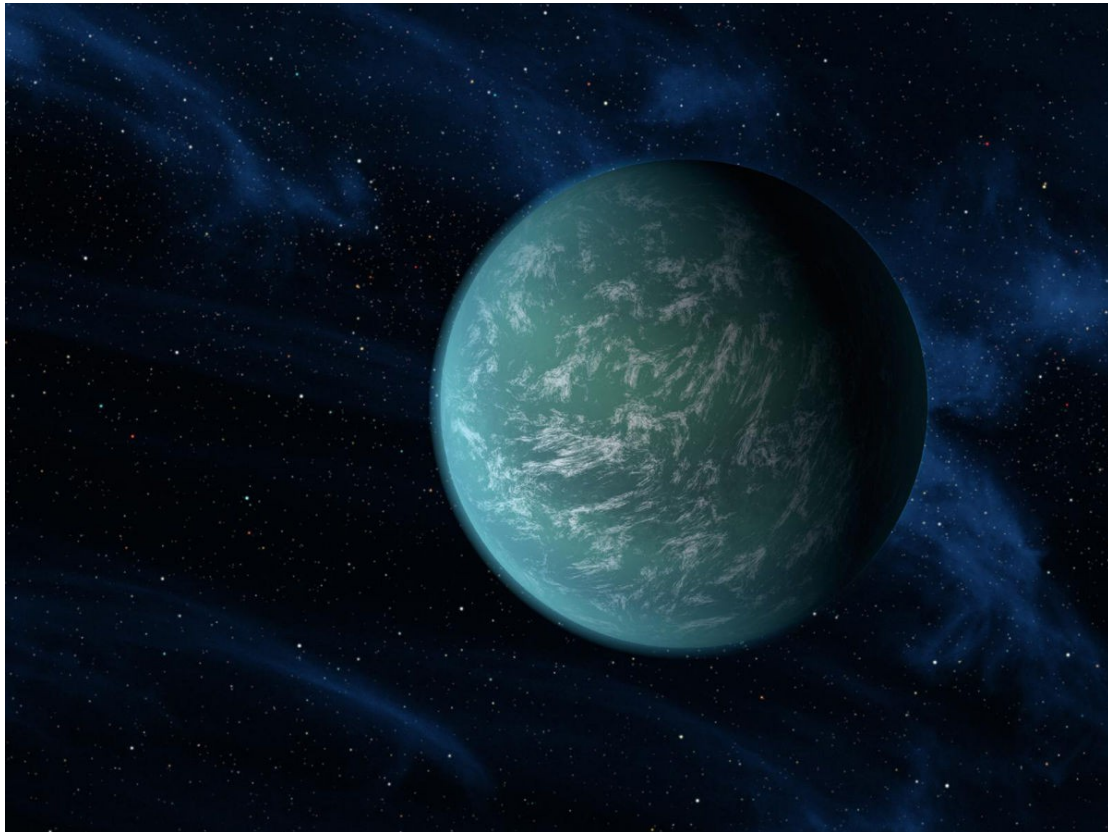


# Thanet Astronomy Group

Astronomy for Everyone in Plain English

## NEWSLETTER

January 2017



*An artist's impression of Kepler-22b,*

*Credit: NASA/Ames/JPL-Caltech*

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BUILDING REGULATION APPROVALS

**MARTIN FOAD**  
Architectural Technologist  
16, The Paddocks, Herne Bay, Kent, CT6 6QX.  
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This space is available for promoting members' businesses. You can place an advert here for a donation to the group.

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## Executive Committee Messages

January 2017

The month of January will start with :-

**January 4<sup>th</sup> will be the Wednesday members' meeting.**

**January 7<sup>th</sup> will start the Saturday meetings.**

### Beginners' Guide to Stargazing Course

**There are still a few places left if you want to book**

The dates and times are :-

<b>DATES</b>	<b>:</b>	<b>Part 1</b>	<b>25<sup>th</sup> Jan 2017 ** Basic Stargazing **</b>
			<b>1<sup>st</sup> Feb 2017 ** Members' Meeting **</b>
		<b>Part 2</b>	<b>8<sup>th</sup> Feb 2017 ** Intermediate Stargazing **</b>
		<b>Part 3</b>	<b>15<sup>th</sup> Feb 2017 ** Advanced Stargazing **</b>
		<b>Part 4</b>	<b>22<sup>nd</sup> Feb 2017 ** Stellarium Stargazing **</b>
			<b>1<sup>st</sup> Mar 2017 ** Members' Meeting **</b>

**TIME : All start at 7:30pm**

**LOCATION: West Bay Café, Sea Road, Westgate-on-Sea CT8 8QA**

**TICKETS : Only £15 for members, £20 Non Members**

**\*\*!!\*\* Advanced booking required \*\*!!\*\***

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

Danny, George, Gill.

