

Chapter 2

Answers to Review Questions 2

1. You should avoid using any characters except letters, numbers, and the underscore character. Spaces, although permitted, can cause problems and should not be used.
2. File extensions identify the type of file and is used by the computer to determine which application is used to open it.
3. Many data sets on ArcGIS Online cannot be saved locally. Also the quality can be variable.
4. Data created for the book can use the shortened, informal style of metadata meant mainly for the creator, because in most cases the data will not be given to anyone else.
5. A layer file does not store any actual spatial data, so the layer file size for the two spatial data sets would not be significantly different.
6. It means that the layer has lost track of the feature class or raster that it refers to, and cannot find the data. Fixing it requires resetting the path to the correct location.
7. See table

Move the mgisdata folder to a USB stick			Copy the map documents to a USB stick to take to school and print			Move the Njdata geodatabase to the the mgisdata folder			Rename the MyProject folder to NJProject		
	Abs	Rel		Abs	Rel		Abs	Rel		Abs	Rel
NjProj	no	yes	NjProj	no	no	NjProj	no	no	NjProj	no	no
USProj	no	yes	USProj	no	no	USProj	yes	yes	USProj	yes	yes
NJmap	no	yes	NJmap	no	no	NJmap	no	no	NJmap	no	yes
USmap	no	yes	USmap	no	no	USmap	yes	yes	USmap	yes	yes

8. Both programs can put file locks on data to signify it is in use; if the other program tries to modify a file locked by another, an error will result, and the action can't be completed.
9. A query selects a set of records based on an expression such as STATE = 'California'. You might use it to copy only a subset of features from the original source.
10. The summary is a quick statement of the purpose or intended use of the data. The Description explains more about what it contains and how it may have been developed.

Answers to Tutorial Questions 2

1. The cell size is 1000 meters. There are 696 columns and 495 rows.
2. There are 2 coverages, 1 table, 1 raster, 1 layer file, and 7 shapefiles.
3. Use the Expression ST = 'NJ'.
4. The feature class contains congressional districts.
5. Use the Expression STATE_ABBR = 'NJ'
6. Feature classes are stored on disk and can be managed by ArcCatalog. Layers exist only in ArcMap and are managed by setting properties in the Table of Contents.
7. The publication date information was found by accessing and reading the metadata on the web site.
8. Yes, it does need projecting. Although it is already in NJ State Plane, the units are feet instead of meters.

9. Esri Data and Maps files use the WGS 1984 Geographic Coordinate System.

Answers to Exercises 2

1. There are two feature datasets, Transportation and Water. There are 14 feature classes and 5 rasters.
Method: Use the Catalog tab to examine the geodatabase.
2. It has 1609 rows and 1964 columns, and a cell size of 30 meters. It has 8 bands. The coordinate system is WGS_1984 UTM Zone 10N.
Method: In the Catalog tab, right-click the raster in the Oregon folder and open its Properties. You will find all the necessary information here.
3. It was created by the USGS Eros Data Center in 1996 and uses meters for the elevations.
Method: Examine the metadata in the Item Description window in the Catalog tab.
4. The map document is referencing data in the NewJersey geodatabase rather than in the mgisdata folder, so putting it in the New Jersey project folder will keep it together with the data if the project folder is moved.
5. Answers will vary.
6. **Method:** Right-click the appropriate location to create the folder and geodatabase. Given them appropriate names.
7. Exact expression will vary for each state, but for New Jersey the list would look like this:
Interstates: clip
Majroads: clip
Cd110: STATE_ABBR = 'NJ'
Cd111: STATE_ABBR = 'NJ'
Cities: ST = 'NJ'
Counties: STATE_NAME = 'New Jersey'
Lakes: clip
Quakehis: STATE = 'NJ'
Rivers: clip
Spcszn83: clip
States: STATE_NAME = 'New Jersey' or STATE_ABBR = 'NJ'
Volcanoes: clip
8. Answers 8-10 will vary.
Method: Use ArcMap to query and export to the home state geodatabase as demonstrated in the tutorial, or use the clip tool in ArcMap for those that need clipping. Note that some feature classes may not have features in all states (lakes for example) and the output will be empty.

Answers to Challenge Problem 2

Answers will vary.