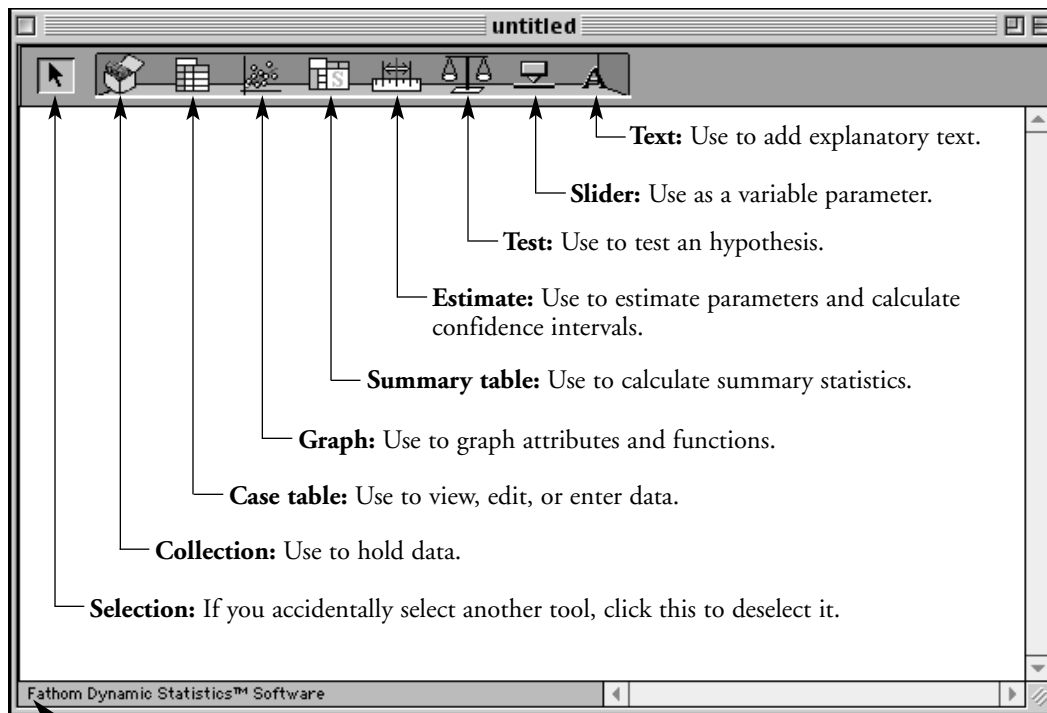


Fathom Window and Tool Shelf

Tool shelf: Drag an icon from the shelf into your document to add an object.



Status bar: Hold the cursor over a collection, data point, histogram bar, or spot on a graph, and see information here. Highlight a command and see an explanation here.

How to Get Data

- Make an empty case table and enter data from scratch.
- Drag a text file from the desktop into a Fathom document.
- Choose **Import From File** from the **File** menu.
- Drag the URL icon from a Web browser into a Fathom document.
- Choose **Import From URL** from the **File** menu and type or **paste** a URL.
- In another application, such as a word processor, Web browser, or spreadsheet program, **Copy** some data from a document and **Paste** into an empty Fathom collection.
- Make an empty case table and use one of the random number generators in a formula along with the **New Cases** command in the **Data** menu.

Keyboard Shortcuts

Command	Win	Mac	Command	Win	Mac
Undo	Ctrl-Z	⌘-Z	Rerandomize	Ctrl-Y	⌘-Y
Redo	Ctrl-R	⌘-R	Delete [selected object]	Delete	⌘-D
Collection	Ctrl-L	⌘-L	View In Window	Alt-V	⌘-Option-V
Case Table	Ctrl-T	⌘-T	Add/Remove Filter	Ctrl-F	⌘-F
Graph	Ctrl-G	⌘-G	Zoom in	Ctrl-click	Option-click
Summary Table	Ctrl-U	⌘-U	Zoom out	Ctrl-Shift-click	Option-Shift-click
Text	Ctrl-Shift-T	⌘-Option-T	Inspect	Ctrl-I	⌘-I
Slider	Ctrl-Shift-D	⌘-Option-D	Invoke shortcut menu	right-click	Control-click

Anatomy of a Case Table

Drag this bar to move the object.