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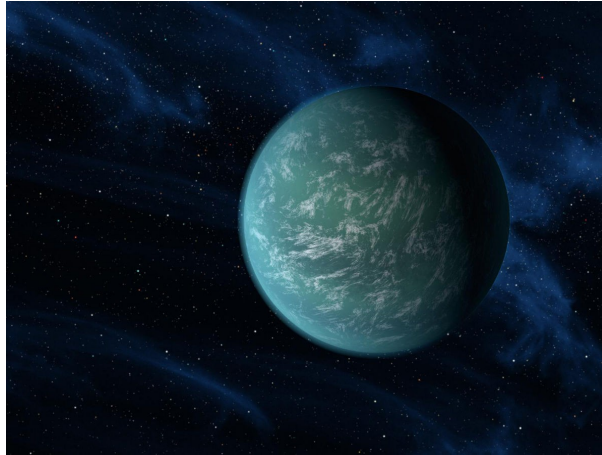
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## About the Cover Picture



*An artist's impression of Kepler-22b,*

*Credit: NASA/Ames/JPL-Caltech*

To start with we will look at the name Kepler-22b and where this came from. Kepler in this case is the name of the space telescope designed to hunt for planets around other stars. The space craft was named after the astronomer Johannes Kepler and was launched on March 7<sup>th</sup> 2009.

Kepler's task was to look for Earth sized planets in the habitable zone around stars in our region of the Milky Way (our Galaxy). The findings from our local stars could then be used to estimate how many possibly Earth like planets there are in the whole Milky Way.



*Artists impression of the Kepler Space Telescope*

*Credit: NASA/JPL-Caltech/Wendy Stenzel*

Kepler detects planets by looking at exactly how bright a star shines, then keeps looking to see if a planet transits the star (passes in front of the star) causing its brightness to dip slightly. This drop in brightness is how Kepler detects the presence of a planet.

After completing its commissioning the Kepler space telescope sent its first data to Earth a little over 4 months after its launch on 19<sup>th</sup> June 2009. Included in this data was the fact that the craft had entered “safe mode” on the 15<sup>th</sup> June.

This happened again on the 2<sup>nd</sup> July and it was discovered that these events were caused by a faulty power supply. Between 15<sup>th</sup> June 2009 and 11 May 2013 Kepler suffered several more failures, the final one being failure of its stabilising system. The Kepler mission was then “dead” and the craft was put in safe mode while an assessment was made to see if there was any way to repair or use the remaining functionality.

