

## Filtering Data

### Introduction

Filters can be used to narrow down the data in your worksheet and hide parts of it from view. While it may sound a little like grouping, filtering is different because it allows you to qualify and display only the data that interests you. For example, you could filter a list of survey participants to view only those who are between the ages of 25 and 34. You could also filter an inventory of paint colors to view anything that contains the word **blue**, such as **bluebell** or **robin's egg blue**.

In this lesson, you'll learn how to **filter** the data in your worksheet to display only the information you need.

#### Filtering data

**Filters** can be applied in different ways to improve the performance of your worksheet. You can filter text, dates, and numbers. You can even use more than one filter to further narrow your results.

Optional: You can download **Excel2010\_Filtering\_Practice** file from moodle for extra practice.

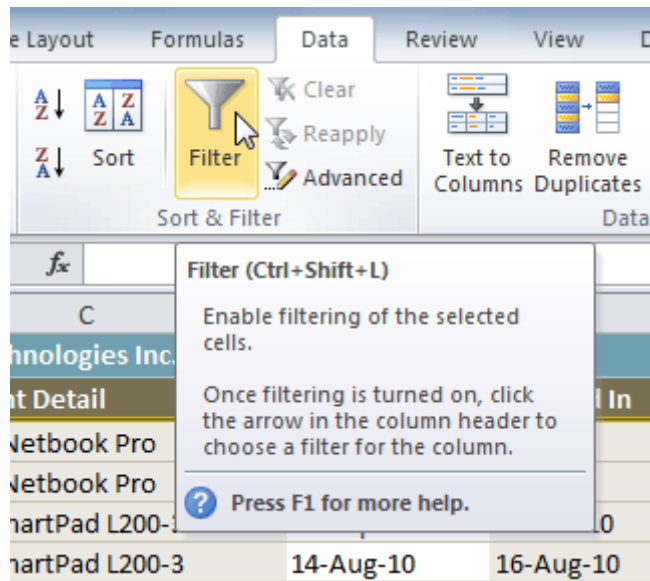
#### *To filter data:*

In this example, we'll filter the contents of an equipment log at a technology company. We'll display only the laptops and projectors that are available for checkout.

1. Begin with a worksheet that identifies each column using a header row.

	A	B	C	D
1	Equipment Log — Ragnar Technologies Inc.			
2	ID #	Type	Equipment Detail	Checked Out
3	1011	Laptop	10" Saris Netbook Pro	04-Oct-10
4	1012	Laptop	10" Saris Netbook Pro	29-Sep-10
5	1021	Laptop	15" EDI SmartPad L200-3	15-Sep-10
6	1022	Laptop	15" EDI SmartPad L200-3	14-Aug-10
7	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-10
8	1025	Laptop	15" EDI SmartPad L200-4X	26-Sep-10
9	1031	Laptop	17" Saris X-10 Laptop	04-Oct-10
10	1032	Laptop	17" Saris X-10 Laptop	19-Sep-10
11	1033	Laptop	17" Saris X-10 Laptop	24-Sep-10
12	1034	Laptop	17" Saris X-10 Laptop	25-Aug-10
13	2050	Other	EDI SmartBoard L500-1	05-Oct-10
14	2051	Other	EDI SmartBoard L500-1	01-Oct-10
15	3000	Other	Saris Lumina Digital Camera	12-May-10

2. Select the **Data** tab, then locate the **Sort & Filter** group.
3. Click the **Filter** command.



4. Drop-down arrows will appear in the header of each column.
5. Click the **drop-down arrow** for the column you want to filter. In this example, we'll filter the Type column to view only certain types of equipment.

	A	B	C	D
1	Equipment Log — Ragnar Technologies Inc.			
2	ID #	Type	Equipment Detail	Checked Out
3	1011	Laptop	10" Core i5 Netbook Pro	04-Oct-10
4	1012	Laptop	Netbook Pro	29-Sep-10
5	1021	Laptop	15" EDI SmartPad L200-3	15-Sep-10
6	1022	Laptop	15" EDI SmartPad L200-3	14-Aug-10
7	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-10

6. The **Filter** menu appears.
7. **Uncheck** the boxes next to the data you don't want to view, or uncheck the box next to **Select All** to quickly uncheck all.
8. **Check** the boxes next to the data you do want to view. In this example, we'll check Laptop and Projector to view only these types of equipment.

