

WESTGATE SCIENCE CLUB

issue 9

OCTOBER 2011



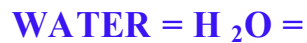
making science cool

WATER

YOU ARE approx 70% **WATER**

YOUR BRAIN is approx 85% **WATER**

YOUR BONES are approx 10-15% **WATER**



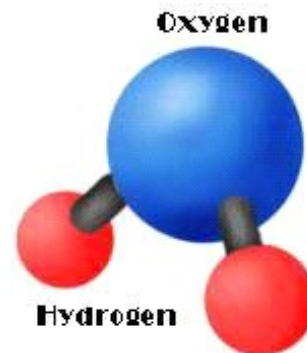
2 atoms of H=Hydrogen and 1 atom O=Oxygen.

Water is absolutely essential to the human body's survival. A person can live for about a month without food, but only about a week without **water**. **Water** helps to maintain healthy bodily weight by increasing metabolism and regulating appetite.

Water is the primary mode of transportation for all nutrients in the body and is essential for proper circulation.



Somewhere between 70% & 75% of the earth's surface is covered in **water**.



P	D	I	N	C	R	E	A	S	I	N	G	E
U	W	S	O	A	R	E	T	A	W	O	C	M
R	E	T	I	T	E	P	P	A	Y	I	E	A
D	I	N	T	P	G	N	V	I	L	T	N	I
E	G	E	S	R	U	Y	A	R	A	A	P	N
A	H	V	E	O	L	H	P	B	V	P	S	T
O	T	E	G	C	A	T	O	D	I	I	S	A
N	D	R	I	E	T	L	U	C	V	T	H	I
B	Y	P	D	S	I	A	R	Y	R	S	D	N
E	O	2	H	S	N	E	I	E	U	N	N	I
A	N	D	M	D	G	H	A	D	S	O	O	R
I	T	O	Y	T	U	M	O	N	S	C	A	E
C	L	O	U	D	S	P	L	E	H	T	A	M

WATER H₂O HELPS TO MAINTAIN HEALTHY
 BODY WEIGHT BY INCREASING
 METABOLISM AND REGULATING APPETITE
 AIDS IN THE DIGESTION PROCESS AND
 PREVENTS CONSTIPATION SURVIVAL
 ICE STREAMS VAPOUR CLOUDS RAIN

2

GUESS THE NUMBER

Ask a friend to get a calculator, ask them to not let you see the calculator screen. Then ask them to think of a number between 1 and 9. Then tell them to:

Multiply it by 7, then by 3, next by 11, then by 37, and finally by 13.

Then tell them the number now shown on the screen is the number they first thought of (BUT to really confirm that it to them you can tell them it is shown 6 times!).

THINK OF A NUMBER

Think of a number.

Double it.

Add six.

Divide by two.

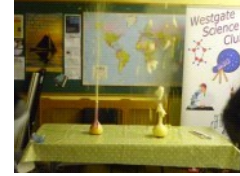
Now take away the number you first thought of.

The answer you are now thinking.....**3**

Go to [WESTGATE SCIENCE WEBSITE](#) and the **PHYSICS** page then **ANSWERS** to September 2011 and you will see a link for the full mathematical explanations of both the above puzzles.

4

DEMONSTRATION
 EXPERIMENT
 Helped by Mimi & Jonny
 9th Sept 2011
 'Elephant Toothpaste'
 Hydrogen Peroxide
 with a touch of concentrated
 washing up liquid and some
 drops of food colouring.
 Then added Potassium
 Iodide in saturated liquid form.
 The end products are



W _ _ _ R
 S _ _ P
 O _ _ _ N



WESTGATE SCIENCE CLUB

Friday 11th November 2011 - Special trip out visiting the **NORMAN LOCKYER OBSERVATORY & PLANETARIUM** at Sidmouth. Please contact ask Mike / see separate sheet for details

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How to remember **LATITUDE, LONGITUDE**
 LATITUDE = 'fat...titude = goes all way around the degrees EAST and WEST are degrees EAST & WEST Of GREENWICH, LONDON.
 360 degrees all way around the earth

LONGITUDE = it's a 'LONG' way up/down are degrees NORTH or SOUTH of the Equator = the red line below represents the Equator which goes around the middle of the globe.
 90 degrees NORTH or 90 degrees SOUTH

How to remember lights on BOATS & SHIPS & BOUYS
RED, LEFT, PORT = all **short** words
GREEN, RIGHT, STARBOARD = all **long** words

Remember this...

