Stargazing Live!

Observing the Winter Skies

How to find your way around
&
Start observing
Malcolm Zack and Steve Richards
Loughton Astronomical Society
January 2012
Why stars rise and set

The Loughton List - our favourite sights

Favourite books

Introduction to key signposts and some winter stars

Using Binoculars and Small telescopes

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Beginners section

Face where you think north is.
Orientating yourself

Source: H A Rey The stars – a new way to see them
In the Northern Hemisphere, it's easy to find Polaris by following the line traced from Merak to Dubhe (β and α Ursae Majoris, also known as the Pointers), the two stars at the end of the Plough.
As the earth rotates through 24 hrs, the stars appear to rotate around a single point which is currently very near Polaris.

Rotation of the Earth and the position of the stars
How we see the sky

Figure 10: The Sky We See: A Half-Globe
Why we only see some stars

Figure 11: The Sky as a Full Globe
Figure 12: The Sky Globe Rotates
But its not the sky turning, its you

The Earth rotates, turning towards the east.

The objects in the sky which are, for our purposes fixed, appear to move up, across the sky and set in the west.

Demo.
The Winter Hexagon....

- Brightest star in Auriga
- Capella
- Name the twins...
- Castor and Pollux
- Bright star in the little dog
- Procyon
- Brightest star in the sky
- Sirius
- Blue white foot of Orion
- Rigel
- Bright eye of Taurus the Bull
- Aldebaran
- And...the 8th bright star (on Orion’s shoulder) – the red giant
- Betelguese

Gemini – The Twins. Two matchstick men. Castor is a multiple star system.

Orion – The Hunter. Belt, Sword Club and Shield

Taurus the Bull.

Canis Minor. (little dog – pretend it’s a sausage dog!)

The Messier objects 36, 37 and 38 in Auriga
35 in Gemini
The Loughton List

An observing guide for beginners, members and anyone else out there......

Version 1.2 released in September 2011
Free download in .pdf form from the LAS website
The list for tonight

- **Nebulae – M42**
- **Clusters - Easy**
  - M45, Hyades, M34, 35, M36, M37, M38, Col 69, Col 70, Mel 20, The Double Cluster, NGC 1981
- **Clusters – Moderate**
  - NGC 957, M41, NGC 1647, 7789, the “37” cluster, Stock 2
- **Interesting Stars**
  - Algol, The Garnet Star, Mizar/Alcor
- **Galaxies**
  - Bodes and the Cigar
- **Asterisms**
  - Cheshire Cat, Mini Coathanger, The engagement ring, Kembles Cascade
Welcome to the LAS website.

The Loughton Astronomical Society is the home of all things astronomical in West Essex. We meet on Thursday evenings between 8:00 and 10:00 p.m. in the Scout Hall, off Loughton Lane, Theydon Bois, Essex (next to the Cricket Club). Guests are always welcome; just drop in to one of our Thursday meetings. Click the “Map” tab above for details of how to find us.

We welcome all levels of experience from the absolute beginner to the experienced astronomer. Our programme includes astronomy, cosmology, stars, planets, space travel, space probes and the universe around us. If you are serious about astronomy or just curious, want to learn or just fill an evening then why not come along and see us. If you would like to look through one of our telescopes then just turn up to one of our observing evenings. Sorry we cannot guarantee the weather.

If you are driving we do have a car park. If you are using public transport then take the Central Line to Theydon Bois and walk across the village green. There are buses from Harlow and Romford. Meanwhile, why not browse around our website?

For our younger observers, aged 6-14, we have a junior section called Astrokyds. This meets every second Friday of the month (except April and August) at 6:30 p.m. in St. Mary’s Church Hall, next to the Village Hall. This is also shown on our map. Please bring a responsible adult or guardian with you. Beware, you may find your parents enjoy the evening almost as much as you do.

Next 3 Thursday Evening Meetings

22 Sep 2011  Open – Titbits.
29 Sep 2011  Open – Observing.
06 Oct 2011  Malcolm & Steve (?) – Autumn Skies
* Outside Speaker

Other Astronomy Events Coming Up

29 Sep 2011  Opposition of Uranus
08 Oct 2011  Draconid Meteor Shower - Observing at Scout Hall - Open To Visitors

The Loughton List

Download the latest version 1.2 (September 2011) of the Loughton List here. Just click on the link below.

Loughton List V1.2 Download →
New Loughton List Web Page →

On the Gallery Page
Welcome to the Loughton List Page

An observing guide for beginners, members and anyone else out there...

The Loughton List is both a list and a document crammed with observing information. The objects chosen for this list are all visible in real UK skies. You don't need to go to some far off mountain top to see these objects.

There are three categories. The "Bronze" objects are easy to find and easy to see. You do not need expensive equipment. The "Silver" objects provide just a little more challenge but should be within most peoples grasp. The "Gold" objects need a bit more patience and a reasonable telescope.

Theydon Bois (London)
But I am a long way from Theydon Bois (London).
Download Version 1.2 of the Loughton List here
Not sure what to observe - Try our lucky dip.
Or just go for tonight's LAS Meridian Challenge.

To update the sky chart on the right use the simple control panel at the bottom of the page. If you want to see the sky for other dates and times or want a larger chart, then click the link to our Full e-Sphere Control Panel below.

Go to Full Loughton List e-Sphere Control Panel

- e-Sphere Controls
Select Time in UT
17:00 18:00 19:00 20:00 21:00 22:00 23:00
24:00 01:00 02:00 03:00 04:00 05:00 06:00
Select Grade of Object
Bronze Silver Gold All
Update
So……

Find North and orientate yourself
Follow the winter hexagon
Learn the star names.
If you have binoculars or small telescope use the Loughton List!
Next……… We will cover basic intstruments, observing tips, equipment and books.