	A	B	C	D
1	Equipment Log — Ragnar Technologies Inc.			
2	ID #	Type	Equipment Detail	Checked Out
	Sort A to Z			04-Oct-10
	Sort Z to A			29-Sep-10
	Sort by Color			15-Sep-10
	Clear Filter From "Type"			14-Aug-10
	Filter by Color			08-Aug-10
	Text Filters			26-Sep-10
	Search			04-Oct-10
	<input checked="" type="checkbox"/> (Select All)			19-Sep-10
	<input checked="" type="checkbox"/> Laptop			24-Sep-10
	<input type="checkbox"/> Other			25-Aug-10
	<input checked="" type="checkbox"/> Projector			05-Oct-10
	<input type="checkbox"/> TV			01-Oct-10
	OK			12-May-10
	Cancel			27-Jul-10
22	4905	Other	7N Heavy Rolling Laptop Case	04-Oct-10
23	5020	TV	32" Paragon 440 Plasma TV	11-Aug-10

9. Click **OK**. All other data will be filtered, or temporarily hidden. Only laptops and projectors will be visible.

	A	B	C	D
1	Equipment Log — Ragnar Technologies Inc.			
2	ID #	Type	Equipment Detail	Checked Out
3	1011	Laptop	10" Saris Netbook Pro	04-Oct-10
4	1012	Laptop	10" Saris Netbook Pro	29-Sep-10
5	1021	Laptop	15" EDI SmartPad L200-3	15-Sep-10
6	1022	Laptop	15" EDI SmartPad L200-3	14-Aug-10
7	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-10
8	1025	Laptop	15" EDI SmartPad L200-4X	26-Sep-10
9	1031	Laptop	17" Saris X-10 Laptop	04-Oct-10
10	1032	Laptop	17" Saris X-10 Laptop	19-Sep-10
11	1033	Laptop	17" Saris X-10 Laptop	24-Sep-10
12	1034	Laptop	17" Saris X-10 Laptop	25-Aug-10
26	6100	Projector	Omega VisX 1.0	28-Sep-10
27	6101	Projector	Omega VisX 1.0	26-Sep-10
28	6102	Projector	Omega VisX 1.0	22-Aug-10

Filtering options can also be found on the Home tab, condensed into the **Sort & Filter** command.

*To add another filter:*

Filters are additive, meaning you can use as many as you need to narrow your results. In this example, we'll work with a spreadsheet that has already been filtered to display only laptops and projectors. Now we'll display only laptops and projectors that were checked out during the month of August.

1. Click the **drop-down arrow** where you want to add a filter. In this example, we'll add a filter to the Checked Out column to view information by date.
2. **Uncheck** the boxes next to the data you don't want to view. **Check** the boxes next to the data you do want to view. In this example, we'll check the box next to **August**.

	A	B	C	D	E
1	Equipment Log — Ragnar Technologies Inc.				
2	ID #	Type	Equipment Detail	Checked Out	Checked In
3	1011	Laptop	10" S	<div> <div> Sort Oldest to Newest  Sort Newest to Oldest  Sort by Color  Clear Filter From "Checked Out"  Filter by Color  Date Filters  Search (All) </div> <div> <div>(Select All)</div> <div>2010</div> <div> <input checked="" type="checkbox"/> August </div> <div> <input type="checkbox"/> September </div> <div> <input type="checkbox"/> October </div> </div> </div>	
4	1012	Laptop	10" S		
5	1021	Laptop	15" E		01-Oct-10
6	1022	Laptop	15" E		16-Aug-10
7	1023	Laptop	15" E		15-Aug-10
8	1025	Laptop	15" E		04-Oct-10
9	1031	Laptop	17" S		
10	1032	Laptop	17" S		
11	1033	Laptop	17" S		26-Sep-10
12	1034	Laptop	17" S		27-Aug-10
26	6100	Projector	Ome		01-Oct-10
27	6101	Projector	Ome		27-Sep-10
28	6102	Projector	Ome		23-Aug-10
29	6200	Projector	Saris		04-Sep-10
30	6301	Projector	Saris		
31	6302	Projector	Saris		15-Sep-10
32					
33					
34					
35					

3. Click **OK**. In addition to the original filter, the new filter will be applied. The worksheet will be narrowed down even further.

