

Thanet Astronomy Group

Astronomy for Everyone in Plain English

NEWSLETTER

July 2016

The Summer Triangle



Picture Stellarium

This space is reserved for promoting members' businesses.
You can place an advert here for a donation to the group.

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Executive Committee Messages

July 2016

The month of July will start with :-

July 2nd Will start the Saturday meetings.

July 6th Will be the Wednesday members' meeting

Please Note : This is the SUMMER season at the cafe and the summer members' meetings will start at 8:00pm :-

1st June 2016 at 8pm

6th July 2016 at 8pm

3rd August 2016 at 8pm

7th September 2016 at 8pm

Beginners' Guide to Stargazing Course

All those that would like to attend this course (details on the web site) please email ThanetAstronomyGroup@gmail.com to register your interest.

Telescope Making Group

This year 2016 we will be starting work on the first of 3 telescopes we hope to make this year.

Note : There is no knowledge or experience needed to join this workshop.

All those that would like to attend the Telescope Making Group please email ThanetAstronomyGroup@gmail.com to register your interest.

When we have a list of interested people we can discuss times and dates.

Danny, George, Gill.

About the Cover Picture



The Summer Triangle

It's this time of year - the summer is here at last (although you would not know it) and the Summer Triangle is high in the sky just waiting for us to look deeply into its mysteries, so let's look a little closer and see what we can find out.

The Summer Triangle is an 'asterism', this is a recognisable group of stars that is smaller than a constellation. Another well known asterism is the Plough, part of the constellation Ursa Major (The Great Bear).

The Summer Triangle is an imaginary triangle drawn in the sky of the Northern Hemisphere between the stars Vega in the constellation Lyra, Deneb in the constellation Cygnus and Altair in the constellation Aquila.



Constellation Ursa Major



Lyra

Aquila

Cygnus

In the picture of Cygnus above you can see the other two bright stars Vega and Altair

These three stars are some of the brightest stars in the Northern Hemisphere's sky, so you will be able to find them easily on a clear summer's night.

Vega is the brightest star in The Summer Triangle and the 3rd brightest in our northern sky.

Apparent Magnitude 0.03

Altair is the next brightest in The Summer Triangle and the 8th brightest in the northern sky.

Apparent Magnitude 0.77

Deneb is the next brightest in The Summer Triangle and the 14th brightest in the northern sky.

Apparent Magnitude 1.25

About the Cover Picture

The Summer Triangle

Although the concept of The Summer Triangle can be traced back as far as the 1920s it was Sir Patrick More that popularised the term in the UK and the American author H.A.Ray in the States.

The Summer Triangle is visible from the spring, in the early morning low in the east. During the summer months it is high over head and in the autumn it can still be seen in the evening low in the west. During the winter months it falls below the horizon and becomes a Southern Hemisphere asterism.

When you can find The Summer Triangle you can also find the three constellations Lyra, Deneb and Altair, but within and around this asterism there is so much more to be seen.

Lyra

The constellation Lyra contains the deep sky objects M56 a Globular Cluster, M57 the planetary nebula, 'The Ring Nebula' NGC 6745 the three merging galaxies, and the open star cluster NGC 6791. Lyra also has 9 stars with known planets.

Cygnus

Look for the constellation Cygnus and line up with the head and the tail, Deneb is the star at the tail. This is exactly where The Milky Way is in the sky. The Milky Way stretches out in a line in front of and behind Cygnus to both horizons.



