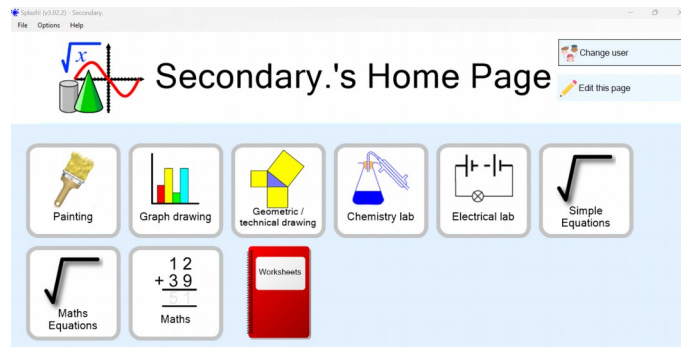


1. Secondary Algebra and Equations

Splash! Secondary

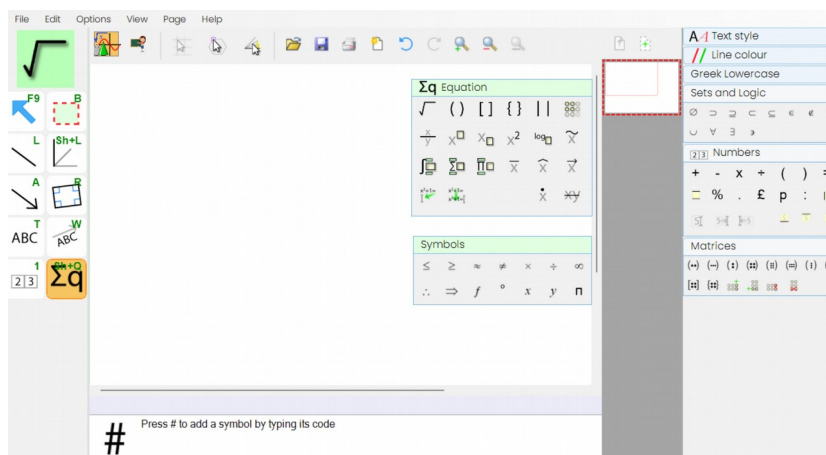
Splash! Secondary lets you set out and solve algebraic, chemical and physics equations as a keyboard, mouse and pointer user. From the Home Page select Maths Equations.



Maths Equations

The Maths Equation Student Activity Workspace has tools on the left panel and equation functions in the right palettes.

The palettes can be undocked from the right sidebar by holding down left click and moving to a different place on the screen. They also can be resized by hovering over the bottom right corner of the box until the \leftrightarrow arrow appears then hold down left click and move the mouse to resize.



The Equation Tool (Sh+Q)

When this is selected the symbolic text entry functionality is enabled. Click in the work space at the point where you want to start your equation and use the onscreen palettes or the keyboard to enter your equation.



Writing an equation: $(x^2+5)(x+4)$

Keyboard users →

Type: open bracket, x, up arrow, 2, down arrow, +, 5, right arrow, open bracket, x, +, 4 right arrow, =

Pointer and Touch users can use the symbols on the on-screen palettes →

Select:

Remember to open an on-screen keyboard if you need pointer or touch access

Writing an equation using shortcuts

An alternative to using the palettes to write an equation is to use shortcuts to search the symbol you want.

To do this select the equation tool and click on the screen where you want to start your equation. Then type '#', this will appear in a blue text colour, then type the equation function you wish to search.

For example:

Type: #, l (lower case L) and this list will drop down then type "o" to jump to "log" then press enter to input it into the equation. Alternatively you can use the up and down arrows to navigate the list and then select which function you want:

| | |
|------|---------------------------|
| #l | Lower case Greek lambda |
| log | "log-n" |
| lt | Less than |
| ltae | Less than or approx equal |
| lte | Less than or equal |

#lo
log "log-n"

Then finish the equation by entering the rest of the equation:

$$\log_e (x - 1)^2$$

Keep typing the letters of the function you want until it appears – you will need to do this for upper case Greek letters

Including Fractions:

It is possible to write both horizontal and vertical fractions in Splash. To add a fraction, select the equation tool and click on the screen where you want to start typing your equation. You can use the on-screen palettes or the keyboard:

For example:

Type: #di, choose divisor horizontal, 3, down arrow, 4. The equation automatically appears in a horizontal form:

Now type: right arrow, space, x, space, #di, choose divisor horizontal, 4, down arrow, 5, right arrow, =

$$\frac{3}{4} \times \frac{4}{5} =$$

If you want the vertical style fraction:

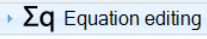
Type: #di, choose divisor, 3, down arrow, 4, The equation will now appear in the vertical form:

Now press right arrow, space, x, space, #di, (choose divisor), enter, 4, down arrow, 5. Finish by pressing right arrow and then =

$$\frac{3}{4} \times \frac{4}{5} =$$



Using the palettes:

The palettes can be used to input symbols directly into equations. Open any symbol palette by selecting its title bar e.g.  Equation editing. Once open, the palette can be dragged by the title bar over to the work space by holding down left click whilst moving the mouse. It can be resized by means of the arrow on the bottom right corner \leftrightarrow of the palette window. Palettes can be dragged back to the library and minimize at any time.



Task: Try writing these equations:

$$a^2 + b^2 = c^2$$

$$A = \pi r^2$$

$$V = \pi r^2 h$$

$$V = \frac{\pi r^2 h}{3}$$