



Operating Instructions


Most of the characters will display on the computer screen just as they appear on the key. Just push the key. It's that easy.

Special keys on the keyboard:

- **Two options keys (examples):**



As you can see, on these keys there are two different options listed--one option is large font and the other option is smaller font. A simple keypress will activate the large font option to display on the screen. To activate the smaller font option, first

press the 2nd key  and then press the desired key. Following that, it will then be reset to the

original option. For example, if you press rad/arc, you get rad. If you press 2nd, then rad/arc, you get arc.

- **Secret alphabet (example):**

The diagram shows a white square icon with the text "2nd" and a small dot below it. To its right is a plus sign, followed by a black square icon with the Greek letter π in yellow. To the right of that is an equals sign, followed by the lowercase letter "p".

If there is not 2nd option listed on a key, then the default 2nd option is the first letter of the character (for example, π become p, 9 becomes n). For letters j and k, use “(“ and “)” for code words “join” and “keep”.

While the laptop keyboard is still functional while the math keyboard is plugged in, it may be difficult for some users to reach the keyboard. The secret alphabet is useful when typing algebraic equations. If a single letter is used repeatedly, copy the character on the screen and press paste whenever it is needed.

a: add (+), approximately (≈)

b: bullet (●)

c: comma (,)

d: dot (.)

e: equals (=), eight (8)
f: f key, four (4), five (5)
g: g key, greater than (>), greater than or = (\geq)
h: horizontal line (—)
i: infinity (∞)
j: join (
k: keep)
l: less than <, less than or equal to (\leq)
m: multiply (*)
n: nine (9)
o: one (1)
p: pi (π)
q: quotient (/)
r: ray (\rightarrow)
s: subtract (-), six (6), seven (7)
t: two (2), three (3)
u: unequal (\neq)
v: vertical line (|)
w: white circle (o)
x: x key
y: y key
z: z key
 \emptyset : zero (0)

- **Start Google Docs EQ key:**



This key, featured in purple, only works in Google Docs on the first press and creates a shortcut to opening the equation editor. However, a special note for Windows OS users: The 2nd option of this key will also open the equation editor in Word or OneNote.

Once the Google Docs EQ button is pressed, after a slight pause, a box will appear on the screen with a flashing cursor inside. (Note: Google Docs must be in standard menu mode for this key to function correctly. This means that File, Edit, View, Insert, etc. are visible on the menu bar). Once the Google Docs Equation Editor is activated, it allows the user to create:

- ***Fractions:***



Again, this key only works within Google Docs Equation editor. Press the a/b key and the cursor will flash in the numerator of the

fraction. Press enter to move the cursor to the denominator. Press enter again to leave the fraction. Press enter again to exit the equation editor.

- ***Exponents:***



Press the exponent key “^” and the cursor will elevate into a superscript. Press enter to return to the original line of typing. Press enter to exit the equation editor. (*Note: there must be a preceding character for a superscript to appear, such as x, 2, space, etc. If the initial symbol is exponent, it will display as a ^. To start with a superscript when there is no leading symbol, use space as the character.)

Press 2nd key  +  to directly type superscript in Google Docs when not in the

Equation Editor. Press 2nd key + ^ to leave the exponent.

- *Square roots with an extended tail:*



Press the 2nd key followed by the square root symbol. Press enter to leave the square root. Press enter again to exit the equation editor.

- *Subscript key*



This key is primarily set for Google editors (Docs, Slides, or Drawings only). To use it simply press $\sqrt{}$ key. To leave subscript, press $\sqrt{}$ again. In Google Docs Equation Editor, press the 2nd key first followed by the subscript key.




To exit subscript, press enter.

In other applications: the 2nd + subscript is an option on the ArithmeType and Desmos websites, as $\{12230465.7\}$

well as Word/OneNote Equation Editors in Windows OS. Due to differing inputs for subscript across differing platforms, this character is not widely applicable to other websites.

- **Select:**



Pictured in blue on the left section of the keyboard: When this key is pressed, a light will be seen under the key. Next, use any of the blue arrow keys  to select text. Finally, press cut or copy, and then paste the selected text in a new location on the screen. Alternatively, a mouse or scratchpad can be used to select text, followed by the cut or copy, and paste, function keys.

- **Draw on a number line:**



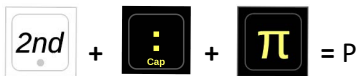
use ○(white circle), •(bullet), –(horizontal line), >(greater than) or < (less than), to make a line

•————> or <————○

- **Cap**



Make a single capital letter by pushing sequentially: 2nd key, colon, then secret alphabet key. For example,



- **CAPS LOCK:**



Can be turned on by pressing the 2nd key, then the dollar sign key. The CAPS LOCK light will turn on. The other keys function normally while this function is turned on except the Google Docs EQ keys in purple. To turn CAPS LOCK off, push the 2nd key, then the dollar sign key again.

