure that he has not gone over the Planet Zog weight limit of 800N.

For these calculations you will need to use:

$$w = m \times g$$

$$m = w / g$$

$$g = w / m$$

At home, on Planet Zog, Sprog **weighs** 700 N. His **mass** is 35kg.

1. What is the **gravitational strength** of Planet Zog?

Answer = N/kg

At home, on Planet Zog, Sprog's suitcase **weighs** 300 N.

2. What is the **total mass** of Sprog and his suitcase?

Answer = kg

Sprog has decided to visit 7 different planets from different galaxies. He also wants to bring home a 3kg souvenir from every planet to show his mum.

3. What is the **total mass** of **Sprog**, his **suitcase** and all his **souvenirs** from his intergalactic tour?

Answer = kg

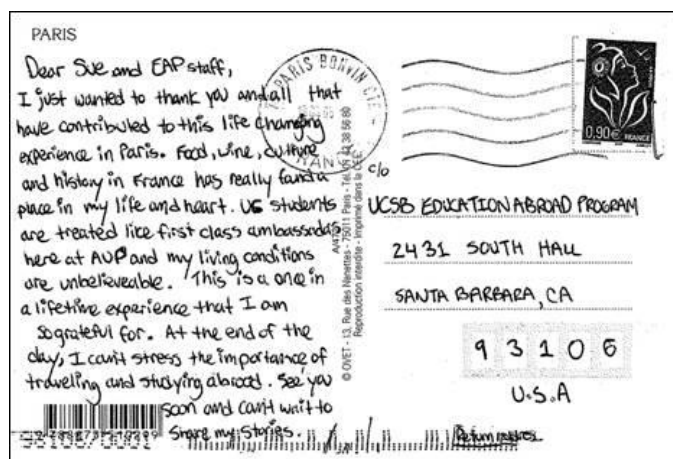
Planet	Gravitational strength of the planet (N/kg)	Total weight of Sprog, his suitcase and all his souvenirs (N)	Intergalactic tours weight limit (N)
Zagzig	12		650
Xenod	1.5		60
Bozag	7		500
Staz	1		60
Ploiki	4		250
Leopa	20		1450
Cquida	50		3000

Sprog needs to work out which planet he can fly home from! They all have different **weight limits** and if Sprog and his suitcase are too heavy, he won't be allowed on the journey!

4. For each planet, what is the **total weight** of Sprog, his suitcase and all his souvenirs (use your **mass** answer from Q3 to work this out)? Fill in the missing column in the table.

5. To get home, Sprog's **total weight** must be less than the Intergalactic Tours weight limit for that planet. Which planets is he allowed to fly home from?

Tourism Postcard



Intergalactic Tourism a level assessed task for KS3 The Solar System

"Greetings Earthlings !

I am Nimuscarbontrumadig but you may call me Alan.

I am head of Thomson Intergalactic Tours.
We are currently planning a guide for your galaxy and we would like your advice about the sites to visit in your Solar system."



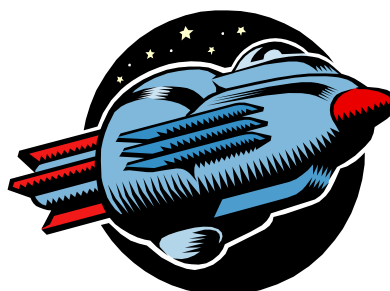
Your Task

- Produce a visitor's guide to your solar system
- Present it on an A4 sheet of paper or as a booklet.
- You might include maps or pictures.
- Tell your visitors about things to look out for as they travel through the Solar system.
- Tourists often like to know about the climate to expect on holiday.