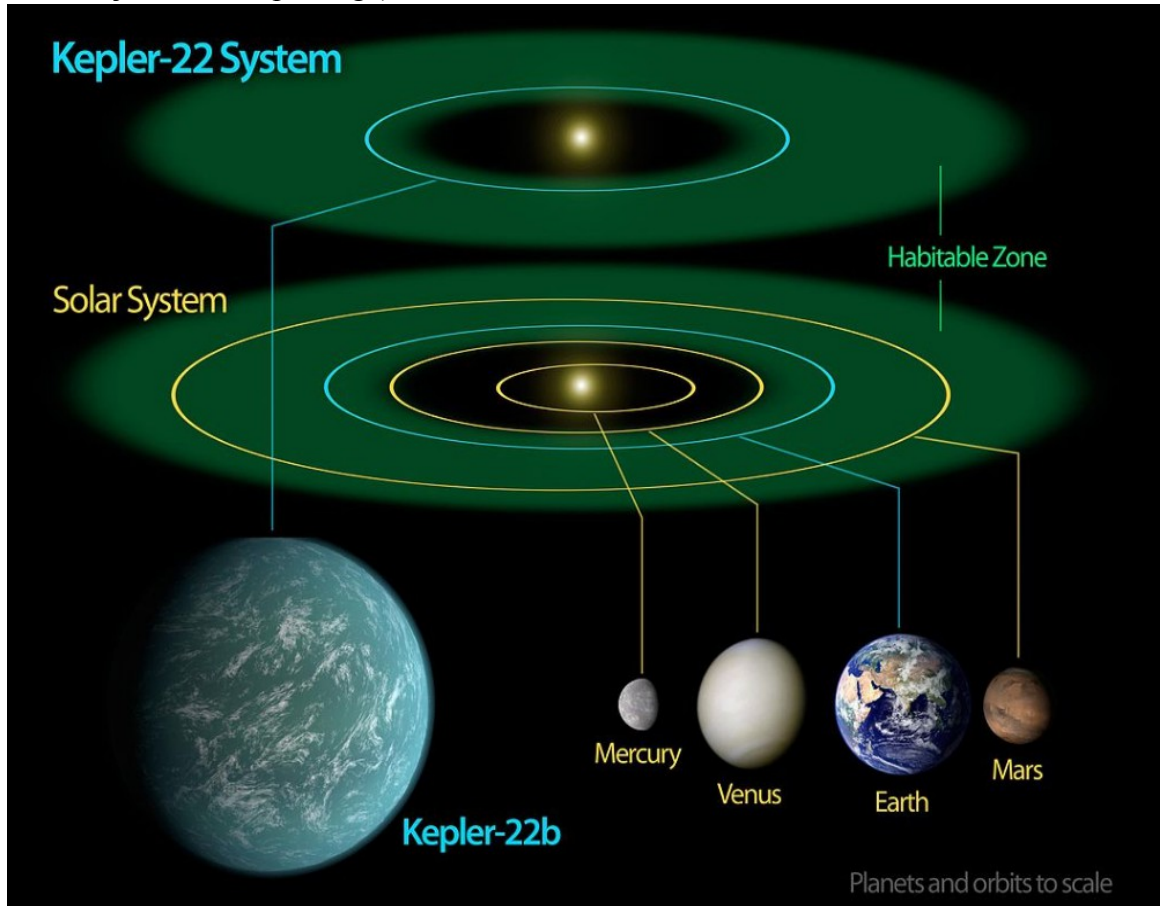
In the years before Kepler failed it sent a large amount of good data and after analysis of that data, by January 2015 Kepler had found 1,013 confirmed exoplanets and another 3,199 unconfirmed exoplanets. For more information about the space telescope see :-

[https://en.wikipedia.org/wiki/Kepler\\_\(spacecraft\)#Spacecraft\\_history](https://en.wikipedia.org/wiki/Kepler_(spacecraft)#Spacecraft_history)

## About the Cover Picture

So now we know a little about the space telescope and how exoplanets are discovered lets look at the planet Kepler-22b and the system that it is in.

Kepler-22b or KIO-087.01 is an “*extra solar planet*” or exoplanet for short, (this just means it's a planet that orbits around another star, not our Sun). The planet also orbits in the habitable or so called “*Goldilocks Zone*” of its parent star, Kepler-22. The Goldilocks zone means not too hot and not too cold (just like the porridge) !!



*Kepler-22 System (top) Our Solar System (bottom)*

*Credit : NASA/Ames/JPL-Caltech*

The star, Kepler-22, is in the constellation of Cygnus, about 600 light years from Earth. The exoplanet was discovered in December 2011 and was the first “*transiting*” planet in its parent's Sun-like star's habitable zone to be discovered. “Transiting means passing between Earth and its parent star”.

Kepler 22b is about twice the size of the Earth, has an orbit or year of about 289 days and probably has an approximate average surface temperature of  $-11^{\circ}\text{C}$

For more information on Kepler 22b see :-

<https://en.wikipedia.org/wiki/Kepler-22b>

Danny.

## **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**  
**2017**

**Next Meeting**

**1<sup>st</sup> February 2017 at 7:30pm**

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1<sup>st</sup> March 2017 at 7:30pm

5<sup>th</sup> April 2017 at 7:30pm

3<sup>rd</sup> May 2017 at 7:30pm

7<sup>th</sup> June 2017 at 8pm

5<sup>th</sup> July 2017 at 8pm

2<sup>nd</sup> August 2017 at 8pm

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**\*\*\* 6<sup>th</sup> September 2017 at 8pm \*\*\***

**\*\*\* Anniversary Four Years at West Bay Cafe Party \*\*\***

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4<sup>th</sup> October 2017 at 7:30pm

1<sup>st</sup> November 2017 at 7:30pm

---

**\*\*\* 6<sup>th</sup> December 2017 at 7:30 for 8:00pm \*\*\***

**\*\*\* Christmas Stargazing Quiz and Buffet \*\*\***

---

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.

