

Using IT in... earth and space

When does the day begin and end?

You can use a **light sensor** to record the light levels over 48 hours. A graph on the computer will show rising and falling light levels and you can get the children to look at this: which part of the graph shows day time? Which shows night time? Is there light at night? When does the day begin? When does it end?

IT: Measuring

How do 'lighting-up' times change during the

	A	B	C	D	
1	Which is the best launch angle?				
2	Angle	Try	Try	Try	At
3	10				
4	20				
5	30				
6	40				
7	50				

term?

You can collect lighting-up times from a newspaper or almanac and record them in a **spreadsheet** program. You can make a table and a bar graph. The bar graph should show that the times decrease towards June and increase after it.

You might also do the same to compare lighting-up times between the North and the South of the country. Get a globe and a lamp (i.e. a sun) and try to predict if it gets darker in the North earlier or later than the South. Does your bar graph agree with your prediction?

IT: Handling information

People ring your door buzzer at night. Make a buzzer that only works during the daytime.

You can use **control technology** to design and make an automated system to do this. You need a buzzer and a **light sensor** and you use the program to check the light level and control when the buzzer works. See the Control section for like examples.

See the control topic

IT: Control



Section

3

How do shadows tell the time?

You can place a stick in the ground and record the angle or the length of the shadow at set times throughout the day. You can enter your results into a **spreadsheet** program and plot a bar graph. How does the length of the shadow change? How does the angle of the shadow change? Which of these help you to tell the time?

	A	B	C	D	
1	Sunrise and Sunset				
2	Date	Lights off	Lights on	Length day	Le
3	1/Dec/91	7:45	15:53	8:08	
4	8/Dec/91	7:54	15:49	7:55	
5	15/Dec/91	8:01	15:48	7:47	
6	22/Dec/91	8:06	15:50	7:44	
7	29/Dec/91	8:08	15:55	7:47	

IT: Handling information

Make a solar panel that always points towards the light?

A solar panel is not much good if it's not pointing towards the sun. You can use **control technology** to make a sun-seeking solar panel. It consists of a motorised turntable and two **light sensors**. You write a control program which compares the light level from each sensor and then turns the turntable left or right to point towards the light.

IT: Control

All about the planets

There are legions of television programs, **Internet** pages about space. You can get the children to prepare a travel agent's poster for a holiday on one of the planets. You will find pictures of planets, stars and space craft that you can use in poster work and multimedia presentations.

IT: Modelling

Which is the biggest planet?

You can use a book or the **Internet** to find out about the sizes of the planets and put the data in a **spreadsheet** program. You can sort the list to put the biggest planets at the top. You can also use the program to draw a bar graph and ask: which planet is the biggest? Can you sort the planets into two groups, big planets and small planets. Where did you draw the dividing line between big and small?

IT: Handling information