

# WESTGATE SCIENCE CLUB

issue 10

NOVEMBER 2011



## making science cool

Visit to  
NORMAN  
LOCKYER  
OBSERVATORY



**THE PLANETS**  
Can you name them in  
the correct order  
from the Sun?

JUPITER

URANUS

VENUS

MARS

EARTH



PLUTO

SATURN

MERCURY

NEPTUNE

ASTEROID  
BELT

*the order is correct in the picture*

*Answers in this pamphlet*

**PLANETS AND CONSTELLATIONS**

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

VENUS JUPITER PLUTO  
 ANDROMEDA BOOTES EARTH CANISMAJOR  
 CYGNUS DRACO NEPTUNE LEO MARS LYNX URANUS  
 MENSA MERCURY ORION PEGASUS SATURN PUPPIS  
 TAURUS TUCANA VELA  
 WESTGATE SCIENCE CLUB

**Science Club on Friday 7 Oct**

**'Burning off Methane Gas in the 'Arctic'...**not quite but nearly. Nick Sheehan demonstrates with a very dramatic experiment burning off bubbles of gas.



**Changing water into wine and back again!**

1 Glass of water, 2 empty glasses, that's what they looked like! Water, sodium hydroxide, phenolphthalein, hydrochloric acid—a few drops. 3 separate stages and it worked. Amazing!



**One tiny crystal instantly turns a liquid into a solid!**

A supersaturated solution has some very special qualities. Sodium acetate trihydrate. Also illustrates an exothermic reaction of the heat of crystallization.



**Balancing the impossible.** Balancing a bucket of water with just a slat of wood a few mm long...and the 2 pieces of wood are not joined!



And lots of other experiments, many interactive!



**BALLOONS**



There are four friends - Adam, Elizabeth, Peter, Sally, and each has a balloon. From the clues below can you match each of them with their age and balloon?

The children are aged 5, 6, 7 and 8 and one of them has a blue balloon.

- The six year old girl has a green balloon.
- Adam has a red balloon and is older than Peter
- Elizabeth is 5 years old but her balloon is not orange.

Name	Age	Balloon

Go to [WESTGATE SCIENCE WEBSITE](#) and the PHYSICS page then ANSWERS for November 2011 puzzles.

**What do you think?**

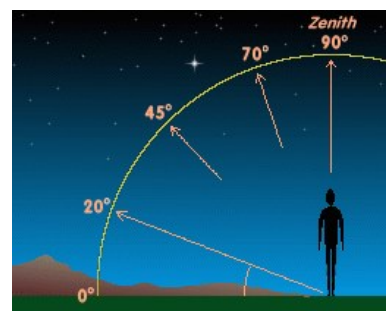


- Where do fish keep their money ?
- What do you get if you cross a vehicle with a household animal ?
- Mary's father has 4 children, three are named Nan, Nene, Nini. So what is the 4th child's name ?
- What goes around and around the wood but never goes into the wood?
- It stands on one leg with its heart in its head. What is it ?
- I am the beginning of sorrow, and the end of sickness. You cannot express happiness without me, yet I am in the midst of crosses. I am always in risk, yet never in danger. You may find me in the sun, but I am never seen out of darkness. What am I ?
- While walking across a bridge I saw a boat full of people. Yet on the boat there wasn't a single person. Why ?

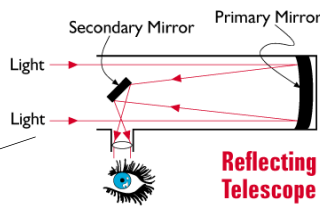
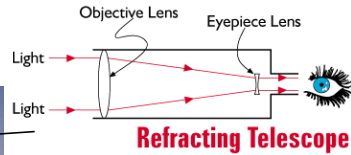
ANSWERS - in this pamphlet.

**Angular altitude (or elevation) is measured as 0° at the horizon (when an object is at the point of rising or setting), 45° when 'half way up the sky' and 90° when directly above the observer's head (at the zenith). In the above picture, the bright star has an altitude of about 60° (i.e. it is "60° high").**

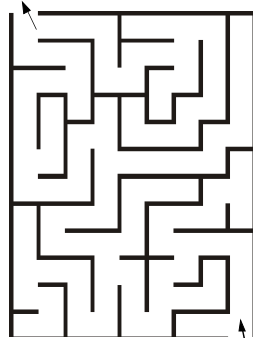
**LOOKING UP AND TO 'ZENITH'**



**TWO BASIC TYPES OF TELESCOPES**



**Stellarium** is a free open source planetarium for your computer. It shows a realistic sky in 3D, just like what you see with the naked eye, binoculars or a telescope. Go to [www.stellarium.org](http://www.stellarium.org)



Find your way to the sky Start

- 1 A Riverbank
- 2 A Carpet
- 3 If you said 'Nana' then you are wrong. If Mary's father had 4 children, Nana, Nene, Nini, then the last child's name would have to be Mary!
- 4 The bark of a tree
- 5 A cabbage
- 6 the letter S
- 7 Everyone on the boat is married.

Mercury, Venus, Earth, Mars, Ast Belt, Jupiter, Saturn, Uranus, Neptune, Pluto

**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](mailto:westgatescienceclub@gmail.com)

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

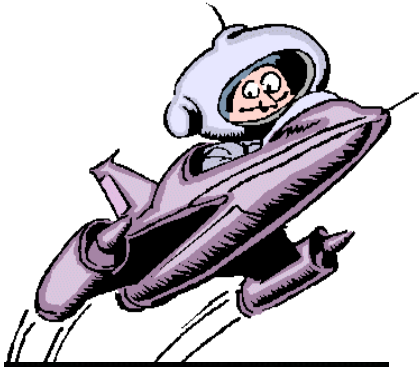


Making Science Cool  
for Primary School  
Children aged 7 yrs

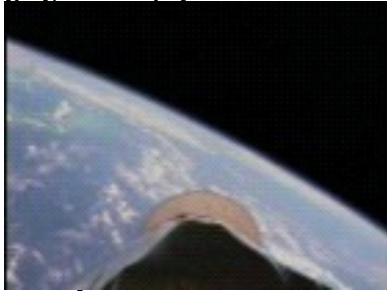
History...

See what experiments we did on previous club evenings.

at [www.westgatescienceclub.org.uk](http://www.westgatescienceclub.org.uk)  
Slide show and photos on the 'contacts' page



**The Cassini Spacecraft** was launched in Oct 1997 and reached the orbit of Saturn July 2004. Data from the spacecraft travelling at the speed of light takes 80 minutes to reach earth. The spacecraft is still orbiting Saturn today.



Find your way from Earth to **Saturn**