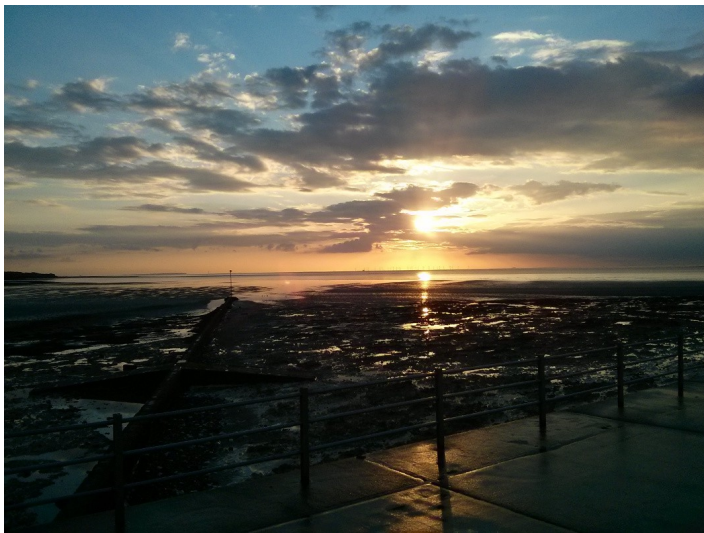
West Bay Cafe run by Alan and Kate has a very friendly atmosphere.



*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

### December 2016

#### Saturday 3<sup>rd</sup> December Public Outreach Meeting

This was a quite cold day, we started off in the cafe and after a while, when people started to arrive, we went outside and set up some telescopes. We had hoped to get a look at the sun and some sunspots but the cloud cover was not going to let that happen today !

Everyone had a good time looking at what could be seen with the telescopes through the haze and asking loads of stargazing and astronomy related questions.

#### Wednesday 7<sup>th</sup> December Members' Meeting

Well it's the end of the year and we are all at our Christmas buffet party. This year for the first time we have arranged the whole evening ourselves. We have an amazing buffet all prepared by Gill and Sheila, a brilliant quiz written by George W and even a short play, Cinderella, arranged by Janet with the committee as the cast.

The evening was an amazing success and everyone had a good night out.

#### Saturday 10<sup>th</sup> December Public Outreach Meeting

With the lead up to Christmas this was a peaceful afternoon, no mad rushes of people today, although we had plenty of people to keep us busy both in the warmth inside the cafe and outside in the cold for the hardier amongst us.

#### Saturday 17<sup>th</sup> December Public Outreach Meeting

Quite a surprising number of people around today. It's amazing what just a little glimpse of sunshine can do to get people up and out of their houses !

There were loads of questions and people wanting to look through the telescopes and know what we were looking for. Of course our answer is always, "We are looking for you, because you are interested".

#### Saturday 24<sup>th</sup> December Public Outreach Meeting

Well it's Christmas Eve and it's a Saturday so we were at the cafe as usual.

It's was a very cold day and there were, unsurprisingly, not many people around. However there were still people interested in what we were doing. We had a few telescopes out, but most people were in the warmth of the cafe chatting about astronomy and how to put the world to rights over some nice hot tea and coffee along with cake etc.

#### Saturday 31<sup>st</sup> December Public Outreach Meeting

New Years Eve and another Saturday so, as we say, "We are here EVERY Saturday"

Again it cold and on the quiet side. So we spent most of the afternoon in the cafe keeping warm. We did go outside for a while to explain a few things about the telescopes but the cold soon got the better of us and we returned to the cafe.

Danny.

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## Book Review

# GCSE Astronomy

A guide designed by students for students

This book is a revision guide to the Edexcel GCSE Astronomy Exam and is written by Thomas Gray and James Haynes.

It is of interest to the members of our group and others interested in astronomy because it is full of interesting and useful information.

The book has 140 pages with over 100 illustrations, and is divided into four clear topics :-

Earth, Moon and Sun

Planetary Systems

Stars

Galaxies and Cosmology.

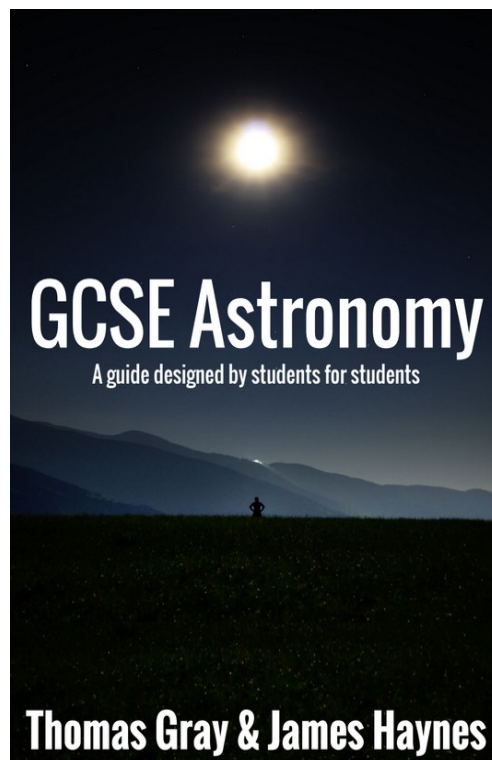
Each of these 4 topics has an overview page including all the key facts and figures relating to that topic. The 4 main topics are then broken down into sub-sections, each sub-section with the relevant GCSE specification requirement clearly listed. These sub-sections then contain text, photographs and diagrams as appropriate to explain the specification requirement.