Where are we?

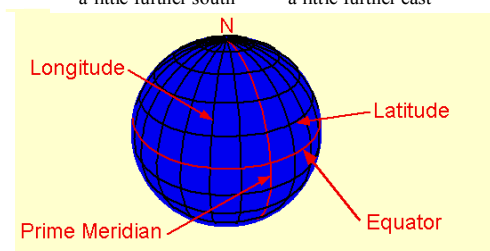
in comparison **Exmouth** is
 50.37 north / 03.25 west

a little further south a little further east

in degrees:

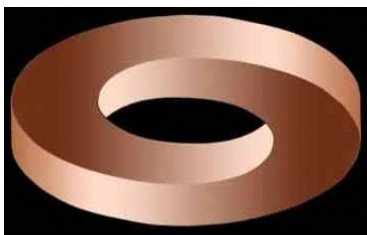
EXETER
 Latitude
 50.43 north

Longitude
 03.31 West



5

WHY IS THIS DESIGN IMPOSSIBLE ?



INSERT THE WORDS IN THE CORRECT LINE TIDES MASS EARTH SOLAR GRAVITY

1 Objects with are attracted to each other, this is known as

2 Gravity keeps theand the other planets in our System in orbit around the sun.

3are caused by the rotation of the Earth and the gravitational effects of the Moon and the Sun.

What is H₂O more commonly known as.....

What is the first element in the periodic table ?

Is it A- Oxygen, B-Hydrogen, C-Platinum, D-Carbon

'Water, water everywhere but not a drop to drink!'

What is this referring to?

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WESTGATE SCIENCE CLUB

For dates, times & other events see website

The Science Club is held at the Westgate Church Building
(opposite The Picture House),
Bartholomew Street West, Exeter - EX4 3AJ

phone Mike Coles Exeter 253064
Naomi Patkai Exeter 466251
e mail westgatescienceclub@gmail.com

Autumn 2011 dates - Fridays -
9 Sept, 7 Oct, 11 Nov, 2 Dec
For further detail see website



Making Science Cool
for Primary School
Children aged 7 yrs

View slide show of our Opening in September 2010.
See what experiments we did on other club evenings.

at www.westgatescienceclub.org.uk
Slide show and photos on the 'contacts' page

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THE NIGHT SKY

During the Autumn evenings you can see what looks like a very bright star high in the East. It is not a star, it is the planet **JUPITER**.

With a small telescope or a pair of binoculars you should be able to see Jupiter's 4 moons. Something like the picture below but the moons will probably be in a different position.

The disc may well be a bit smaller but you should be able to see it as a disc and not a twinkling star.



WHAT IS A PLANETARIUM?

Is it

A - A type of flower ?

B - The name of a moon of Saturn?

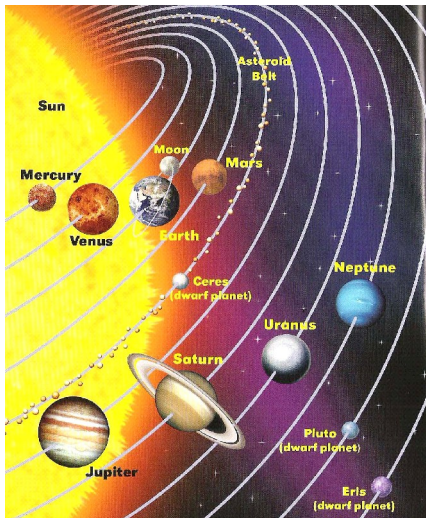
C - A model of the Solar System?

D - A domed building in which images of stars, planets, and constellations are projected to see what the night sky looks like?



It takes 9 minutes for light from the sun to reach earth. Light travels at 186,000 miles or 300,00 km a second, It takes 43 minutes for the light to reach Jupiter.

JUPITER is the largest planet in the Solar System.



This constellation has many names:

**THE GREAT BEAR,
URSA MAJOR
THE SAUCEPAN
THE BIG DIPPER**

Polaris - North Pole Star