The Fireworks Galaxy Credit NASA -

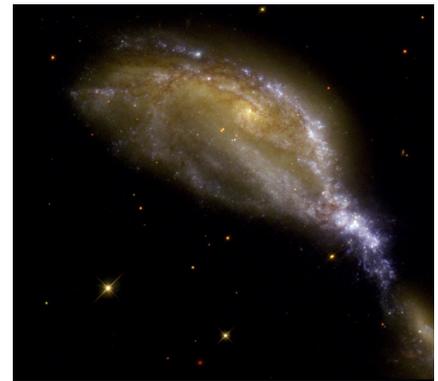
http://www.nasa.gov/mission_pages/chandra/multimedia/fireworks-galaxy-ngc6946.html#.UteCAIWI1mN

Aquila

Aquila contains the deep sky objects NGC 6803, NGC 6804, NGC 6781 planetary nebulae, and NGC 6741 the Phantom Streak Nebula, NGC 6709, NGC 6755 Open Clusters and B143-4 the Dark Nebula.

Much more can be learnt about constellations at :-
<http://www.constellation-guide.com/>

Danny.

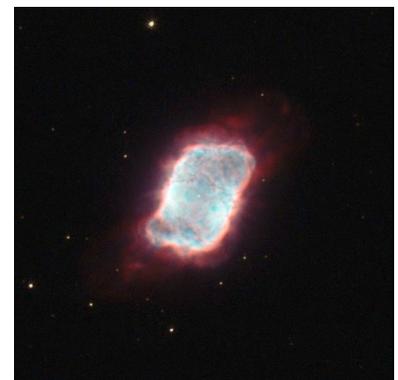


NGC 6745 the three merging galaxies

NASA Goddard Space Flight Center

NASA-GSFC - [The Goddard Library](http://www.goddard.nasa.gov/goddard/library/)

Cygnus also contains Cygnus X-1, a very bright x-ray source, Albireo the double star, NGC 6946 the Fireworks Galaxy, IC 5070 The Pelican Nebula, NGC 7000 the North America Nebula, NGC 6888 the Crescent Nebula and NGC 6960, 6962, 6979, 6992, and 6995 the Veil Nebula.



NGC 6741 The Phantom Streak Nebula ESA/Hubble and NASA -
<http://www.spacetelescope.org/images/potw1022a/>

Thanet Astronomy Group Contact Details

Executive Committee

| | | |
|-----------|-------------|---------------|
| Chairman | Daniel Day | 01843 228 904 |
| Treasurer | George Ward | 01843 292 640 |
| Secretary | Gill Palmer | 07543 942 245 |

Committee

| | | |
|------------|----------------|---------------|
| Volunteers | George Cozens | 07970 181 395 |
| Members | Sheila Tomkins | 07791 892 057 |
| Newsletter | Janet McBride | 01227 364 092 |
| Newsletter | Tracy Howes | 07917 710 638 |
| Library | Janet McBride | 01227 364 092 |
| Web Site | Danny Day | 01843 228 904 |
| JAC & Gill | Gill Palmer | 01843 848 064 |

Co-opted Members

| | | |
|----------------|----------------|---------------|
| Vice Chair | Sheila Tomkins | 07791 892 057 |
| Vice Treasurer | Tracy Howes | 07917 710 638 |
| Vice Secretary | Janet Mc Bride | 01227 364 092 |

Members' Meeting Dates and Times

Thanet Astronomy Group

Members' Meetings

Dates and Times

6th January 2016 at 7:30pm

3rd February 2016 at 7:30pm

2nd March 2016 at 7:30pm

6th April 2016 at 7:30pm

4th May 2016 at 7:30pm

1st June 2016 at 8pm

6th July 2016 at 8pm

Next Meeting

3rd August 2016 at 8pm

***** 7th September 2016 at 8pm *****

***** Anniversary Three Years at West Bay Cafe Party *****

5th October 2016 at 7:30pm

2nd November 2016 at 7:30pm

***** 7th December 2016 at 7:30 for 8:00pm *****

***** Christmas Evening Meal and Entertainment *****

All Members' meetings will be held at the :-

West Bay Cafe, Sea Road,

Westgate-on-Sea,

Kent.

CT8 8QA

Advertisement

WEST BAY CAFE

Sea Road, Westgate-on-Sea
CT8 8QA

Location :-

This Family Friendly Cafe is situated on the promenade just beside the sandy beach opposite the junction of Sea Road and Rowena Road, Westgate-on-Sea, CT8 8QA.