Attribute name: Drag to a graph or other object. Double-click to rename.

Drag the column border to resize an attribute width.

Collection name.

Formula row: Double-click to add or edit a formula. Use **Show/Hide Formulas** in the **Display** menu. Shading indicates a non-computed attribute.

Click to add a new attribute. Type the attribute name and press **Enter**.

Each row represents one case.

Type in this row to add a new case. Use **Tab** to move from cell to cell.

Light character color indicates computed values.

Drag an edge or a corner to resize.

Anatomy of a Summary Table

Drop an attribute *on an arrow* to add the attribute; drop *on an attribute name* to replace it.

Results of **S1** for each marital category are in the first row of the cell; results of subsequent formulas appear beneath.

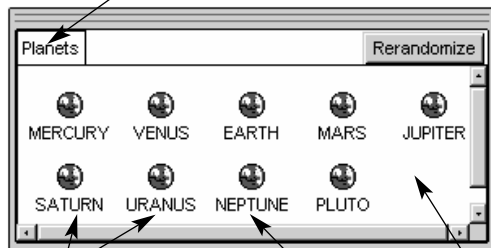
Formulas: Double-click to edit. **Add Formula** from the **Summary** menu adds another formula.

You can also have nominal attributes on both rows and columns.

S1 = median ()
S2 = count ()
S3 = iqr ()

Anatomy of a Collection and Its Inspector

Collection name: Double-click to rename a collection. Drag to connect to a table. Drag to an empty collection to sample.

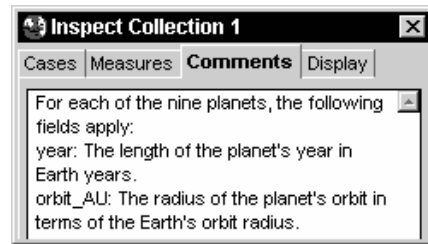


Cases: Double-click to inspect. Move by dragging.

Caption.

Double-click to bring up the inspector.

Collection Comments pane: Store information about the collection here. When data has been imported from the Internet, accompanying text is stored here.



Drag the title bar to move the inspector.

Attributes: Double-click to rename. Drag to graphs or other objects.

Click to create a new attribute.

Click arrows to browse cases.

Attribute	Value	Formula
Name	SATURN	
R_Mm	60.33	
day	0.426	
year	29.46	
orbit_AU	9.5388	
<new>		

Drag the column border to resize.

Click in value cell to edit.

Double-click to create or edit a formula.

Measures are attributes pertaining to the entire collection, rather than to individual cases. You need to create at least one measure to collect measures.

Measure name: Drag to an empty collection to collect measures.

Click to add a new measure.

Double-click to create or edit a formula.

Measure	Value	Formula
mnDay	34.1017	mean (day)
<new>		

Attribute	Value	Formula
x	20	20 + (caseIndex -
y	45.699	max (width) + 1
image		
width	2.439	R_Mm
height	2.439	R_Mm
caption	MERCURY	Name

Display Attributes control how case icons appear in the collection.
x controls horizontal placement.
y controls vertical placement.
caption determines the case's caption. (Use the **concat** function to caption each case with a sentence.)

Anatomy of a Graph

Drag a nominal attribute to the y-axis to split the graph, or a continuous attribute to create a scatter plot.

Plotted value formula.

Plotted function formula.

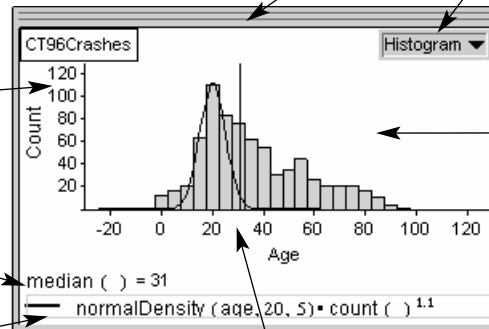
Double-click on a formula to edit it.

Drag to move a graph.

Choose graph type from the **plot popup menu**.