	A	B	C	D	E
1	Equipment Log — Ragnar Technologies Inc.				
2	ID # ▼	Type ▼	Equipment Detail ▼	Checked Out ▼	Checked In ▼
6	1022	Laptop	15" EDI SmartPad L200-3	14-Aug-10	16-Aug-10
7	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-10	15-Aug-10
12	1034	Laptop	17" Saris X-10 Laptop	25-Aug-10	27-Aug-10
28	6102	Projector	Omega VisX 1.0	22-Aug-10	23-Aug-10
32					

To clear a filter:

1. Click the **drop-down arrow** in the column from which you want to clear the filter.
2. Choose **Clear Filter From**.

	A	B	C	D	E
1	Equipment Log — Ragnar Technologies Inc.				
2	ID # ▼	Type ▼	Equipment Detail ▼	Checked Out ▼	Checked In ▼
6	1022	Laptop	15" EDI SmartPad L200-3	14-Aug-10	16-Aug-10
7	1023	Laptop	15" EDI SmartPad L200-3	08-Aug-10	15-Aug-10
12	1034	Laptop	17" Saris X-10 Laptop	25-Aug-10	27-Aug-10
28	6102	Projector	Omega VisX 1.0	22-Aug-10	23-Aug-10
32					
33					
34					
35					
36					
37					
38					
39					
40					

3. The filter will be cleared from the column. The data that was previously hidden will be on display once again.

To instantly clear all filters from your worksheet, click the **Filter** command on the Data tab.

Advanced filtering

To filter using search:

**Searching** for data is a convenient alternative to checking or unchecking data from the list. You can search for data that contains an exact phrase, number, date, or simple fragment. For example, searching for the exact phrase **Saris X-10 Laptop** will display only Saris X-10 laptops. Searching for the word **Saris**, however, will display Saris X-10 laptops and any other Saris equipment, including projectors and digital cameras.

1. From the **Data** tab, click the **Filter** command.

- Click the **drop-down arrow** in the column you want to filter. In this example, we'll filter the Equipment Detail column to view only a specific brand.
- Enter the data you want to view in the **Search** box. We'll enter the word **Saris** to find all Saris brand equipment. The search results will appear automatically.

	A	B	C	D
1	Equipment Log — Ragnar Technologies Inc.			
2	ID #	Type	Equipment Detail	Checked Out
3	1011	Sort A to Z		04-Oct-10
4	1012	Sort Z to A		29-Sep-10
5	1021	Sort by Color		15-Sep-10
6	1022	Clear Filter From "Equipment Detail"		14-Aug-10
7	1023	Filter by Color		08-Aug-10
8	1025	Text Filters		26-Sep-10
9	1031			04-Oct-10
10	1032	saris		19-Sep-10
11	1033	(Select All Search Results)		24-Sep-10
12	1034	Add current selection to filter		25-Aug-10
13	2050	10" Saris Netbook Pro		05-Oct-10
14	2051	17" Saris X-10 Laptop		01-Oct-10
15	3000	Saris Lumina Digital Camera		12-May-10
16	3005	Saris Lux T-80		27-Jul-10
17	3070	Saris Lux T-81 Lite		06-Oct-10
18	3800	Saris Zoom Z-60 Digital Camera		04-Aug-10
19	3900	U-Go Saris DigiCam Printer II		13-Jun-10
20	4800	U-Go Saris Label Maker		27-Jul-10
21	4900			04-Oct-10
22	4905	Other	7N Heavy Rolling Laptop Case	04-Oct-10

- Check** the boxes next to the data you want to display. We'll display all of the data that includes the brand name Saris.
- Click **OK**. The worksheet will be filtered according to your search term.

	A	B	C	D
1	Equipment Log — Ragnar Technologies Inc.			
2	ID # ▼	Type ▼	Equipment Detail ▼	Checked Out ▼
3	1011	Laptop	10" Saris Netbook Pro	04-Oct-10
4	1012	Laptop	10" Saris Netbook Pro	29-Sep-10
9	1031	Laptop	17" Saris X-10 Laptop	04-Oct-10
10	1032	Laptop	17" Saris X-10 Laptop	19-Sep-10
11	1033	Laptop	17" Saris X-10 Laptop	24-Sep-10
12	1034	Laptop	17" Saris X-10 Laptop	25-Aug-10
15	3000	Other	Saris Lumina Digital Camera	12-May-10
16	3005	Other	Saris Zoom Z-60 Digital Camera	27-Jul-10
18	3800	Other	U-Go Saris DigiCam Printer II	04-Aug-10
19	3900	Other	U-Go Saris Label Maker	13-Jun-10
29	6200	Projector	Saris Lux T-80	01-Sep-10
30	6301	Projector	Saris Lux T-81 Lite	10-Sep-10
31	6302	Projector	Saris Lux T-81 Lite	08-Sep-10
32				

