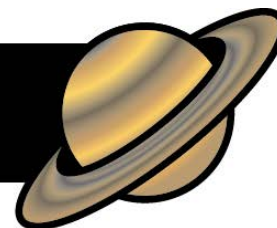


Introducing *Celestia*



Use *Celestia* to explore the Solar System.

Keyboard shortcuts and mouse actions will help you get around. You can also use drop-down commands in the tool bar.

ACTION	MOUSE ACTION	KEYBOARD COMMAND
zoom in or out	scroll wheel	home or end keys
move selected object	hold left button down while moving mouse (Macintosh: hold button down while moving mouse)	
move object to centre	double-click	C (with object selected)
tilt up or down, or rotate around object		keyboard arrows
show or hide information text		V
move around an object	hold right button down while dragging mouse (Macintosh: hold option key and button down while moving mouse)	
speed up time		L (10 times faster for each press)
slow down time		K (10 times slower for each press)
changes time direction		J
normal speed		\
pauses or resume		spacebar
synchronises with object		Y
normal viewing state: 'follow'		F
current date and time		!
go to a planet		press <planet number> then G Mercury is 1, Venus 2, Earth 3, Mars 4 ...
go to the Sun ('Home')		H then G
orbit lines on or off		O
planet labels on or off		P
Moon labels on or off		M
go to a named object		Type <return/enter>, name of object, <return/enter>, G Eg <return> Cassini <return> G

Earth

1. Experiment with your view of Earth using different keyboard and mouse commands. Change the speed of time.

When it's daytime in Australia, which continent is in darkness?

.....

2. Centre your view of Earth (C) and make sure information display is on (V). Speed up time (L) until you can see the Moon travelling in its orbit.

Move away from Earth (end) until the Moon passes in front of you in its orbit. How far from Earth are you now?

.....

Moon

3. Find the Moon (<return> moon <return> G).

Does the Moon have night and day?

.....

4. Does the Moon go around Earth?

.....

5. Does the Moon go round the Sun?

.....

6. How big is the Moon (what is its radius)?

.....

Planets

7. Turn on orbit lines (**O**), centre on the Sun (**H, G**), and zoom out several times (**end**). Use the mouse (right click hold and drag) to move around until you are looking down on the planets' orbits. Use the menu bar to set the date to the day you were born. Zoom out further until you can see at least the four inner planets (Mercury, Venus, Earth, Mars).

Sketch the Solar System with the position of the planets on the day you were born. Think of a clock face to help you copy from *Celestia* to paper.

8. Which was the closest planet to Earth when you were born? Compare with other students and your teacher. Do your answers vary?

Your answer: (*birthday*:) *closest planet*:

student 1: (*birthday*:) *closest planet*:

student 2: (*birthday* :) *closest planet*:

teacher: *closest planet*:

9. Speed up time. Do all the planets orbit Earth in the same direction?

.....

Planets

10. Turn text on (V), then visit each planet (<planet number> G) to complete the table below. Type M to turn Moon names on or off.

NUMBER	PLANET	COLOUR	RADIUS km	TYPE rocky, gas/ice giant	MOONS 0, 1, 2, many
1					
2					
3	Earth	blue and green	6,378 km	rocky	1
4					
5					
6					
7					
8					

Satellites and spacecraft in the Solar System

11. Satellites and spacecraft sent into space have sent back some of the pictures used in *Celestia*. Find out where spacecraft *Cassini* is now (<enter> Cassini <enter> G). Zoom out (a long way) and move around to find which planet *Cassini* is studying.

Which planet is *Cassini* studying?

.....

12. Turn on orbit lines. Describe *Cassini*'s orbit (the red lines).

.....

