

## Formatting a table for use in ArcGIS

What's the problem with the Excel table?	What's the problem if the table is added to ArcMap as data?	What's the problem if the table is converted using the Excel to Table tool?	What's the Excel edit	What's the ArcGIS edit?
Columns (Fields)				
All columns should contain values.		The columns will be created with a generic name (for example, field_1) but contain no values. This is inefficient database design because it takes up storage and also requires more display area to view the table contents.	Before conversion, delete empty columns.	After conversion, delete empty fields with the <a href="#">Delete Field</a> geoprocessing tool or in <a href="#">ArcMap</a> (right-click the table > Open Attribute Table > right-click the field heading > Delete Field.)
The first column should contain the field names.	The contents of the first row become the field names and/or field names are created that start with "F" (for example, F23.)	The contents of the first row become the field names.	Before conversion, add a row and name the fields.	
Field names should start with a letter, as shown in this online help topic: <a href="#">Essentials of joining tables</a> .		<p>The field name will be altered to start with "F" (for example, %Name becomes F_Name and 2Name becomes F2Name.)</p> <p>Note: The field alias will contain the original field name, so</p>	Before conversion, rename fields so they do not start with a number.	After conversion, change field names with the <a href="#">Alter Field</a> geoprocessing tool or in ArcCatalog (right-click the table > Properties > Fields tab > type a new field name) so that the field names start with a letter.

		duplicate field names will be shown, for example, in the attribute table.		
Field names should contain only letters, numbers, and underscores—no special characters, as shown in this online help topic: <a href="#">Essentials of joining tables</a> .		You will not see an error message, but special characters in the field name will be replaced with an underscore.	Before conversion, rename fields so they contain only letters, numbers, and underscores.	After conversion, change field names with the <a href="#">Alter Field</a> geoprocessing tool or in ArcCatalog (right-click the table > Properties > Fields tab > type a new field name) so that the field names contain only letters, numbers, and underscores.
Field names should not contain spaces.		Spaces in the field name will be replaced with an underscore.  Note: In some cases you want spaces in the field name to be replaced with underscores. If this is the case, no edits are required.	Before conversion, rename fields so they do not contain spaces.	After conversion, change field names, if desired, with the <a href="#">Alter Field</a> geoprocessing tool or in ArcCatalog (right-click the table > Properties > Fields tab > type a new field name.)
Field names should not exceed 64 characters for tables in file geodatabases, 31 characters for SQL Server and SQLExpress, 30 characters for Oracle and DB2, and 10 characters for dBASE.	The field name will be truncated to the maximum length.	The field name will be truncated to the maximum length.	Before conversion, rename fields so they do not exceed the character limit.	After conversion, assign <a href="#">field aliases</a> with the longer field names in ArcCatalog (right-click the table > Properties > Fields tab > type a new field alias.)

Field names should be unique (that is, no two fields should have the same name.)	Duplicate field names will be displayed with a version number (for example, Field_Name, Field_Name1, Field_Name2.)	<p>Duplicate field names will be altered. The field name will be 10 characters long and the end of the field name will be replaced with a version number (for example, Field_Name, Field_Na_1, Field_Na_2.)</p> <p>Note: The field alias will contain the original field name, so duplicate field names will be shown, for example, in the attribute table.</p>	Before conversion, rename duplicate fields so they are unique.	
Field names should not be names that are reserved by ArcGIS, including ObjectID (OID or FID), Shape_Length, and Shape_Area. Fields with these names are managed by ArcGIS.		<p>The fields will be created with the restricted name. Some will be the same as in the Excel table (FID, Shape_Length, Shape_Area.) ObjectID and OID will be altered to end with an underscore (that is, ObjectID_ and OID_.)</p> <p>Note: In some cases the field name will become unreadable and the table contents will not be displayed.</p>	Before conversion, rename fields so they do not have names that are reserved by ArcGIS.	

<p>Field names should not contain reserved words, such as Date, Order, or Values, as shown in this Knowledge Base article: <a href="http://support.esri.com/en/knowledgebase/techarticles/detail/37763">http://support.esri.com/en/knowledgebase/techarticles/detail/37763</a></p> <p>Note that there is also a list of reserved words for Excel (see end of article).</p>		<p>For some reserved names, fields will be created using the reserved name (for example, Date, Values.) For others, the field name will be altered to end with an underscore (for example, Order_.)</p> <p>Note that you will see an error message when performing some tasks (for example, joins and relates.)</p>	<p>Before conversion, rename fields so they do not contain reserved words.</p>	
<p>The type of data in the columns should be set in Excel to a basic field type (that is, text, number, date.)</p>		<p>Basic column types specified in Excel are used to set the field type in ArcGIS. When the column type is not specified (that is, it is General), the field type in ArcGIS is determined by a scan of the values in the first eight rows for that column. If the scan finds mixed data of types in the first eight rows, that column will become a text field in ArcGIS and the values will be converted to strings.</p> <p>Number and Fraction field types in Excel are converted to either Double or Long Integer field types in ArcGIS, depending on</p>	<p>Before conversion, set the field types for the columns (right-click the column &gt; Format cells &gt; Number tab.)</p>	<p>After conversion, check the field types in ArcCatalog (right-click the table &gt; Properties &gt; Fields tab) to make sure they are the type desired. If they are not, add fields of the type desired, calculate their values to equal those of the fields that contained the original values, then delete the fields that contained the formulas.</p> <p>A second approach is to create an empty table in ArcGIS with the field types desired, convert the Excel table to a geodatabase table, and use the <a href="#">Append</a> geoprocessing tool to “load” the</p>