In the body of the graph:

- Click or **Shift**-click on bins or points to select cases.
- Drag bins or points to change data.
- Drag edges of bins to change widths.
- Drop an attribute to create a legend.
- Zoom in by holding down **Ctrl** (Win) or **Option** (Mac) and dragging; add **Shift** to zoom out.



Drag near the end of an axis to expand or shrink the scale. Drag in the middle to translate it.

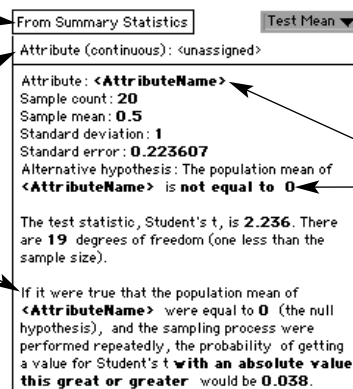
Anatomy of a Test or Estimate

With most tests or estimates, you can either drop attributes from a Fathom collection onto the object or type in summary data (or slider names).

Source of data.

Drop attribute(s) here to have results computed.

Results: Uncheck **Verbose** in the **Test** menu to get more standard-looking output. Choose **Show Test Statistic Distribution** from the **Test** menu.



Choose test or estimation type from the popup menu.

Blue text is editable. The cursor will tell you how you may edit the text.

Edit

Choose from popup menu

Edit formula

Screen Space Tips

When you have many objects, or large objects, you may run out of screen space. Here are some things you can do to give yourself more room:

Resize objects: Drag from a corner or edge.

Iconify: Shrink an object until it becomes an icon.

Move objects: Drag from the top, striped bar.

Delete objects: Click to select an object and **Delete**.

Hide objects: Select an object you want to hide.

Choose **Hide [object]** from **Display** menu. To unhide: **Show Hidden Objects** from the **Display** menu.

In a case table: Hide attributes. Resize attributes.

Resize the case table to show only a few cases.

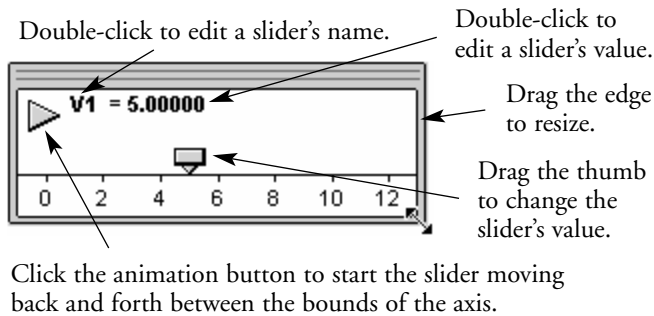
Move attributes you are interested in next to each other by dragging.

If you want to look at one object (say, a graph), choose **View in Window** from the **Display** menu.

The selected object expands. When you are through, click its close box.

Anatomy of a Slider

Use sliders to define parameters for formulas that define attributes, plot values and functions, and define filters. Put the slider's name in a formula, then change the slider's value by typing, dragging, or animating. The formula hooked to that slider will immediately update.



Anatomy of a Formula Editor

Formula being created or edited.

Keypad: Click to enter into formula.

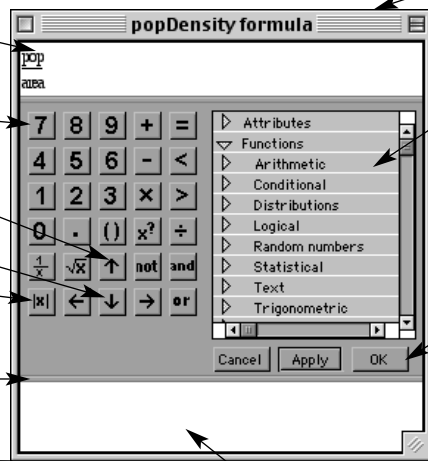
Select more.

Select less.

Absolute value.

Drag borders between areas to resize.

Drag an edge or a corner to resize.



Attribute and formula list:

Double-click to enter an item. Click once to read help on the item or category. Click an open/close control to open or close a category.

OK: Accept formula and close editor. (You must close the editor to continue.)

Apply: Accept formula without closing the editor.

Cancel: Revert to the last applied formula.