### Using advanced text filters

**Advanced text filters** can be used to display more specific information, such as cells that contain a certain number of characters or data that does not contain a word you specify. In this example, we'll use advanced text filters to hide any equipment that is related to cameras, including digital cameras and camcorders.

1. From the **Data** tab, click the **Filter** command.
2. Click the **drop-down arrow** in the column of **text** you want to filter. In this example, we'll filter the Equipment Detail column to view only certain types of equipment.
3. Choose **Text Filters** to open the advanced filtering menu.
4. Choose a **filter**. In this example, we will choose **Does Not Contain** to view data that does not contain the text we specify.

	B	C	D	E
1	Event Log — Ragnar Technologies Inc.			
2	Type	Equipment Detail	Checked Out	Checked In
3	Sort A to Z		04-Oct-10	
4	Sort Z to A		29-Sep-10	
5	Sort by Color		15-Sep-10	01-Oct-10
6	Clear Filter From "Equipment Detail"		14-Aug-10	16-Aug-10
7	Filter by Color		08-Aug-10	15-Aug-10
8			26-Sep-10	04-Oct-10
9	Text Filters		Equals...	
10	Search		Does Not Equal...	
11	<input checked="" type="checkbox"/> (Select All)		Begins With...	0
12	<input checked="" type="checkbox"/> 10" Saris Netbook Pro		Ends With...	0
13	<input checked="" type="checkbox"/> 15" EDI SmartPad L200-3		Contains...	0
14	<input checked="" type="checkbox"/> 15" EDI SmartPad L200-4X		Does Not Contain...	0
15	<input checked="" type="checkbox"/> 17" Saris X-10 Laptop		Custom Filter...	0
16	<input checked="" type="checkbox"/> 32" Paragon 440 Plasma TV			06-Oct-10
17	<input checked="" type="checkbox"/> 50" Paragon 490L LCD TV			04-Aug-10
18	<input checked="" type="checkbox"/> 7N Deluxe Camera Travel Bag			05-Aug-10
19	<input checked="" type="checkbox"/> 7N Heavy Rolling Laptop Case			13-Jun-10
20	<input checked="" type="checkbox"/> 7N Light Rolling Laptop Case			20-Jun-10
21				27-Jul-10
22	Other	7N Heavy Rolling Laptop Case	04-Oct-10	06-Aug-10

5. The **Custom AutoFilter** dialog box appears.
6. Enter your **text** to the right of your filter. In this example, we'll enter **cam** to view data that does not contain these letters. That will exclude any equipment related to cameras, such as digital **cameras**, **cam**corders, **cam**era bags, and the digi**cam** printer.

Custom AutoFilter

Show rows where:

Equipment Detail

does not contain

cam

☒ And ☐ Or

Use ? to represent any single character

Use \* to represent any series of characters

OK Cancel

7. Click **OK**. The data will be filtered according to the filter you chose and the text you specified.



### Using advanced date filters

**Advanced date filters** can be used to view information from a certain time period, such as last year, next quarter, or between two dates. Excel automatically knows your current date and time, making this tool easy to use. In this example, we'll use advanced date filters to view only the equipment that has been checked out this week.

1. From the **Data** tab, click the **Filter** command.
2. Click the **drop-down arrow** in the column of **dates** you want to filter. In this example, we'll filter the Checked Out column to view only a certain range of dates.
3. Choose **Date Filters** to open the advanced filtering menu.
4. Click a **filter**. We'll choose This Week to view equipment that has been checked out this week.