Access :-

via a flight of steps behind the cafe.

Disabled Access :-

via the main entrance to the bay and a slope at the cafe door.

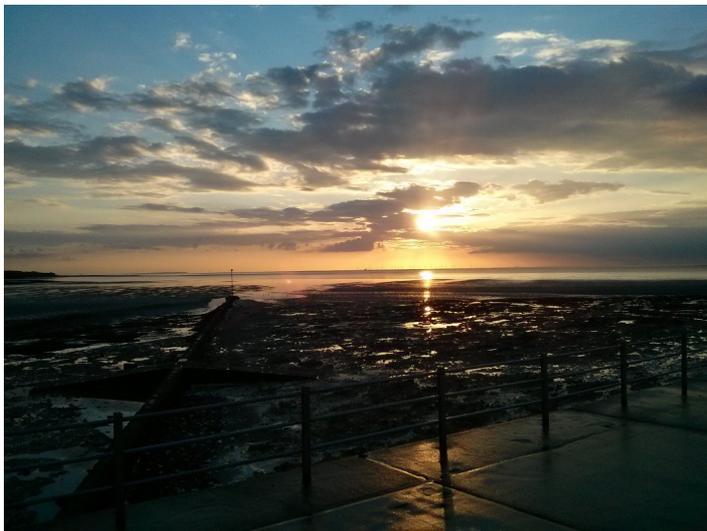
West Bay Cafe run by Alan and Kate has a very friendly atmosphere.



Alan outside the new style West Bay Cafe

There is a wide variety of good food and drinks at very reasonable prices and there are always special offers.

There is seating both inside and outside for those extra hot days.



A Typical Sunset at the West Bay Cafe

The Sunsets at the West Bay Cafe are Spectacular.

With a meal, some friends, and a pint or two.

What more could you ask for!

West Bay Cafe have hosted Thanet Astronomy Group since September 2013.

We would like to say a
HUGE THANK YOU to Alan and Kate
for all the help and support they have shown us over the last year.

Please use this Brilliant Seaside Cafe and Tell Your Friends.

What we did last month

Wednesday 1st June Members' Meeting

This meeting was very well attended

To start with Gill made the usual introductions and notices then Steve took over and explained all about the radio link-up with the ISS last month and that we had received a QSL card from the ISS acknowledging what we had done. This was followed by Steve formally presenting the QSL card to the Group. Danny thanked Steve for all his help and effort to achieve the link-up and get the QSL card.



Presentation of the QSL Card

To add to the amazing postcard from the ISS Gill had brought in two trays of Rocket Seedlings from the school project where they were looking to see the possible effects of one set of the seeds having been sent to the ISS.... Results to follow at the end of the experiment !!



Red and Blue Seeds at the members meeting



Meteorite at the members meeting

Gill had also brought in a meteor



The Rocket seeds, Meteorite, QSL Card from the ISS

The brilliant Solar System Sun, Planets, Comets and Asteroids, designed and made by Tracy.

As Mars is very prominent in the news due to it being at its closest to the Earth for many years we continued with a presentation on Mars. Part 1 before the tea break and part 2 after the break. The presentation was very well received with many good questions.

The third part of the meeting was another one of George W's amazing Star Hopping sessions looking at what is in the sky and how to locate new objects by working your way across the sky from objects you already know.

What we did last month

Saturday 4th June Public Outreach Meeting

Today started off very misty and overcast but was not cold. There were many people around asking "What we you looking for ?". Of course the answer to this question is "We are looking for you because you are interested".

The Saturday afternoon meeting is a FREE drop-in between 1 and 4pm for anyone to come along, ask questions and have a look through the telescopes. We are here to help everyone that has an interest in astronomy.