Formula Tips

- The formula is only the right side of the equation and does *not* include the equals sign.
- Enter your formula by any combination of typing or using the keypad or attribute and formula list.
- The formula editor is *not* case sensitive.
- When things don't work the way you want, use parentheses.
- Most familiar abbreviations for functions work: sin, random, floor, ln, log, asin, exp, sgn, etc. Functions require parentheses around their arguments: sin(x).
- Use **Tab** to move to the next portion of an "if" or "switch" statement.
- Strings (such as words) must be enclosed in quotes.
- Escape fractions, exponents, roots, parentheses, or quotes with **right arrow**.

Keyboard Shortcuts

Command	Win	Mac
Multiply	*	*
Divide	/	/
Exponent	^	^
Square root	Ctrl-Shift-R	⌘-Shift-R
π	pi	pi
and	&	&
or	Ctrl-Shift-O (the letter O)	Option-Shift-O (the letter O)
not	~ (tilde)	~ (tilde)
≤	Ctrl-<	Option-<
≥	Ctrl->	Option->
Insert "switch" clause	Insert	⌘-Option-return

To see the alternative keys hold down **Ctrl** (Win) **Option** (Mac), and the on-screen keypad will change.

Anatomies of Derived Collections

A **derived collection** gets its data from somewhere else: its source. Create derived collections with the **Analyze** menu. Double-click to bring up the inspector; the last pane has collection controls.

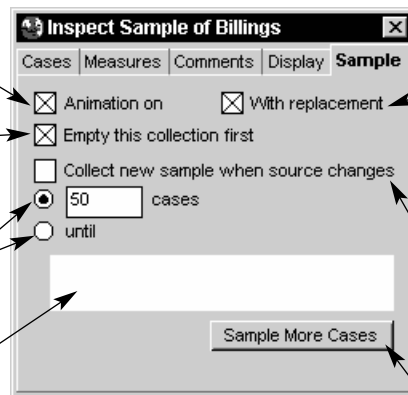
Sampling takes and stores copies of cases from the source collection.

Turn animation off to speed up sampling.

Check this box to *replace* cases already collected; uncheck to *add* cases to the sample collection.

Use these to specify whether to take a set number of samples or to sample until the condition below is met.

Double-click to enter a formula defining a condition for collecting a sample.



Replacement means a sample is taken, recorded, and then “put back”; the same case could be taken again in the same sample. Uncheck to ensure the same case can't be sampled more than once.

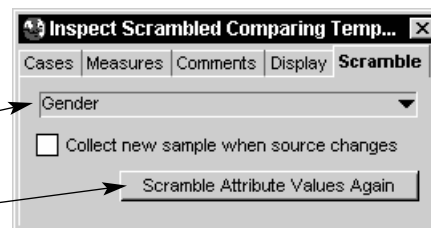
Check this item to automatically sample again when the source collection changes.

Click to take a sample when the controls are set the way you want them.

Scrambling leaves all values in place except the scrambled attribute that is randomly permuted. Use scrambling to test for independence.

Use the popup menu to determine which attribute is scrambled.

Press to generate a new scrambled collection.



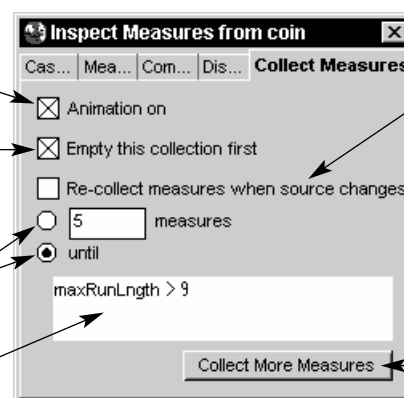
Measures defined in the measures pane of the source collection appear in the measures collection. If you collect measures from a sample collection, a sample is taken each time measures are collected.

Turn animation off to speed up measures collection.

Check this box to *replace* the measures that are already collected; uncheck to *add* to the measures collection.

Use to specify whether to collect measures a set number of times or until the condition below is met.

Double-click to enter a formula to control the next **Collect More Measures**.



Check to automatically re-collect measures when the source collection changes.

Click to collect measures.