This layout very nicely divides the book into discreet bite-sized modules that can be worked on one at a time.

At the end of the book are a set of pages covering the basic calculations used in the book. Following this is a set of example questions for each of the 4 main topics followed by the answers. At the end there is a comprehensive 4 page index.

Each small sub-section of the book lists, at its beginning, the required GCSE examination specifications that the following page or pages will cover.

Danny.



## What's in the sky this month ?

January 2017

### Venus and Mars

January and February will see the planets **Venus** and **Mars** clearly visible in the west. This is ideal for our astronomy group as we are based at the West Bay Cafe on the promenade with open sea views to the west and zero degree horizons with very little light pollution across the sea.

Venus and Mars will be unavoidable objects on these months' clear nights. Venus at the beginning of January will be at  $236^\circ$  (west is  $270^\circ$ ) and about  $10^\circ$  above the horizon at 7:00pm in the evening. However it will be visible even in twilight from about 5:00pm at  $208^\circ$  and  $22^\circ$  above the horizon. It is a very bright planet.

Once you have Venus in your sights Mars is very easy to find. At 7:00pm it will be just above and slightly to the left of Venus, at  $229^\circ$  and  $18^\circ$  above the horizon. It is not as bright as Venus but you may notice that it has a red tint.

By the time we get to February at about 7:00pm the two planets will be a little higher in the sky. Venus at about  $248^\circ$  and  $19^\circ$  above the horizon and Mars at  $243^\circ$  and  $21^\circ$  above the horizon.



### Pleades. *Marked by the circle in the picture below*



Also known as **M45**, **Seven Sisters**, **Subaru** or **NGC 1432**. This is an open star cluster in the constellation of **Taurus**. It lies 430 light years from us and is passing through a gas cloud which gives it the appearance of a nebula, this “fuzzy blob”, (*Sorry about the technical term*), can be seen with the naked eye using averted vision, (looking a little to one side - not directly at it.)

Early January look south at  $171^\circ$  and high in the sky at about  $62^\circ$  and you will see this beautiful star cluster. Late January/early

February it will have moved a little, to about  $181^\circ$  and  $63^\circ$  above the horizon.

**George Danny**

## Members' Page

# Astronomy Calendar 2017

## Useful viewing dates for Stargazing

### JANUARY

#### Planets visible by eye this month

Mercury, Venus, Mars, Jupiter, Saturn

*(Uranus and Neptune may also be visible in the evenings with a powerful telescope)*

#### Quadrantids Meteor Shower

Active between **1<sup>st</sup> - 6<sup>th</sup> January** – Peak on the night of **3<sup>rd</sup> January**

#### Moon

**12<sup>th</sup> Full Moon**      **28<sup>th</sup> New Moon**

### FEBRUARY

#### Planets visible by eye this month

Mercury, Venus, Mars, Jupiter, Saturn

*(Uranus and Neptune may also be visible in the evenings with a powerful telescope)*

#### Moon

**11<sup>th</sup> Full Moon** (Penumbral Lunar Eclipse)

**26<sup>th</sup> New Moon**

### MARCH

#### Planets visible by eye this month

Mercury, Venus, Mars, Jupiter, Saturn

*(Uranus may also be visible in the evenings with a powerful telescope)*

*(Neptune may also be visible in the mornings with a powerful telescope)*

#### Moon

**12<sup>th</sup> Full Moon**      **28<sup>th</sup> New Moon**

**Vernal Equinox 20<sup>th</sup> March @ 10:28 GMT** - Day and Night are the same length

### APRIL

#### Planets visible by eye this month

Mercury, Venus, Mars, Jupiter, Saturn

*(Uranus and Neptune may also be visible in the mornings with a powerful telescope)*

#### Moon

**11<sup>th</sup> Full Moon**      **26<sup>th</sup> New Moon**

#### Lyrids Meteor Shower

Active between **16<sup>th</sup> - 26<sup>th</sup> April** – Peak on the night of **22<sup>nd</sup> April**