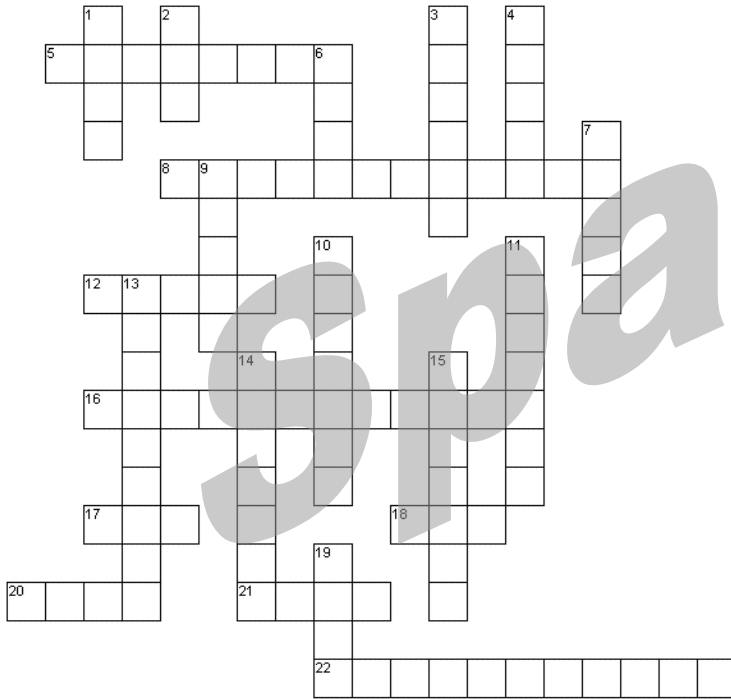
Keywords

planet sun comet asteroid moon eclipse

Good	I know that the sun gives out light I know that there are other planets in the Solar system.
Better	I know how long the Moon takes to orbit the Earth and the Earth to orbit the Sun. I know that the orbit of each planet depends on its distance from the sun.
Awesome	I know there are 9 planets in the Solar System and that they have different conditions. I know the sun is a star and how this is different to a planet.
Superstar Scientist	I can relate the conditions of a planet to its distance from the sun.



Space Crossword



Across

- 5. A planet completes one of these every day
- 8. Vehicle to transport people into space
- 12. Our planet
- 16. This is found in between Mars and Jupiter
- 17. The first animal in space was one of these
- 18. This star gives us light
- 20. This was left on the moon
- 21. The time it takes for a planet to complete an orbit
- 22. The group of planets and star that Earth is part of

Down

- 1. A natural satellite
- 2. Some planets are made of rock and some are made of ...
- 3. One of the gases that is found in the Sun
- 4. The path of a planet around a star
- 6. The number of planets that have been discovered in our Solar System
- 7. The hottest planet in the Solar System
- 9. No longer a planet
- 10. The nationality of the first man in space
- 11. Largest planet in the Solar System
- 13. Neil The first man to walk on the moon
- 14. This force is very attractive
- 15. Planet closest to the Sun
- 19. The red planet

Rockets

What are the forces acting on this rocket?

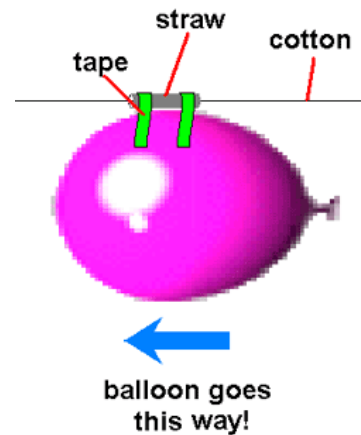


* **Aim:** To be able to choose from a variety of materials in order to build a balloon rocket

Task: Choose from 3 different materials (straw, string, balloon) to find out which combination will allow a balloon rocket to travel the furthest along a string.

Equipment:

- Straw
- String
- Balloon
- Scissors
- Sellotape
- Tape measure or ruler



Method:

1. Choose from either **paper/plastic** straw, **thick/thin** string and a **large/small** balloon
 2. Have two people hold a length of string and thread the straw onto the end.
 3. Blow up the balloon (but not to bursting point!) and sellotape it to the straw.
 4. Release the balloon and measure how far it travels.
 5. Repeat for different variables to find the best combination.
- There are lots of different things you can try in order to improve the efficiency of your balloon rocket. If you have any good ideas then note them down here.

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- How many different combinations of materials can you think of?
Which do you think will work the best?

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Results

Combination	Distance (m)

Conclusion:

Which combination worked the best? Why did it work the best? How did each material contribute?

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Super Science Question!

What causes the balloon to travel forward? Explain using scientific detail!

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