Introduction

Access gives you the ability to work with enormous amounts of data, which means it can be difficult to learn anything about your database just by glancing at it. **Sorting** and **filtering** are two tools that let you customize how you organize and view your data, making it more convenient to work with. In this lesson, you'll learn how to **sort** and **filter** records

Throughout this tutorial, we will be using a sample database. If you would like to follow along, you'll need to download our “Sorting and Filtering.accdb”. You will need to have Access 2013 installed on your computer in order to open the example.

About sorting and filtering

Essentially, sorting and filtering are tools that let you **organize your data**. When you sort data, you are **putting it in order**. Filtering data lets you hide unimportant data and focus only on the data you're interested in.

Sorting records

When you **sort** records, you are putting them into a **logical order**, with **similar data grouped together**. As a result, sorted data is often simpler to read and understand than unsorted data. By default, Access sorts records by their **ID numbers**. However, there are many other ways records can be sorted. For example, the information in a database belonging to a bakery could be sorted in a number of ways:

- Orders could be sorted by **order date** or by the **last name** of the customers who placed the orders.
- Customers could be sorted by **name** or by the **city** or **zip code** where they live.

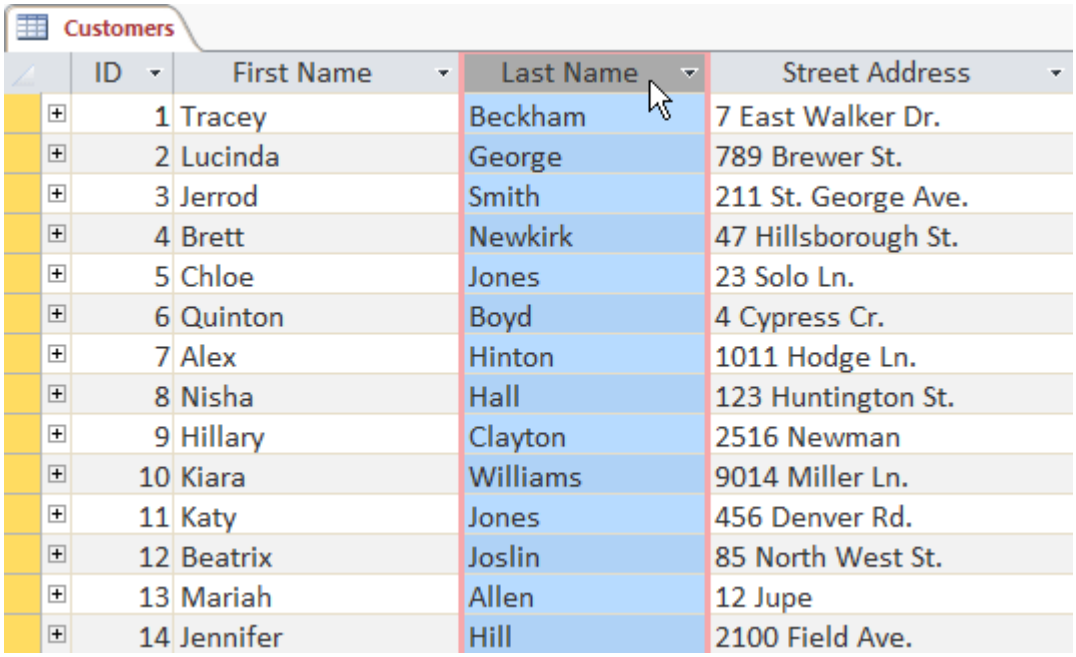
- Products could be sorted by **name**, **category** (like pies, cakes, and cupcakes), or **price**.

You can sort both **text** and **numbers** in two ways: in **ascending** order and **descending** order. **Ascending** means **going up**, so an ascending sort will arrange numbers from **smallest to largest** and text from **A to Z**. **Descending** means **going down**, or **largest to smallest** for numbers and **Z to A** for text. The default ID number sort that appears in your tables is an ascending sort, which is why the lowest ID numbers appear first.