		<p>what the scan find in the first eight rows of the numeric columns.</p> <p>Year and Time field types in Excel are converted to the Date field type in ArcGIS.</p> <p>Advanced field types in Excel (that is, Currency, Accounting, Percentage, Fraction, and Scientific) are converted to the Text field type in ArcGIS.</p>		data in the converted geodatabase table into the empty table, making sure to set Schema Type to NO_TEST.
If there is an ID field, it should be positioned in the first column or after the third field.	The first field will not be shown in the table.		Reposition the ID field so that it is in the first column or after the third column.	
All columns should contain values.	Fields will be created for all columns with no values but the cells will contain no or <Null> values. This is inefficient database design because it takes up storage and also requires more display area to view the table contents.	Fields will be created for all columns with no values but the cells will contain no or <Null> values. This is inefficient database design because it takes up storage and also requires more display area to view the table contents.	Before conversion, delete empty columns.	After conversion, delete empty fields with the <a href="#">Delete Field</a> geoprocessing tool or in ArcMap (start and edit session, right-click the table > Open Attribute Table > highlight the empty rows > right-click the far-left box > Delete Selected.)
Rows (Records)				

All rows should contain values.	Records will be created for all rows with no values but the cells will contain no or <Null> values. This is inefficient database design because it takes up storage and also requires more display area to view the table contents.	Records will be created for all rows with no values but the cells will contain no or <Null> values. This is inefficient database design because it takes up storage and also requires more display area to view the table contents.	Before conversion, delete empty rows.	After conversion, delete empty rows with the <a href="#">Delete Rows</a> geoprocessing tool or in ArcMap (start and edit session, right-click the table > Open Attribute Table > highlight the empty rows > right-click the far-left box > Delete Selected.)
Cells (Values)				
Cells should not contain formulas.	Columns with formulas will not be displayed.		Before conversion, replace cells with formulas with cells with values (copy the cells and paste them back into their original location using Paste Special > Values.)	After conversion, check field types in ArcCatalog (right-click the table > Properties > Fields tab) to make sure they are the field type desired. If they are not, add fields of the type desired, calculate their values to equal those of the fields that contained the formulas, then delete the fields that contained the formulas.
Cells should not contain values with more than 255 characters.	Only the first 255 characters of a cell are read. If there are more than 255 characters, the field will be converted to the BLOB type in ArcGIS. You cannot read the contents of a BLOB field.	The cell value becomes <NULL>.	Before conversion, edit the cells so they have no more than 255 characters.	
Cells that should contain numbers should not contain	The field will be changed to a Text type.	The cells with text will be converted to <Null> values.	Delete the text values in the number fields.	

text values such as “No Data”, “None”, “NA”, or spaces.				
Cells that should contain text values that start with “0” and contain only numbers (for example, zip or FIPS codes) should formatted as text fields.	Cells with that start with “0” will contain <Null> values.	Fields will be converted to a number type.		
Cell values should not have leading or trailing spaces.	This could affect labeling and data management. For example, if a cell contains a highway route number and it has leading or trailing spaces, the value may not fit in a highway shield or the shield will be oversized. For data management – say you had a full address field (address, city, state, 5-digit zip code) and you wanted to “strip out” just the zip code – you could this by extracting just the last 5 characters, if there were no trailing spaces.	This could affect labeling and data management. For example, if a cell contains a highway route number and it has leading or trailing spaces, the value may not fit in a highway shield or the shield will be oversized. For data management – say you had a full address field (address, city, state, 5-digit zip code) and you wanted to “strip out” just the zip code – you could this by extracting just the last 5 characters, if there were no trailing spaces.	Remove leading or trailing spaces with the <a href="#">Trim</a> function.	
Cells should not be merged.	The first merged field will be deleted from the table, and values for the merged cells will contain <Null> values.			

### Special Characters:

Accent grave (`)  
Ampersand (&)  
Asterisk (\*)  
Backslash (\)  
Bracket([])  
Caret (^)  
Colon (:)  
Equal sign (=)  
Exclamation mark (!)

Greater than sign (>)  
Leading space  
Less than sign (<)  
Non-printable characters, such as a carriage return  
Period (.)  
Period (.)  
Plus sign (+)  
Slash mark (/)

### Excel reserved words:

AdminDB  
Alphanumeric  
Autoincrement  
BAND  
Binary  
BNOT  
BOR  
BXOR  
Byte  
Comp  
Compression  
Container  
Counter  
CreateDB  
Currency  
Database  
DateTime

Disallow  
ExclusiveConnect  
Float4  
Float8  
General  
Guid  
IEEEDouble  
IEEESingle  
Ignore  
Image  
Index  
Inheritable  
Integer1  
Integer2  
Integer4  
Logical  
Logical1

Long  
LongBinary  
LongChar  
LongText  
Memo  
Money  
No  
Note  
Number  
Object  
OLEObject  
OwnerAccess  
Pad  
Parameters  
Password  
Percent  
Pivot

Proc  
SelectSchema  
SelectSecurity  
Short  
Single  
Space  
String  
Tableid  
Text  
Top  
Transform  
Uniqueidentifier  
UpdateIdentity  
UpdateOwner  
UpdateSecurity  
Varbinary  
Yes