While we were looking out to sea we spotted a steam ship VIC 96 ("Victualing Inshore Craft") very much in the distance and heavily obscured by the mist. With the aid of the Celestron C8N (D200mm F1000mm) telescope and with a Canon 600D coupled in 'prime focus' mode and some image processing we managed to get this image. See www.vic96.co.uk/ for more info. According to the web site the steam ship "VIC 96 is one of but a few surviving workhorses of its day, built as part of the war effort to supply Naval dockyards and the Fleet."

VIC 96 is one of very few remaining 'Clyde Puffers'. These were small steam cargo ships that transported cargo around the west coast of Scotland and The Hebrides. The cargo would most often be coal, furniture and farm produce on the outward trip and gravel on the return trip. The puffers were a flat bottomed ship that made it possible for them to beach at low tide and unload their cargo in places where there were was no harbour or pier.

There is also a series of short stories about another Clyde Puffer, "The Vital Spark", written by Neil Munro (1864 – 1930). These stories appeared in the Glasgow Evening News between 1905 and 1927. They were published in book form from 1931. These stories also formed the basis of three popular BBC television series from 1959 to 1995. There was also a TV programme on the restoration of a Clyde Puffer earlier this year.



Steam Ship (above)



Sorry no Sun spots today (below)

By about 3pm the weather started to clear up and the sun came out so we put the solar filters on and looked for any Sun Spots that could be seen.

Unfortunately we could not see any (any that were there were being obscured by the mist and remaining cloud).

Everyone had a good look at the sun, see the picture above (sorry no sun spots)!

What we did last month

Saturday 4th June Viewing Evening

This was a very successful viewing evening even though fewer than usual people turned up. This was well made up for by the members of the public that happened upon us by chance. The targets for the evening were Jupiter, Mars and Saturn and good views were had of all.

Jupiter was very clear target at 243° (in the western sky) and 28° above the horizon. All 4 Galilaen moons (from left to right Callisto, Jupiter, Europa, Io and Ganymede) were clearly seen.

Mars was visible in the SSE as a clearly red disk (I believe the redness was as much to do with the proximity to the horizon and dust in the atmosphere as to the colour of the planet). There was not a lot to be seen at this low angle - just a fuzzy red disk!

Saturn was just a little further towards the East and at about the same altitude. Again it appeared as a very reddish brown colour like Mars. The rings are very open at this time in their cycle and made a spectacular sight.



Jupiter Callisto, Jupiter, Europa, Io and Ganymede Mars Saturn

Above are some quick short exposure snap shots to show those that did not make it what they missed.

Saturday 11th June Public Outreach Meeting

Today was a quiet meeting with a slow but steady flow of people interested in astronomy. One person, with a new telescope, asking for help which was, of course, given. Anyone that needs help with Star Gazing, Astronomy or any equipment such as telescopes are welcome to come along and ask as many questions as they want.

Saturday 18th June Public Outreach Meeting

Today was the day that Major Tim Peake returned from his 6 month term in the International Space Station. At JAC and Gill (the junior wing of Thanet Astronomy Group) we have been following Tim Peake and all that he has been promoting whilst at the space station. We just had to celebrate his return to Earth. The children were going to have a party and brought all sorts of party food, such as Strawberry Rockets, Chocolate Stars, Cup Cakes etc.

In the adult group it was a busy day with many people throughout the afternoon asking “What are you looking for?” You all know the answer by now! We were lucky enough to get a little sunshine and to see the large sunspot, along with all the usual targets.

Saturday 25th June Public Outreach Meeting

The weather was good today and we had quite a few telescopes set up including those belonging to new recruits. Gill had brought the Rocket seedlings from the ISS project and some shop bought Salad Rocket so people could see what the seedlings would grow into.

There were a lot of people interested in what we were doing and many questions were asked and answered.

Danny.



Shop bought Salad Rocket

Renaissance Glass

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Book review

An Amateur's Guide to Observing and Imaging the Heavens

By Ian Morison

This is a book I borrowed from the library. On picking it up I thought it would be a basic book that talked about this and that and left you more confused than before you read it.

