Getting Started: Equipment

**Binoculars**

You probably already have a pair of binoculars and if not, you don’t have to spend a lot to get a good quality pair and they can help you to enjoy many aspects of nature – not just the dark sky. Binoculars are very easy to use, lightweight and they are good for looking at the Milky Way, star clusters, bright galaxies and even the moons of Jupiter!

The best sizes are a 10 x 50 or 7 x 50. The first number refers to the magnification and the second the diameter of the two lenses which the collect light. Larger binoculars will show you more, but they become heavier and are more difficult to use without a tripod.

You can buy a pair of reasonable quality 10 x 50 binoculars for around £60.

**Telescopes**

Telescopes give better views of planets and star clusters, but the downside is that they are more difficult to use. They have a narrower field of view so finding objects can be tough at first. If you decide to buy a telescope keep it simple and portable. You can spend hundreds (and thousands!) of pounds on hi-tech instruments which automatically pick out objects and track the stars as they move across the sky.

**Refracting Telescope**

To start with, though, a good telescope to start with is a very simple wide-field refractor type telescope (which uses a lens to collect light) on an equally simple, but stable tripod and mount called an Alt-Az mount – which allows the telescope to be pushed up and down and left and right.

You don’t need to spend a fortune. A good manual refracting telescope can be bought for about £180. This won’t find the stars for you, but it will give you good views of things like the rings of Saturn, lunar mountain chains and brighter nebula where stars are born.
Binoculars vs Telescopes

Binoculars 147

Advantages
- Low cost
- Easy to use
- Easy to transport

Disadvantage
- Limited magnification

Reflecting Telescope

Advantages
- Low maintenance
- Easy to set up and use
- Relatively inexpensive

Disadvantages
- Bulkier and heavier than binoculars
- Needs a tripod

Reflected Telescope

Advantages
- Captures more light

Disadvantages
- More bulky and heavy
- More complicated to maintain

Reflecting Telescope

A more powerful but also simple to use telescope is a reflector on a Dobsonian mount. Instead of using a lens to collect the light, it uses a mirror. You look through the telescope at the top. Because mirrors are cheaper to make than lenses, you get more telescope for your money. Again this kind of set-up will not automatically track the stars so you move it manually up and down and left and right.

These are more expensive than refracting telescopes, but capture about four times more light, so give you better images. A good starter reflecting telescope will cost in the region of £280.

Red torches

If you want to be able to see what you’re doing with your binoculars or telescope without reducing the darkness of the sky, you’ll need a red torch.

Preserving night vision is important when viewing the stars – you see so much more when your eyes are attuned to low light levels. It takes about 20 minutes for your eyes to get adjusted, but white light destroys this in seconds and means you have to start again! In contrast, red light can be used without much of a detrimental effect. A red head torch can make life easier!

Buy them from Once Brewed National Park Centre or other outlets around the International Dark Sky Park.