

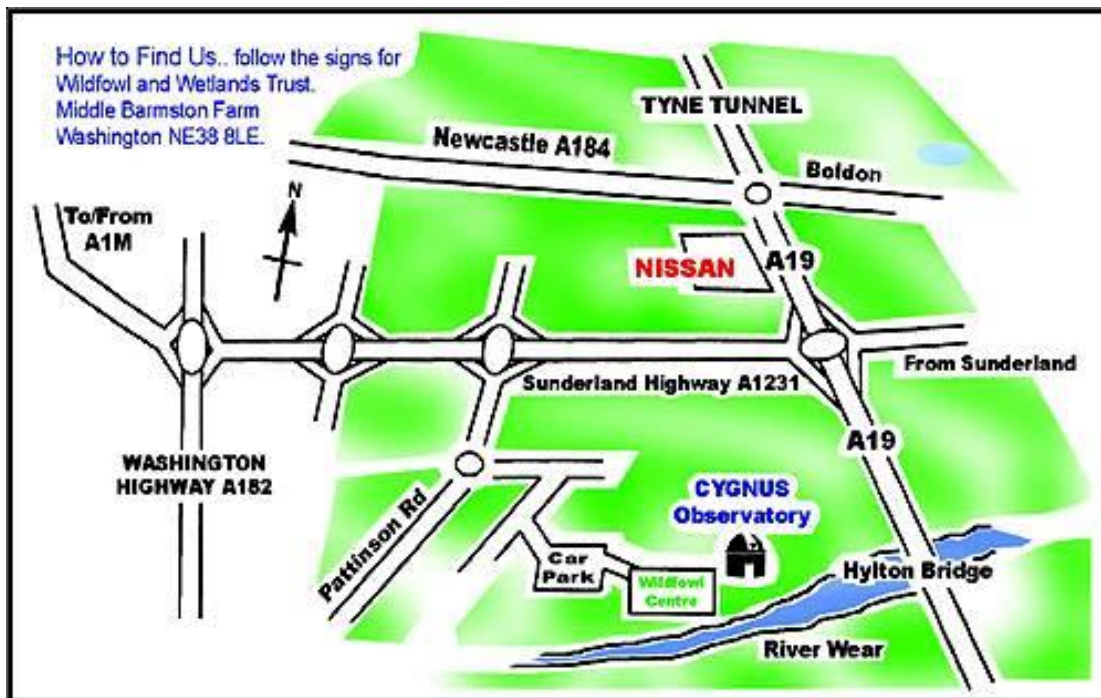
# Visit the Cygnus Observatory

The North East's premier astronomical facility, run by the Sunderland Astronomical Society.

- Learn about the origin and evolution of the universe
- Find out about the Sun, Moon and Solar System
- See the telescope and observatory in operation

## Who are we?

The Sunderland Astronomical Society was formed in 1993 by a small number of enthusiastic amateurs. The Cygnus Observatory in the Washington Wildfowl and Wetlands Trust (WWT) was built by members of the Society, and was opened by the 14<sup>th</sup> Astronomer Royal, Sir Arnold Wolfendale, on 2 October 2002. The new observatory was named after the constellation of Cygnus, the Swan, because of the connection to the Wildfowl trust. The Cygnus Observatory is run on a voluntary basis and is for the use of members of the Society and the public, with supervision.

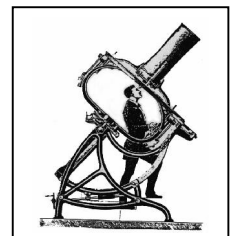


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# Activities for schools

Set within the grounds of the Washington Wildfowl and Wetlands Trust, a visit to the observatory can be arranged either separately or as part of a structured visit to the wildfowl park during their regular opening hours. The observatory and WWT facilities can be opened on an evening by prior arrangement with the Society.

## Inside the dome

Because of the size of the observatory, only small groups can be taken inside the actual observatory at one time.

- Here we will show you how the observatory dome is opened and how it can be turned.
- How to aim and control the Meade LX200 telescope.
- Use different eyepieces and equipment to view the Sun, Moon and other astronomical objects (weather permitting)

## Outside the dome

The Society has a range of other telescopes which can be set up on the patio area (weather permitting) to look at astronomical objects, or inside the Discovery Centre in the WWT building.

- We will show you how to use different types of telescopes
- Explain the different designs of reflecting and refracting telescopes
- See how the view changes with different telescopes and eyepieces.

## Inside the Discovery Centre

The Society can use our digital projector and laptop to give you a general tour of the universe, or a presentation on a more specific topic, according to your requirements.

For our younger visitors, short films and demonstrations can be given interspersed with hands on activities e.g. building a model of the solar system and quizzes.



The 14 inch Meade LX200 telescope of the Cygnus Public Observatory was funded by the kind support of the **City of Sunderland's Strategic Initiative Budget**

# Astronomy and education

A visit to the Observatory can be used to demonstrate many topics within the National Curriculum, particularly **science**.

If we know in advance what your requirements are, we can ensure that we cover a range of subjects, including:

- What is meant by the terms *star*, *planet*, *moon*, *galaxy*, and so on
- The nature of light and the electromagnetic spectrum
- Optics
- Gravitation, orbits, satellites and rotation
- The seasons
- Phases of the moon and tides
- Eclipses
- The Solar System: Sun, Moon, planets, comets and meteors
- Black holes, galaxies and quasars
- Stars as nuclear reactors
- The lifecycle of stars
- Energy, temperature, radiation and convection

## History

- The origin and evolution of the universe
- Comets and the origins of life
- Meteorites and the extinction of the dinosaurs
- The invention of the telescope and the impact of astronomy/spaceflight in history
- Astronomy in navigation and timekeeping
- Astronomy in the North East, including The Venerable Bede and T.W. Backhouse

Weather permitting, practical use of the telescopes will demonstrate

- How the Earth turns, making the Sun and stars move across the sky
- Why motors are needed to keep a telescope pointing at the same object in the sky
- How to view sunspots safely
- Using different eyepieces to change the magnification
- How to use well known constellations of stars to navigate and find objects with a telescope.

**Please contact us to discuss your requirements –** our details are on the front page of this leaflet.