## Members' Page

# Astronomy Calendar 2017

## Useful viewing dates for Stargazing

### MAY

Planets visible by eye this month

Mercury, Venus, Mars, Jupiter, Saturn

(Uranus and Neptune may also be visible in the mornings with a powerful telescope)

Eta Aquarid Meteor Shower

Active between **24<sup>th</sup> April - 20<sup>th</sup> May** – Peak on the night of **5<sup>th</sup> May**

Moon

**10<sup>th</sup> Full Moon**      **25<sup>th</sup> New Moon**

### JUNE

Planets visible by eye this month

Mercury, Venus, Mars, Jupiter, Saturn

(Uranus and Neptune may also be visible in the mornings with a powerful telescope)

Moon

**9<sup>th</sup> Full Moon**      **24<sup>th</sup> New Moon**

**Summer Solstice 21<sup>st</sup> June @ 04:24 GMT** – Longest Day / Shortest Night

### JULY

Planets visible by eye this month

Mercury, Venus, Jupiter, Saturn

(Uranus and Neptune may also be visible in the mornings with a powerful telescope)

Moon

**9<sup>th</sup> Full Moon**      **23<sup>rd</sup> New Moon**

Southern Delta Aquarids Meteor Shower

Active between **15<sup>th</sup> July - 20<sup>th</sup> August** – Peak on the night of **28<sup>th</sup> July**

Alpha Capricornids Meteor Shower

Active between **3<sup>rd</sup> July - 15<sup>th</sup> August** – Peak on the night of **30<sup>th</sup> July**

### AUGUST

Planets visible by eye this month

Mercury, Venus, Jupiter, Saturn

(Uranus and Neptune may also be visible in the mornings with a powerful telescope)

Moon

**7<sup>th</sup> Full Moon (Partial Eclipse)**      **21<sup>st</sup> New Moon**

Perseids Meteor Shower

Active between **17<sup>th</sup> July - 24<sup>th</sup> August** – Peak on the night of **12<sup>th</sup> August**

## Members' Page

# Astronomy Calendar 2017

## Useful viewing dates for Stargazing

### SEPTEMBER

#### Planets visible by eye this month

Mercury, Venus, Mars, Jupiter, Saturn

(Uranus and Neptune may also be visible in the mornings with a powerful telescope)

#### Moon

**6<sup>th</sup>** Full Moon                      **20<sup>th</sup>** New Moon

**Autumnal Equinox 22<sup>nd</sup> September @ 20:02 GMT - Day and Night are the same length**

### OCTOBER

#### Planets visible by eye this month

Venus, Mars, Jupiter, Saturn

(Uranus and Neptune may also be visible with a powerful telescope)

#### Moon

**5<sup>th</sup>** Full Moon                      **19<sup>th</sup>** New Moon

#### Draconids Meteor Shower

Active between **6<sup>th</sup> October - 10<sup>th</sup> October** - Peak on the night of **7<sup>th</sup> October**

#### Orionids Meteor Shower

Active between **2<sup>nd</sup> October – 7<sup>th</sup> November** – Peak on the night of **21<sup>st</sup> October**

### NOVEMBER

#### Planets visible by eye this month

Mercury, Venus, Mars, Jupiter, Saturn

(Uranus and Neptune may also be visible in the evenings with a powerful telescope)

#### Moon

**4<sup>th</sup>** Full Moon                      **18<sup>th</sup>** New Moon

#### Taurids Meteor Shower

Active between **20<sup>th</sup> October - 30<sup>th</sup> November** – Peak on the night of **5<sup>th</sup> November**

#### Leonids Meteor Shower

Active between **10<sup>th</sup> November - 23<sup>rd</sup> November** – Peak on the night of **17<sup>th</sup> November**



**Members' Page**  
**Astronomy Calendar 2017**  
**Useful viewing dates for Stargazing**

**DECEMBER**

**Planets visible by eye this month**

Mercury, Mars, Jupiter, Saturn

(Uranus and Neptune may also be visible in the evenings with a powerful telescope)

**Moon**

**3<sup>rd</sup> Full Moon (Supermoon)                      18<sup>th</sup> New Moon**

**Geminids Meteor Shower**

Active between **7<sup>th</sup> December - 15<sup>th</sup> December** – Peak on the night of **13<sup>th</sup> December**

**Ursids Meteor Shower**

Active between **17<sup>th</sup> December - 25<sup>th</sup> December** - Peak on the night of **22<sup>nd</sup> December**

**Winter Solstice 21<sup>st</sup> December @ 16:28 GMT– Shortest Day / Longest Night**

**N.B. New Moons:**

This is the best time of the month to observe faint objects, such as galaxies and star clusters, as there is no moonlight to interfere with your viewing.