This could not be further from the truth.

So far I am on my fourth renewal of the loan and have decided to buy a copy myself for long term reference.

The book is divided into 18 well thought out and well ordered chapters.

Starting with Chapter 1 Telescopes and Observing Fundamentals.

The following chapters 2 – 6 cover the various types of telescopes and their maintenance.

Chapters 7 and 8 cover Telescope Accessories and Mounts.

Chapter 9 and 10 looks at the Art of Visual Observing and Observing the Moon and Planets.

Chapters 11 – 12 move on to imaging (Taking Pictures) of the Moon, Planets and the Sun.

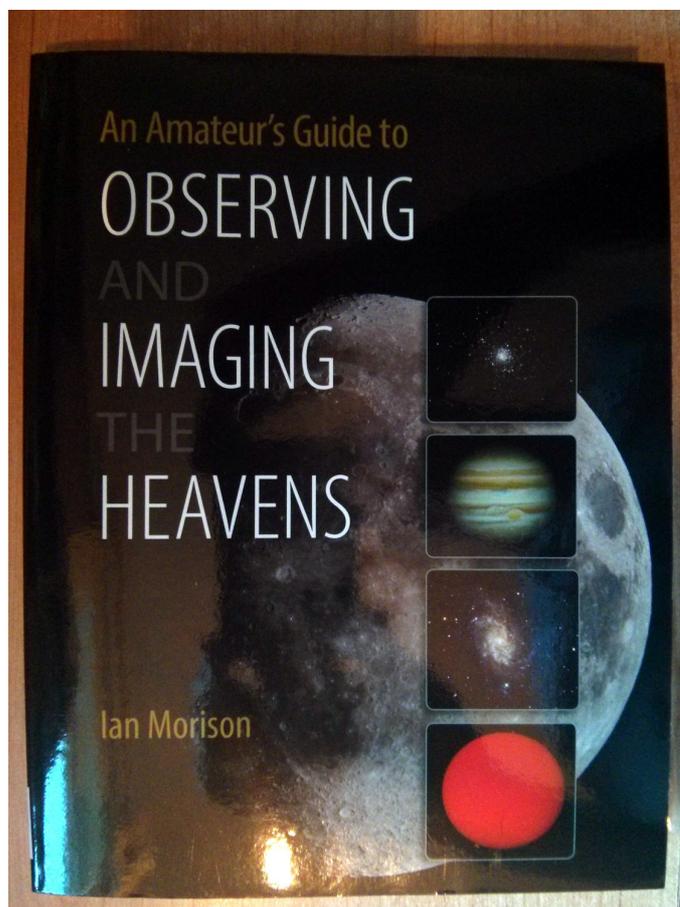
Chapters 13 – 15 Look at imaging with video cameras, DSLR cameras and cooled CCDs.

Chapter 16 and 17 covers Auto Guiding, Drift Scan Alignment and Spectral Studies.

Chapter 18 finishes off with a look at digitally improving your images in Photoshop.

Strikingly this book has plenty for the absolute beginner looking for some 'real' information on the different types of telescopes and what telescopes can do, as well as loads of detailed information on the more advanced aspects of Astro Photography.

Danny.



What's in the sky this month ?

What to see Saturday 9th July 2016 at 10:30pm

Galaxies (The Milky Way, Andromeda)

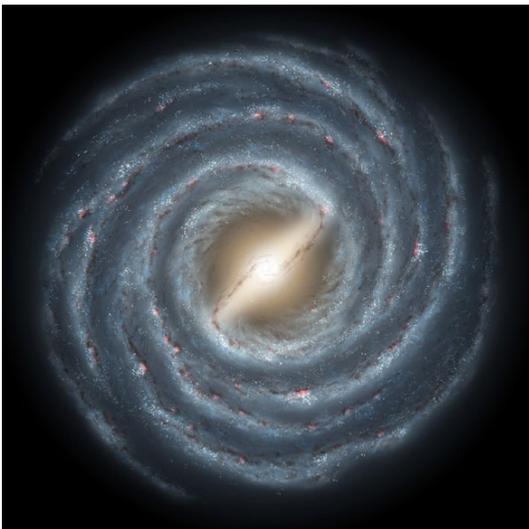
The Much Bigger Picture

Our Galaxy, The Milky Way, is just one of an estimated 100 billion galaxies in the observable universe.