Code Update

Rarely, the code for the keyboard may need to be updated to conform with any changes that a particular OS may require. Perform the following steps below.

1. Put the keyboard into reset mode. Choose **one** of the two methods below.
 - a. Hold the top left key down (white circle) while plugging the USB into your laptop.

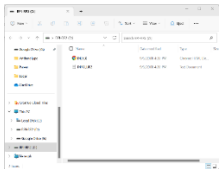
Keep holding the key a few seconds and then release. A chime may be heard. The

keyboard is now in reset mode.

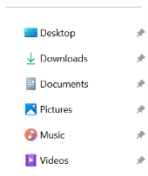


- b. Hold down the Code Update button on the back of the keyboard while plugging in the keyboard. Keep holding the button a few seconds and then release. A chime may be heard. The keyboard is now in reset mode.

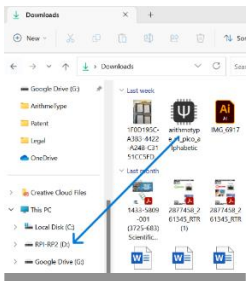
2. A new drive called RP1-RP2 will open.



3. Next, on the ArithmeType home page click the UPDATE button to download the new file.
4. Now open the files icon on your computer and find the downloads file. Double Click to open it.



- The ArithmeType download will be displayed there. Drag and drop the file into the RP1-RP2 drive. A chime may be heard.



- The keyboard has now been updated. Be sure to reselect the correct OS on the back of the keyboard since its previous selection was erased during the reset.

Screen Readers

The ArithmeType Math Keyboard is largely compatible with most screen readers but for optimal use, screen readers should be set to recognize Unicode characters. There will be variability in different screen reader's interpretation of the multikey commands, such as Start Google Docs EQ. This may instead be read at "e" since the command is alt, i, e. Please utilize Google Chrome for the best experience using screen readers with the ArithmeType Math Keyboard. See Reference table below for a verbal description of the keyboard.

Reference Table for Keys by Sections, Rows, and Columns

Left Section:

White circle	Bullet	Horizontal line	Percent
Cut	Less than	Greater than	Degree
Copy	Less than or equal to	Greater than or equal to	Approximately
Paste	Left curly bracket; left square bracket	Right curly bracket; right square bracket	Unequal
Select	Up arrow	Vertical line	Comma
Left arrow	Down arrow	Right arrow	Tab

Center Section:

Dollar sign, CAPS LOCK	Left parentheses	Right parentheses	Backspace
Colon; Cap	Forward slash	Asterix	Minus
Seven	Eight	Nine	Plus
Four	Five	Six	Equal
One	Two	Three	Enter
Space	Zero	Dot	Enter

Right Section:

Start Google Docs EQ	Pi	Delta; similar sign	Rad; arc
a over b EQ only	Theta; perpendicular	Angle; double headed arrow	Log; natural log
Square root; EQ	Plus/minus; cube root	Congruent; !	Sine; cosecant
Up caret; GD	Right arrow symbol	Infinity	Cosine; secant

Down caret GD; down caret EQ	f; subscript 2	g; subscript 3	Tangent; cotangent
x; superscript - 1	y; superscript 2	z; superscript 3	2nd

Troubleshooting

Keyboard does not type	<p>Wait 5-10 seconds and try typing again. If there is still no response, unplug and replug the USB into your computer.</p> <p>If using a MacBook, be sure to follow to follow the steps to help your computer identify the keyboard.</p>
Special characters display as a series of strange number and symbols	<p>Please turn the keyboard over and make sure you have selected the correct Operating System to match your computer. Mac OS users, please ensure you</p>

	have used the Mac Installer download and followed the instructions to help recognize the keyboard and Unicode language.
Google Docs EQ button types a capital E and doesn't open the equation editor	Make sure you are in Google Docs and the menu options are displayed at the top of the screen (File, Edit, Insert, etc.). If you are in the Search Menu mode, click the top right corner down caret to switch to "Show the menus"
a/b appears as $\frac{a}{b}$	This button only works in the Google Docs Equation Editor. Press the "Start Google Docs EQ" button first, then the a/b button to make fractions with a horizontal bar.
Extra u in symbols on DeltaMath on a Chromebook	There is an update that needs to occur at DeltaMath to eliminate the extra "u".

Subscript not working	Please see the subscript key section to review which editors support this key. It is very useful but has limited editors that support its function.
Superscript key ^ doesn't elevate character	Please review the ^ key section to learn the specific editors that support this key and how to use it correctly.