In our example, we will be performing a sort on a table. However, you can sort records in any Access object. The procedure is largely the same.

To sort records:

1. Select a field you want to sort by. In this example, we will sort by customers' last names.

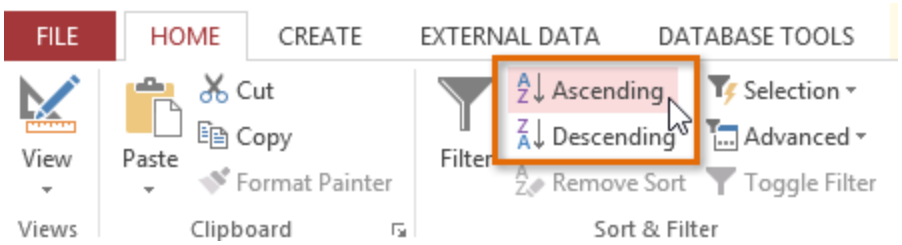


Customers

ID	First Name	Last Name	Street Address
1	Tracey	Beckham	7 East Walker Dr.
2	Lucinda	George	789 Brewer St.
3	Jerrod	Smith	211 St. George Ave.
4	Brett	Newkirk	47 Hillsborough St.
5	Chloe	Jones	23 Solo Ln.
6	Quinton	Boyd	4 Cypress Cr.
7	Alex	Hinton	1011 Hodge Ln.
8	Nisha	Hall	123 Huntington St.
9	Hillary	Clayton	2516 Newman
10	Kiara	Williams	9014 Miller Ln.
11	Katy	Jones	456 Denver Rd.
12	Beatrix	Joslin	85 North West St.
13	Mariah	Allen	12 Jupe
14	Jennifer	Hill	2100 Field Ave.

2. Click the **Home** tab on the Ribbon, and locate the **Sort & Filter** group.
3. Sort the field by selecting the **Ascending** or **Descending** command.

- Select **Ascending** to sort text A to Z or to sort numbers from smallest to largest. We will select this in our example because we want the last names to be in A-to-Z order.
- Select **Descending** to sort text Z to A or to sort numbers from largest to smallest.

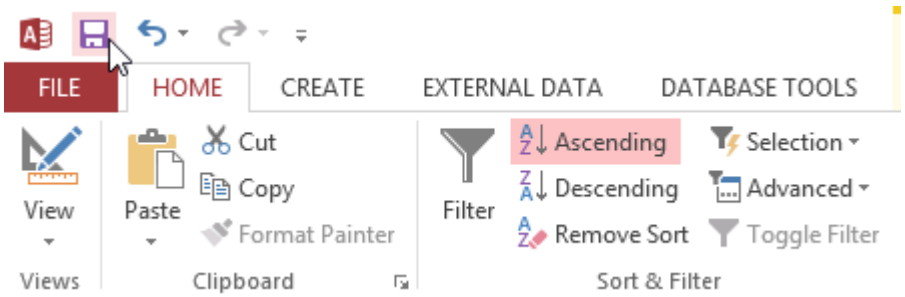


4. The table will now be sorted by the selected field.

Customers

ID	First Name	Last Name	Street Address
102	Theodore	Achi	120 Baker St.
195	Kris	Ackerman	1311 Coretta Scott Way
78	Michiko	Akiwana	901 Glenwood Ave.
188	Nathan	Albee	76-C Meadowview Ln.
13	Mariah	Allen	12 Jupe
37	Carol	Allenson	3201 Glenwood Ave. Unit A
38	Zoey	Altman	817 Hillsborough St. Apt E1
163	Franz	Angelou	291 Hinton St.
87	Robert	Armisen	21 MLK Blvd.
47	Hakim	Auden	921 Dawson St.
129	Yann	Augerot	88 Carolina Rd.
40	Vig	Aurelio	53 Pine St.
212	David	Barrett	434 Hill St.