The observable universe is just the bit that we can see. We can only see light (made of photons) when it reaches us having travelled from where it was created (e.g. a star). These light photons travel very fast at 186,000 miles per second. That's 186,000 miles per second x60 seconds per minute x60 minutes per hour x24 hours per day x365 days per year = 5,865,696,000,000 miles in a year !!! *That's what we call "A light year"*.

Since the universe was created 13.7 billion years ago light has only been able to travel 13.7 billion light years. That is where the edge of the observable universe is in simple terms. This observable area of the universe contains approximately 15 galaxies for every person on planet Earth.

The Milky Way is an average size galaxy, but is much smaller than our nearest galactic neighbour, Andromeda, 2.5 million light years away. Andromeda has a diameter of 260,000 light years and dwarfs our galaxy, the Milky Way, which is somewhere between 100,000 and 120,000 light years across. An estimated 100 to 400 billion stars make up our galaxy while Andromeda has something like a trillion stars. The largest galaxy found so far is IC 1101 and is believed to contain 100 trillion stars!



Artist's concept of the Milky Way Galaxy.

Credit: NASA JPL



Andromeda Galaxy

Credit: NASA/JPL-Caltech

What's in the sky this month ?

The Milky Way is a spiral barred galaxy and is thought to have 4 main arms. I say thought, because unlike other galaxies, we cannot actually see the outside of our own galaxy because we are inside it, so we can only guess at what it looks like from the outside. Imagine trying to photograph the outside of your house from inside your house.

Our Solar System is located in the same galactic arm that contains the constellation Orion. This arm is somewhere between the Sagittarius and the Perseus Arms. We lie about 27,000 light years from the galactic centre where, like most others galaxies, there is a black hole.



Our Galaxy, The Milky Way, looking North East



Our Galaxy, The Milky Way, looking South East

Note: The Milky Way (the white cloudy formation in the above pictures) and Andromeda are very hard to see in our light polluted sky. You will have to be somewhere very dark to see anything at all.

The age of our galaxy is thought to be about 13 billion years and, as with everything else in the universe, we are on the move. In fact our galaxy is rotating at more than 500,000 miles per hour, and takes between 225 - 250 million years to complete one rotation.

If you would like any help with seeing the objects in this article or astronomy in general we would be happy to help you.

Contact Details

Website www.ThanetAstronomyGroup.com

Email ThanetAstronomyGroup@gmail.com

**Or come and meet us over a cup of tea at West Bay Cafe, Westgate-on-Sea, CT8 8QA.
Saturday afternoons 1-4pm.**

George Ward / Danny

Did You Know ?

Spuds for Mars

Following the book and film *The Martian* by Andy Weir, it may sound like science fiction, but scientists are trying to grow potatoes on Mars.



The Space Agency is working with the International Potato Center (CIP) in Peru to grow potatoes in soil as close to that on Mars as possible.

