



DEPARTMENT OF PHYSICS
Quantum Buddies

Build Your Own Spectroscope

Teacher Building Notes

Safety:

- Cutting out eyepiece and objective-slot may require the use of a craft knife, but should be achievable using a good pair of scissors
- NEVER look directly at the sun through a spectroscope.

Equipment:

For Scopes:

Diffraction film (each scope needs 1.5x2cm piece)

eg. <http://www.amazon.co.uk/Diffraction-Grating-Sheet-Linear-Lines/dp/B007G0J1RU>

£3.90+£3del. -> ~150 pieces so 4.6p per scope

Card (preferably matte black)

Double sided tape

Scissors

For teaching:

Coloured cellophane (to use as filters) – these are reusable

eg. <http://www.amazon.co.uk/A4-Cellophane-Clear-Film-Sheets/dp/B002R5RRTI/>

Different types of bulbs (eg. Sodium, neon)

Notes on Building:

- Templates can be transferred onto black card by students or glued onto card directly to form the outside of the box (a dark matte surface is only recommended for inside the box).
- Diffraction film should be cut such that diffraction patterns are parallel to long edge of film. Check by looking at a light through the film and checking that the patterns you see match the adjacent photos for each orientation of the film.
- The diffraction film should be stuck to the inside of the box (double sided tape should be put on the other side for sticking box together)
- The box can be scaled up or down as necessary