5. To save the new sort, click the **Save** command on the Quick Access toolbar.



After you save the sort, the records will stay sorted this way until you perform another sort or remove the current one. To remove a sort, click the **Remove Sort** command.

Filtering records

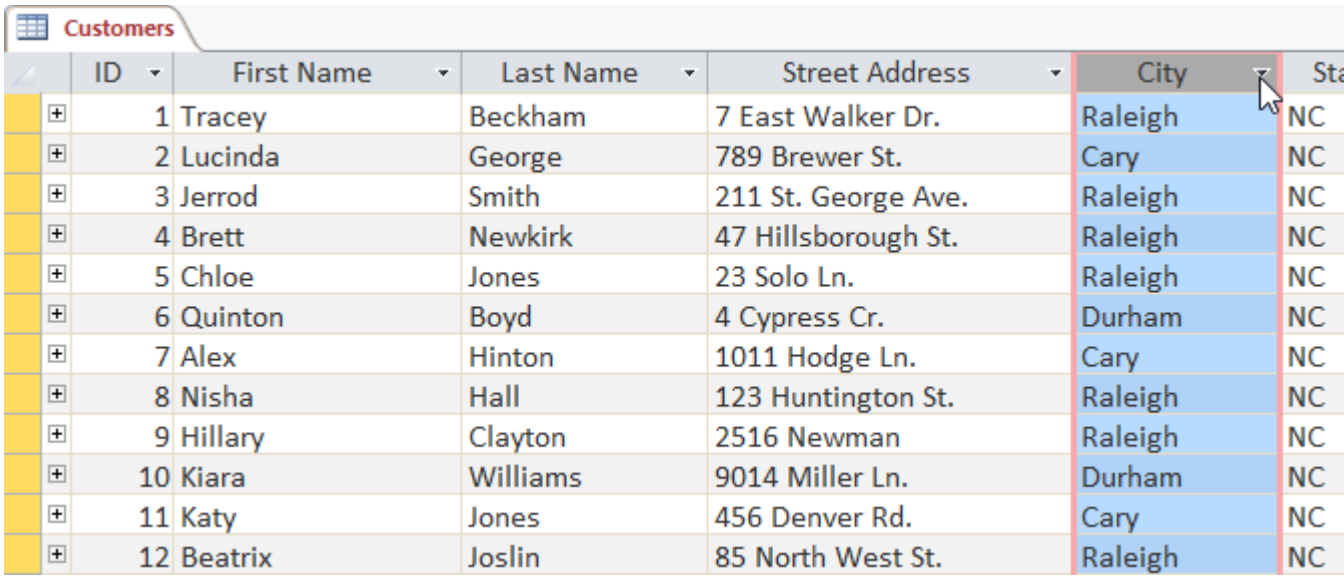
Filters allow you to view **only the data you want to see**. When you create a filter, you set **criteria** for the data you want to display. The filter then searches all of the records in the table, finds the ones that meet your search criteria, and temporarily hides the ones that don't.

Filters are useful because they allow you to **focus in** on specific records without being distracted by the data you're uninterested in. For instance, if you had a database that included customer and order information, you could create a filter to display only customers living within a certain city or only orders containing a certain product. Viewing this data with a filter would be far more convenient than searching for it in a large table.

In our examples and explanations, we will be applying filters to tables. However, you can apply filters to any Access object. The procedure is largely the same.