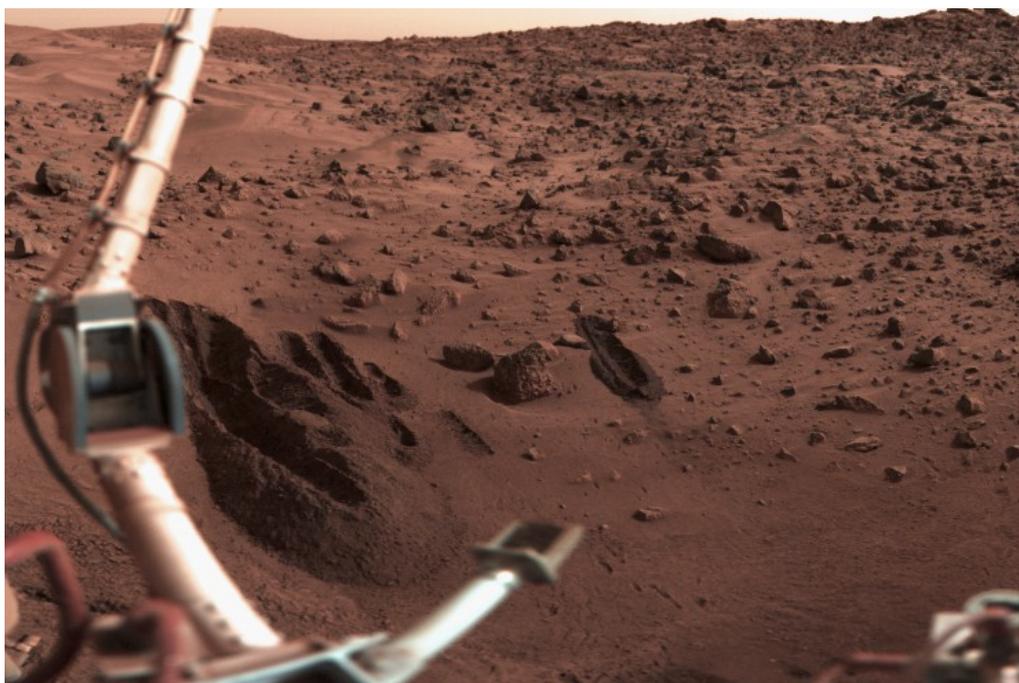


Potatoes

CIP

NASA is testing 65 types of 'spud' to find one that will grow on Mars, to be flown ahead of missions planned to launch in 10 years, time.

1,300 tons of soil has been imported by NASA from The Pampas De La Joya Desert in Peru to grow/test the spuds in. (NASA thinks this soil is the nearest to Mars soil they can find on earth).



Credit NASA : Mars

The winning spud will be put in chilled tubes and sent ahead of any missions. Spuds sent to be grown on Mars will have to be grown indoors because of the Mars climate.

Let's hope they find one that grows well.

Steve.

Junior Astronomers' Club (JAC & Gill)

JAC and Gills

Rocket Seeds Update

The story so far...

Last September 2015, a fascinating Space Challenge began to encourage thousands of school children across Britain to participate in an important Scientific experiment.

It was initiated by the UK Space Agency, in conjunction with the Royal Horticultural Society's Campaign for School Gardening.



Rocket Seeds packet front



Rocket Seeds packet back

They sent 2kg of Rocket Seeds into space last September 2015 to investigate whether certain plant varieties could be grown on space missions in the future. The aim is to see if microgravity affects the growth mechanisms in seeds and learn more about the effects of weightlessness and radiation on plants with the intention of providing fresh food for astronauts on long journeys.

The Rocket Seeds (more than a million) were kept on the International Space Station for six months before returning to Earth in March with the former commander of the space station, Major Scott Kelly.

At the moment, each astronaut requires 5kg of food and water each day and they have to rely on freeze dried food received from regular supplies delivered from Earth...which is not very appetising! (Not as convenient as us being able to order our favourite take away from the local restaurant round the corner!)