The screenshot shows an Excel spreadsheet with the following data:

	C	D	E	F
1	Ragnar Technologies Inc.			
2	Equipment Detail	Checked Out	Checked In	By Whom
3	10" S			Jay Peralta
4	10" S			August Zorn
5	15" E	01-Oct-10		Sofie Ragnar
6	15" E	16-Aug-10		Hank Sorenson
7	15" E	15-Aug-10		Jennifer Weiss
8	15" E	04-Oct-10		Min Seung
9	17" S			
10	17" S			
11	17" S			
12	17" S			
13	EDI S			
14	EDI S			
15	Saris			
16	Saris			
17	Ome			
18	U-Gc			
19	U-Gc			
20	7N D			
21	7N Li			
22	7N Heavy Rolling Laptop Case	04-Oct-10		

The 'Date Filters' menu is open, showing the following options:

- Sort Oldest to Newest
- Sort Newest to Oldest
- Sort by Color
- Clear Filter From "Checked Out"
- Filter by Color
- Date Filters (highlighted)

The 'Date Filters' sub-menu is open, showing the following options:

- Equals...
- Before...
- After...
- Between...
- Tomorrow
- Today
- Yesterday
- Next Week
- This Week (highlighted)
- Last Week
- Next Month
- This Month

5. The worksheet will be filtered according to the date filter you chose.

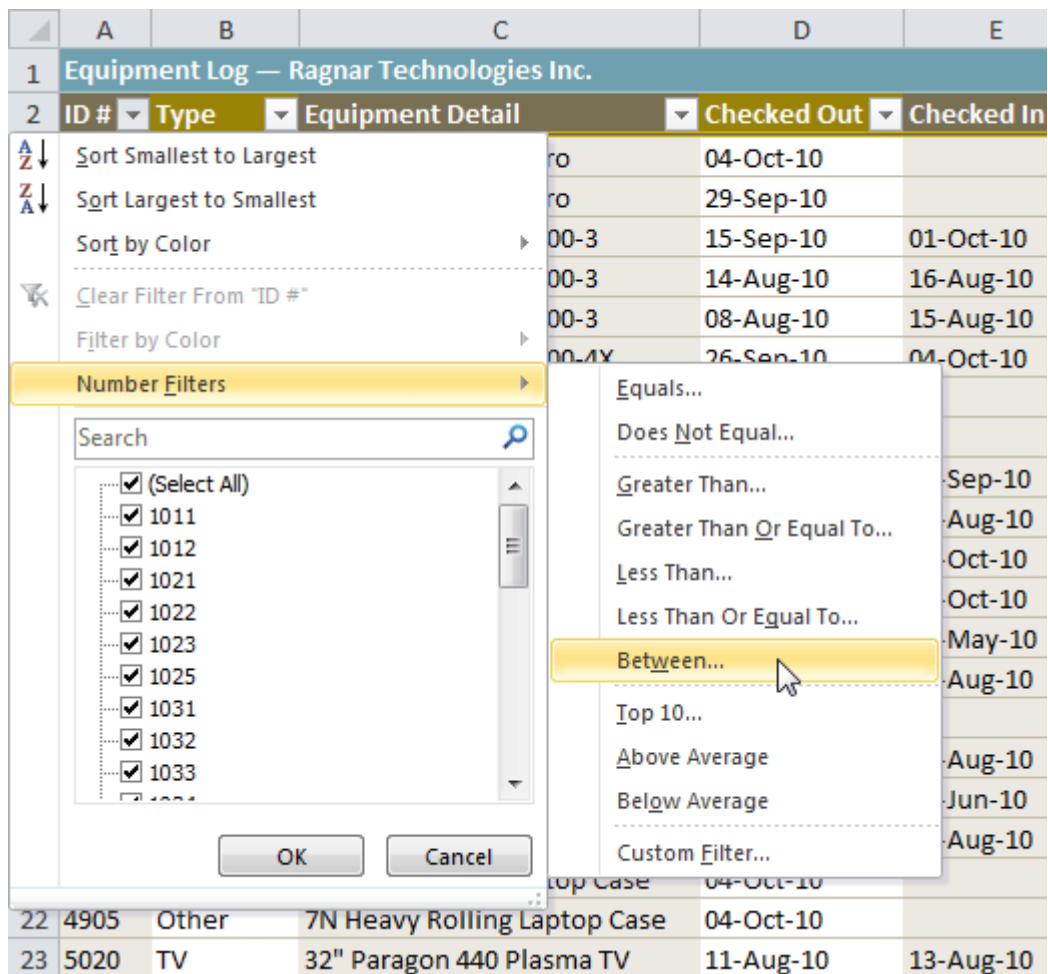
	C	D	E	F
1	tagnar Technologies Inc.			
2	Equipment Detail ▼	Checked Out ▼	Checked In ▼	By Whom
3	10" Saris Netbook Pro	04-Oct-10		Jay Peralta
9	17" Saris X-10 Laptop	04-Oct-10		Nick Ortiz
13	EDI SmartBoard L500-1	05-Oct-10	06-Oct-10	Anthony Liddell
17	Omega PixL Digital Camcorder	06-Oct-10		Min Seung
21	7N Light Rolling Laptop Case	04-Oct-10		Jay Peralta
22	7N Heavy Rolling Laptop Case	04-Oct-10		Nick Ortiz
32				