To create a simple filter:

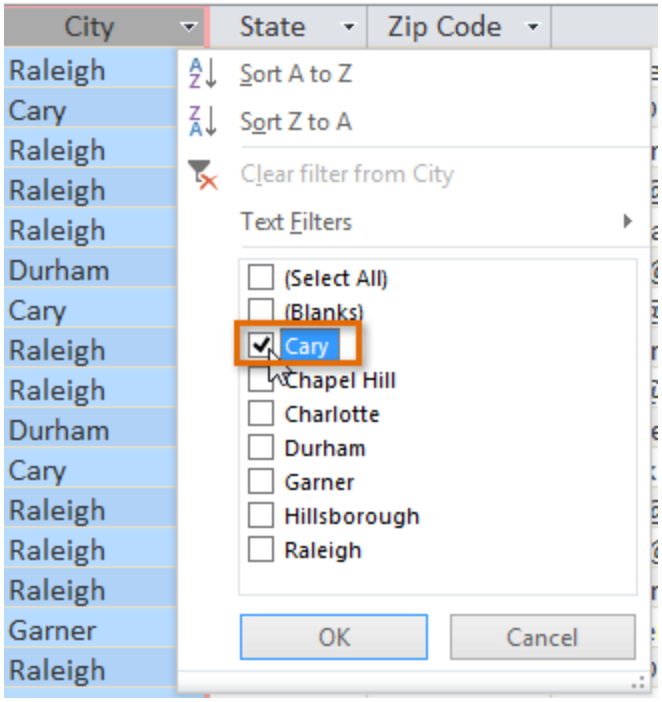
1. Click the **drop-down arrow** next to the field you want to filter by. We will filter by city because we want to see a list of customers who live in a certain city.