**\* Happy Stargazing! \***

Gill P.

*Thanks to Gill for putting this amazing list together Danny :-)*

## Did You Know ?

### CASSIOPEIA the CONSTELLATION

CASSIOPEIA also known as “The Lady of the Chair” is the distinctive “W” shaped asterism, (*a recognisable formation of stars*). **Cassiopeia** was first noted by the Greek mathematician/astronomer Claudius Ptolemy b 100 AD d 168 AD. It's perhaps one of the easiest constellations to spot in the night sky because all of its stars are bright enough to see clearly. It's one of the constellations which are circumpolar, (*remains visible in the northern hemisphere all year round*).

The constellation contains some 53 stars but the 5 that form the “W” (sometimes its sideways or even upside down, i.e. an “M”) are among the brightest ones.

In Greek mythology Queen **Cassiopeia** was the wife of King **Cepheus** and mother to **Andromeda**. Cassiopeia is the 25<sup>th</sup> largest of the 88 constellations.

Looking west, Cassiopeia is seen locally (Margate Kent) at the time of publication on its side with the bottom of the “W” to the left and the 5 main stars, from bottom to top, are :-

[1] **Caph** 54 light years away.

Caph is a yellow/white giant star, with a surface temperature around 6726°C. It is more than three times the size of our Sun and 28 times brighter.

[2] **Schedar** 228 light years away.

This star was officially named by the International Astronomical Union on the 21<sup>st</sup> August 2016, and is almost 50 times the size of our **Sun**. **Schedar** is designated the Alpha or main star and Caph is the Beta or second brightest. In fact there is very little difference between them.

[3] **Navi**, 549 light years away.

This star, was named by the astronaut Virgil Ivan “Guss” Grissom, by spelling his middle name backwards. The name was retained as a memorial to him after he died in the Apollo 1 fire in 1967. Incidentally, his first name, Virgil, was also used as one of the characters in the children’s series Thunderbirds. The other 5 puppets John (Glenn), Gordon (Cooper), Alan (Shephard) and Scott (Carpenter).

[4] **Ruchbah**, 99 light years away.

Ruchbah is Arabic for “knee”. This star lies almost 100 light years away which means that the light emitted from it takes 100 years to reach us so we are seeing it as it was 100 years ago.

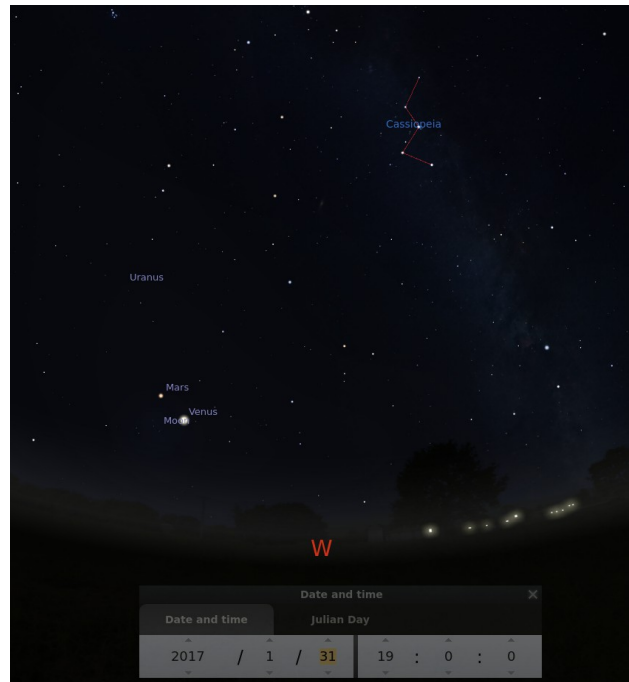
[5] **Segin** 440 light years away.

Segin is 2500 times brighter than our **Sun**.

There are just 2 Messier objects in **Cassiopeia**, and both of them are open clusters

**M52** ( NGC 7654) and **M103** (NGC 581).

George W.



*Cassiopeia looking west 31 Jan 2017 @ 7pm*

## Junior Astronomers' Club (JAC & Gill)

### JAC and Gill News

Happy New Year to everyone!!!

I wonder what exciting things will happen this year and if they will surpass all the amazing things that happened last year in the Space and Science world!

JAC and Gill have already had many younger visitors at our Saturday meetings, ranging from 2 years old to 15, following in the footsteps of previous intrepid young explorers.