If you're working along with the example file, your results will be different from the images above. If you want, you can change some of the dates so the filter will give more results.

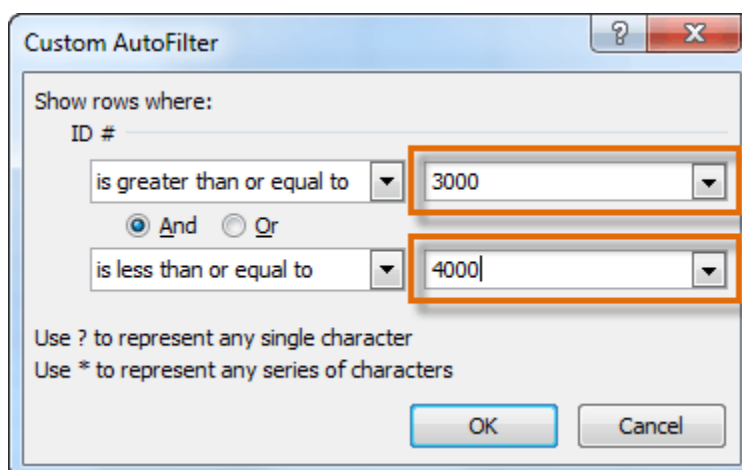
### *Using advanced number filters*

**Advanced number filters** allow you to manipulate numbered data in different ways. For example, in a worksheet of exam grades you could display the top and bottom numbers to view the highest and lowest scores. In this example, we'll display only certain types of equipment based on the range of ID #s that have been assigned to them.

1. From the **Data** tab, click the **Filter** command.
2. Click the **drop-down arrow** in the column of **numbers** you want to filter. In this example, we'll filter the ID # column to view only a certain range of ID #s.
3. Choose **Number Filters** to open the advanced filtering menu.
4. Choose a **filter**. In this example, we'll choose Between to view ID #s between the numbers we specify.



5. Enter a **number** to the right of each filter. In this example, we'll view ID #s greater than or equal to 3000 but less than or equal to 4000. This will display ID #s in the 3000-4000 range.



6. Click **OK**. The data will be filtered according to the filter you chose and the numbers you specified.

	A	B	C	D
1	Equipment Log — Ragnar Technologies Inc.			
2	ID #	Type	Equipment Detail	Checked Out
15	3000	Other	Saris Lumina Digital Camera	12-May-10
16	3005	Other	Saris Zoom Z-60 Digital Camera	27-Jul-10
17	3070	Other	Omega PixL Digital Camcorder	06-Oct-10
18	3800	Other	U-Go Saris DigiCam Printer II	04-Aug-10
19	3900	Other	U-Go Saris Label Maker	13-Jun-10
32				

### Challenge!

1. Open an **existing Excel 2010 workbook**. If you want, you can use **Excel2010\_Filtering\_Practice** file from moodle.
2. **Filter a column** of data. If you are using the example, filter the Type column so it displays only laptops and other equipment.
3. Add **another filter** by searching for the data you want. If you are using the example, search for EDI brand equipment in the Item Description column.
4. **Clear** both filters.
5. Use an **advanced text filter** to view data that does not contain a certain word or phrase. If you are using the example, display data that does not contain the word **cam**. This should exclude any camera-related equipment, such as digital **cameras** and **camcorders**.
6. Use an **advanced date filter** to view data from a certain time period. If you are using the example, display only the equipment that was checked out in **September 2010**.
7. Use an **advanced number filter** to view numbers less than a certain amount. If you are using the example, display all ID #s less than 3000.