

RESOURCES NEEDED

All the lessons benefit from having access to a computer and data projector to show images, videos and animations. It is helpful to print out and laminate a set of the images, especially those of the planets, so they can be re-used.

LESSON NO	EQUIPMENT	WORKSHEETS
1	<ul style="list-style-type: none"> ■ laptop and data projector or access to network room and screen ■ 'seeingscience' CD-ROM ■ light source ■ selection of luminous and non-luminous objects ■ football ■ tennis ball ■ globe ■ images of planets, asteroids, comet, printed on card ■ A4 blank paper 	<ul style="list-style-type: none"> ■ starter activity 'True/False' (enough for one each)
2	<ul style="list-style-type: none"> ■ laptop and data projector or access to network room and screen ■ 'seeingscience' CD-ROM ■ football ■ tennis ball ■ globe ■ Moon ball / half black polystyrene ball 	<ul style="list-style-type: none"> ■ card sort game ■ orbits either as OHP or sheets to distribute ■ 1999 solar eclipse sheet - 'A day to remember' (one each) ■ Solar System Loop game, cards pre-cut and stuck ■ sample Solar System concept map ■ space glossary ■ 'phases of the Moon' flicker book
3	<ul style="list-style-type: none"> ■ 'Concept cartoon 14.11' (as an OHT or as copies for pupils to look at in pairs) ■ different sized balls, paper and pens, torches, modelling clay, black paper etc ■ 'seeingscience' CD-ROM or access to www.seeingscience.cclrc.ac.uk 	<ul style="list-style-type: none"> ■ statement cards ■ Taboo cards
4 and 5	<ul style="list-style-type: none"> ■ image 'Is there water on Mars?' ■ audio machine ■ audio CD-ROM ■ video of space scientists at the CCLRC (on CD-ROM) 	<ul style="list-style-type: none"> ■ newspaper articles ■ website extract ■ page on Copernicus ■ diary ■ postcard ■ astronomers from the past worksheet ■ present day space scientists worksheet

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6	<ul style="list-style-type: none"> ■ animation of how stars and planets might form (on CD-ROM) ■ 'yes', 'no', 'not sure' cards ■ completed fact sheets ■ 'New planets' sheet 	<ul style="list-style-type: none"> ■ criteria for establishing whether Pluto is a planet or not ■ information package from the CCLRC (one per group) ■ images of objects in space (one per group) ■ blank fact sheet ■ evidence sheet or evidence sheets for Pluto, Mars and Earth
7	<ul style="list-style-type: none"> ■ access to computer facilities with the 'Mission to Pluto' game already loaded ■ access to PowerPoint facility with Pluto information and the 'Missions' presentation ready ■ video of space test facilities at the CCLRC (on CD-ROM) 	<ul style="list-style-type: none"> ■ list of instruments available ■ template for letter to the CCLRC
8 and 9	<ul style="list-style-type: none"> ■ PowerPoint template 	

Useful resources available

- PPARC (Particle Physics and Astronomy Research Council) produces excellent resources for schools which can be ordered on-line at www.pparc.ac.uk/Ed/pubs.asp#WorkPacks or from Publicity Team, PPARC, Polaris House, North Star Avenue, Swindon SN2 1SZ or email pr.pus@pparc.ac.uk
- Planet Science website has web versions of the resources on the ASE's (Association for Science Education) CD-ROM 'Is there life?' which is about space and space exploration. Try the section on Planet 10 at www.scienceyear.com/sciteach/online_resource/is_there_life/index.html
- BNSC (British National Space Centre) has some good web resources, especially in The Learning Zone, at www.bnsc.gov.uk/index.cfm?pid=859
- The Cornwall College website has some useful diagrams about the positions of planets and the phases of the Moon at www.cornwall.ac.uk/space
- Look out for 'suntrek' an educational guide to the Sun and its effect on the Earth. Details on www.suntrek.org