One of the nicest things about helping the children to learn about the stars and planets is being able to incorporate the myths and legends alongside the facts.

Can you guess which constellation this story is about?

### [Time for JACanory...](#)

Many moons ago, there was a little star called Forgets to Twinkle who lived with his Seven Sister Stars as part of the Great Star Nation in the sky. The Seven Sisters had the important job of holding the Seven Sacred Directions of North, South, East, West, Above, Below and Within.

However, Forgets to Twinkle wasn't sure what his important job was and he was sometimes so sad that he forgot to keep his light shining brightly...which is how he got his name.



*Pleiades or The Seven Sisters*

One sleep, when Grandmother moon was showing her full face, Forgets to Twinkle asked her permission to leave the Sky Nation and go nearer to the Earth Mother to find out more about her. Grandmother Moon gave her permission but warned the little star not to go too close to the Earth Mother's magnetism or it could hold him and stop him from returning home.

Forgets to Twinkle promised he would take great care and set off through the Sky Nation until he was hovering above the clouds near the Sacred Mountain. As he looked down, he could see all the different Creature Tribe children playing on the Earth in the moonlight. One of the Creatures, called Coyote, shouted up to Forgets to Twinkle and invited him to join them in their game. Forgets to Twinkle was really excited and forgot about Grandmother Moon's warning not to get too close.

As he got closer, dancing in the sky above the Creature Tribe, Coyote started talking to the Little Star very softly to try to persuade him to come even closer. Suddenly, Coyote opened his mouth and "SNAP!" he gobbled the Little Star up whole in one gulp!

Forgets to Twinkle was so scared that he forgot to twinkle and Grandmother Moon could no longer see him from the Sky Nation. She sent the Stars-with-Tails to search for him but the Little Star was nowhere to be seen.

Inside Coyote's tummy, Forgets to Twinkle tried to remember everything his Seven Sisters had taught him. He had always thought his light was not as pretty as theirs but he decided he would have to try to be as bright as he could to let Grandmother Moon know where he was.

## Junior Astronomers' Club (JAC & Gill)

### JAC and Gill News

He huffed and he puffed as hard as he could to send all of his light into his little star body. Coyote was shocked when the whole of his furry body lit up. The Stars-with-Tails spotted the bright light and chased Coyote. He ran and ran but had nowhere to hide. In his panic to escape, he opened his mouth and spat the Little Star out!

The Stars-with-Tails spread the news that Forgets to Twinkle was safe but he was now trapped in the Earth Mother's magnetism so could not return home. He was still shining brightly but no-one could rescue him or they would be trapped themselves.

The Little Star called out to the Earth Mother to ask her to release him but she explained that if she did release him then all her Earth Creatures would fall off the earth and go flying into the sky. The Earth Mother said he would have to become one of the Creature Tribe but gave him a choice to decide which creature he would like to be.

Forgets to Twinkle was sad but knew he had not followed Grandmother Moon's warning so must live with his actions. He still wanted to see the world from above and wanted to let his Sky Relations know where he was, so he decided to be a Flying Creature of the Insect Tribe.



*Seven Sisters in the constellation Taurus the bull*

His little light still shines to let his Seven Sisters in the Great Sky Nation know he is thinking of them and to remind all his other Little Brother and Sister Stars to pay attention to the wisdom of their Elders.

Forgets to Twinkle now has a new Earth name and we know him as the Firefly!

Every night, he looks up to the Sky Nation and can see his Seven Sisters watching over him in the Constellation of Pleiades.

*The Seven Sisters or Pleiades is the star cluster at the top of the picture on the left.*

Did you identify the Seven Sisters as the constellation of Pleiades?

It is our Thanet Astronomy Group logo and we proudly adopted Pleiades when the Group first began as it is a unique and special group of stars which can easily be seen by eye!

*Reach for the stars!*

Gill Palmer.

### Adult Word Search

COSMOLOGY	EXOPLANET	GALAXIES
GOLDILOCKS	KEPLER	MARS
PLEIADES	STARGAZING	SUBARU
TRANSIT	VENUS	ZONE

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

Danny.

## Junior Word Search

GALAXIES    HABITABLE    KEPLER  
MARS        PLEIADES     STARGAZE  
TRANSIT    VENUS        ZONE

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

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 anything 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](mailto:thanetastronomygroup@gmail.com)

Or call Danny 01843 228904 or George 01843 292640

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We will be adding to this list for 2015 and 2016 newsletters when time is available.

The list will be published at the end of the newsletter so you can easily identify where articles were published.

The Index will also be published on the newsletter page of the website.