Variables

Auto-generated captions, merged into complete sentences with timestamps

0:00:00–0:00:02	Hello, and welcome to the video about variables.
0:00:04–0:00:07	Similar to objectives, variables react to learner answers.
0:00:08–0:00:20	However, variables are not intended to be used in calculating a learner's grade. When a learner chooses a particular response, a variable's value can be updated to help determine steering, feedback, and content.
0:00:21–0:00:26	To set up variables for an activity, click the Variables tab at the top of the page.
0:00:27–0:00:29	There are a few types of variables.
0:00:30–0:00:33	Unit variables are represented by this pound symbol.
0:00:34–0:01:02	A common use case is what we call a counter variable, used for steering and feedback, tracking points that a learner earns by answering questions. Based on a cumulative value at a conditional node, variables can help steer how many patients they have talked to and whether they need to talk to another patient for your minimum desired number of three conversations. Aggregate variables, represented by the pencil symbol, are used when you want to track a value that is calculated by manipulating the values of other variables.
0:01:03–0:01:09	For example, if an activity had two units variables for income and expenses, an aggregate objective might be revenue.
0:01:10–0:01:14	Revenue would be calculated by subtracting the value of expenses from income.
0:01:14–0:01:21	As a learner earns and pays money, income and expenses will go up and down while revenue will be simultaneously calculated and displayed.
0:01:21–0:01:44	These can also use more complex operations, such as JavaScript math controls. Use the basic and advanced operators to create a mathematical expression. Aggregate variables are also useful when working in tables, either to combine cells or formulas into a more transportable value, or to take information from outside the table and display it inside the table. A useful tool is this Available Tokens table.
0:01:45–0:01:47	Here, you can see your library of tokens.

0:01:47–0:02:01	This includes objectives, variables, tables, and other content in your activity. Any one of these can be used as the expression of a variable. For example, you can select a table and choose any cell as the content for the variable.
0:02:02–0:02:09	Once you've selected the token, you can click on this Copy button to copy the exact format. Now, you can paste that into the expression field.
0:02:10–0:02:13	So this variable references this cell in this table.
0:02:14–0:02:17	This is covered in more detail in the Tables and Charts video.
0:02:18–0:02:20	String variables are represented by the A symbol.
0:02:20–0:02:26	They allow variable text to be inserted into prose, tables, or promoted as UI elements to the top of the screen.
0:02:27–0:02:33	Similar to how player can be inserted to display the learner's name, these variables can be used to insert the value into content.
0:02:33–0:02:37	String variables can be changed in the same way that scores can be changed.
0:02:37–0:02:41	For example, you could have a variable called supervisor and set the value to unfilled.
0:02:42–0:02:49	You could promote this, and the activity would start with a cell labeled supervisor at the top of the screen with the word unfilled displayed inside.
0:02:49–0:02:56	During the activity, the learner reviews two candidates for supervisor and chooses in a response node, Sally or Bob.
0:02:56–0:03:02	The supervisor variable value would then be updated to Sally or Bob appropriately, and the field at the top of the screen would update with their name.
0:03:03–0:03:17	Please pay attention to capitalization and spaces in the variable name, as it has to be exactly as it appears in the variable name and enclosed between curly brackets. A string expression variable, represented by the wrench, is used to refer to multiple separate string variables.
0:03:18–0:03:25	This variable is used in rare cases and can get complicated, so contact the Muzzy Lane team if you believe you need to use this feature.
0:03:25–0:03:29	Now, we will see an example of changing variables during a question.
0:03:30–0:03:37	To do this, open a question node, expand the caret next to Variables, and change the value of the variable for each response.

0:03:37–0:03:42	That way, when the student selects each response, the variable in the activity changes to this value.
0:03:44–0:03:46	This is what it looks like from a learner's perspective.
0:03:51–0:04:05	Now, we will see an example of using variables to decide paths of the story. You can use a conditional node when an activity needs to branch based on a variable. To add a conditional node, click on the If button before or after a node in the workspace.
0:04:06–0:04:14	Conditional nodes use a Boolean expression to compare two values and establish a true or false result and create a new true and new false branch.
0:04:15–0:04:35	In this example, we will be using the revenue variable, though you could also choose any value, including a valid table cell from the token set. In our case, for the simple revenue check, if the revenue is above $1,000, the story will branch one way, and if it is equal to or below $1,000, the story will branch another way.
0:04:37–0:04:44	There are three aspects to our conditional node: the first value, the Boolean expression, and the comparison field.
0:04:44–0:04:47	The first value is set by using a pull-down list of objectives and variables.
0:04:48–0:04:50	So I am selecting the revenue variable.
0:04:51–0:04:53	The second value is a Boolean expression.
0:04:54–0:04:56	I am selecting the greater than symbol.
0:04:56–0:05:03	The third value can be a number or other value pulled from our array of tokens. I am choosing to put $1,000 here.
0:05:03–0:05:10	So this creates a branch when the following statement is true: the revenue variable value is greater than $1,000.
0:05:11–0:05:20	You can add a score node to change or set a variable value without student action by adding a score node. For example, to change income and expense values representing a passage of time in the story.
0:05:21–0:05:33	To add a score node, click on the pound symbol before or after a node in the workspace. Use the Change column to add or subtract from the existing value. Use the Overwrite column to replace the existing value of a variable with a new variable.

0:05:34–0:05:37 That concludes our variables video. Thanks for watching.