*Rocket Seeds at the JAC & Gill Club
The Junior wing of Thanet Astronomy Group*



The JAC & Gill Club is an Astronomy Club and Informal Astronomy School for our Junior's from 5 to 17

Junior Astronomers' Club (JAC & Gill)

JAC and Gills

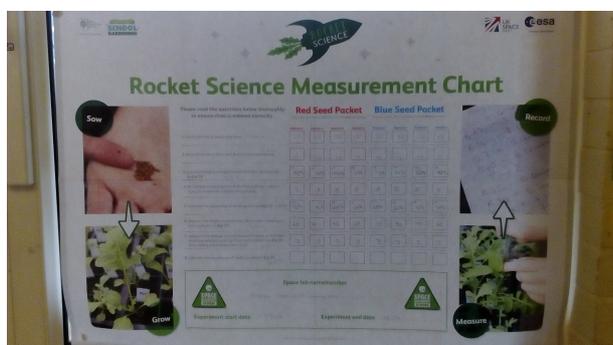
Rocket Seeds Update

If astronauts could grow their own food source in space, they could supplement their dried food to be able to live and work for longer periods of time if they ever plan to return to the Moon or are sent to Mars!

Major Tim Peake launched the mass UK experiment from the ISS in January 2016 primarily to develop important scientific research but he is also acting as a British ambassador for the Principia Mission to fire up the imagination of our next generation and inspire children of all ages to become interested in Science and explore a variety of science experiments during his six months in space.

More than 600,000 children in 8,500 schools, children's clubs and societies across Britain have received a red packet and a blue packet of seeds with 100 in each. One of the packets contains the seeds which have actually been on-board the ISS with Tim...but nobody knows which one...at the moment!

Many thanks go to Eythorne School near Dover, as JAC and Gill have been able to continue to monitor the Rocket Seeds' progress and hopefully grow some fresh salad for Alan's cafe soon... (although, we will need to wait for the official announcement telling us which packet has been on the ISS as we have been told NOT to eat those plants as we do not know what the full effects of being in space are yet!!!) Maybe the real "Space" Rocket Seeds will sprout little green alien bugs instead of leaves!



Rocket Science Measurement Chart



Rocket Seeds at Eythorne School

At the moment, the jury is out while JAC and Gill still try to decide whether the seeds from space are from the red packet or the blue packet...

One member was convinced they were the "reds" as her seeds at school had developed two heart shaped leaves and two spiky leaves...however, she is now uncertain as she has seen that my seeds have grown spiky leaves in both boxes from both packets!

Another member thinks it might be the "blues" as they do not seem to have as many healthy ones as the "reds"!

Junior Astronomers' Club (JAC & Gill)

JAC and Gills

Rocket Seeds Update

To date, the “reds” have 19 shoots growing out of the 25 seeds planted in their box and the tallest is 8cm with 6 leaves. The “blues” only have 10 out of the 25 and their tallest is 7cm with 5 leaves.



The Red Seeds

We will keep you informed of their progress and reveal which ones have actually been in space as soon as the results come in! Maybe Major Tim Peake can tell us himself when he returns to Earth...although his main priority on touch down is to eat a real pizza, which he has missed for six months in space!



The Blue Seeds

(What do you Think ????)

In the meantime, you can come and visit my Space Nursery every Saturday to watch their progress with JAC and Gill at West Bay Cafe!

Reach for the Stars, Little Rocket Seeds!

Gill Palmer.

Adult Word Search

| | | |
|----------------------|-----------------|-----------------|
| ALTAIR | AQUILA | ASTERISM |
| CONSTELLATION | CYGNUS | DENEK |
| GALAXY | LYRA | MARS |
| NEBULA | SPUDS | SUMMER |
| TELESCOPE | TRIANGLE | VEGA |

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

Danny.

Junior Word Search

AQUILA
LYRA
SPUDS

ASTERISM
MARS
SUMMER

CYGNUS
NEBULA
TRIANGLE

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

We hope that you find the Adult and Junior word searches interesting and that they inspire you to look up any of the words you don't know *Absolutely Everything About :-)*

If you like these please let us know and we will continue to produce them.

We are thinking of adding a crossword as well in future newsletters. If you like this idea please let us know.

Comments please : you all know the email address !

Danny.

Members' For Sale and Wanted

This page is for members to place items for Sale and Wanted adverts.

Please let us know if you have anything you would like on this page.

Email us at : - thanetastronomygroup@gmail.com

Or call Danny 01843 228904 or George 01843 292640