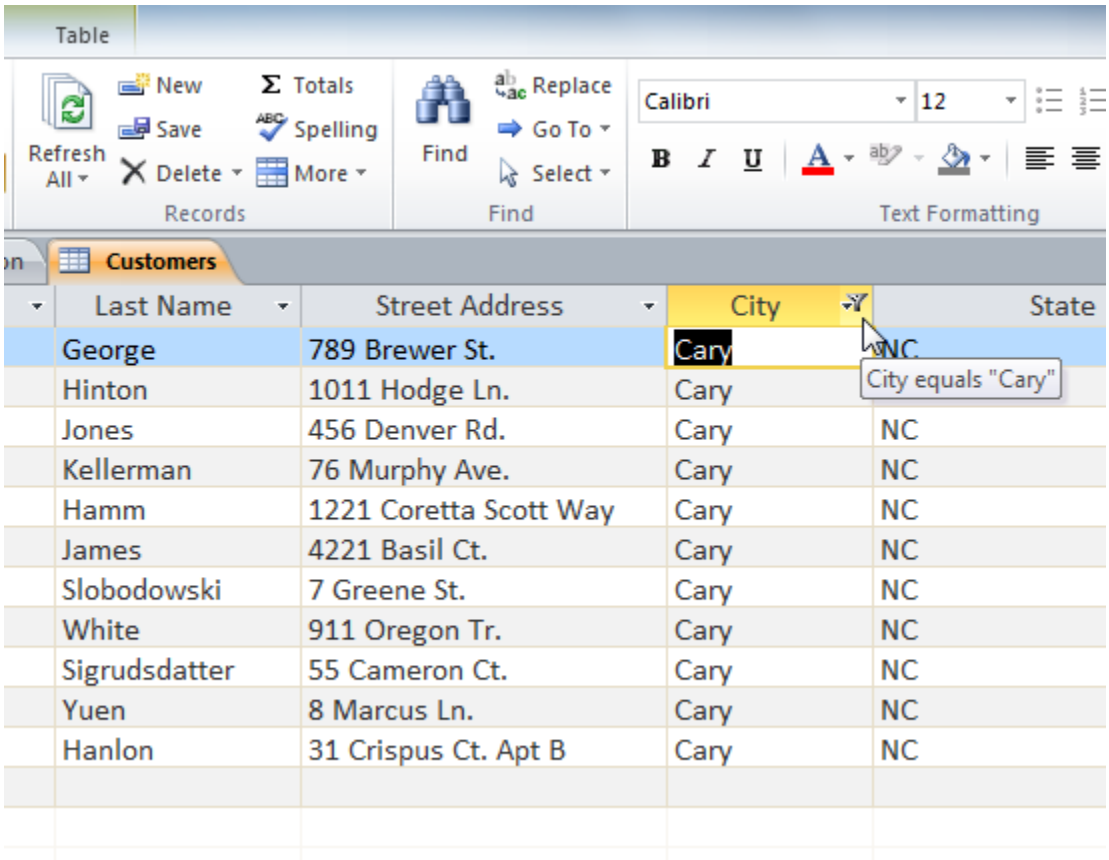
Customers

ID	First Name	Last Name	Street Address	City	Sta
1	Tracey	Beckham	7 East Walker Dr.	Raleigh	NC
2	Lucinda	George	789 Brewer St.	Cary	NC
3	Jerrod	Smith	211 St. George Ave.	Raleigh	NC
4	Brett	Newkirk	47 Hillsborough St.	Raleigh	NC
5	Chloe	Jones	23 Solo Ln.	Raleigh	NC
6	Quinton	Boyd	4 Cypress Cr.	Durham	NC
7	Alex	Hinton	1011 Hodge Ln.	Cary	NC
8	Nisha	Hall	123 Huntington St.	Raleigh	NC
9	Hillary	Clayton	2516 Newman	Raleigh	NC
10	Kiara	Williams	9014 Miller Ln.	Durham	NC
11	Katy	Jones	456 Denver Rd.	Cary	NC
12	Beatrix	Joslin	85 North West St.	Raleigh	NC

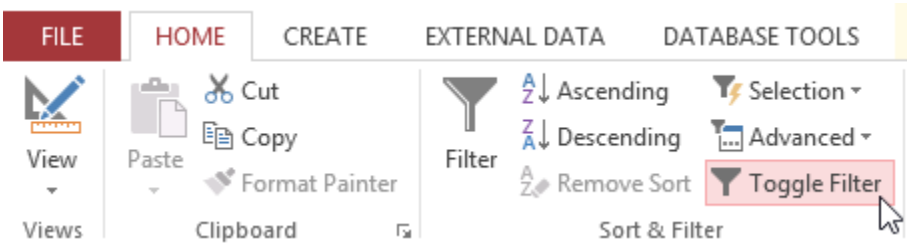
2. A drop-down menu with a checklist will appear. Only checked items will be included in the filtered results. Use the following options to determine which items will be included in your filter:
    - **Select** and **deselect** items one at a time by clicking their checkboxes.
    - Click **Select All** to include every item in the filter. If all items are already selected, this option will deselect all items.
    - Click **Blanks** to set the filter to find only the records with no data in the selected field.



3. Click **OK**. The filter will be applied. Our customers table now displays only customers who live in Cary.



Toggling your filter allows you to turn it on and off. To view the records without the filter, click the **Toggle Filter** command. To restore the filter, click it again.



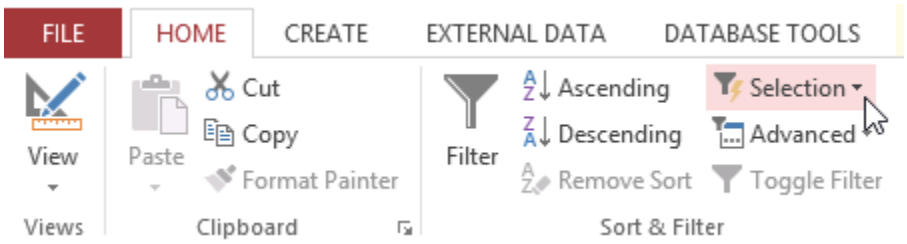
Creating a filter from a selection

Filtering by selection allows you to **select specific data** from your table and find data that is **similar** or **dissimilar** to it. For instance, if you were working with a bakery's database and wanted to search for all products whose names contained the word **chocolate**, you could select that word in one product name and create a filter with that selection. Creating a filter with a selection can be more convenient than setting up a simple filter if the field you're working with contains many items.

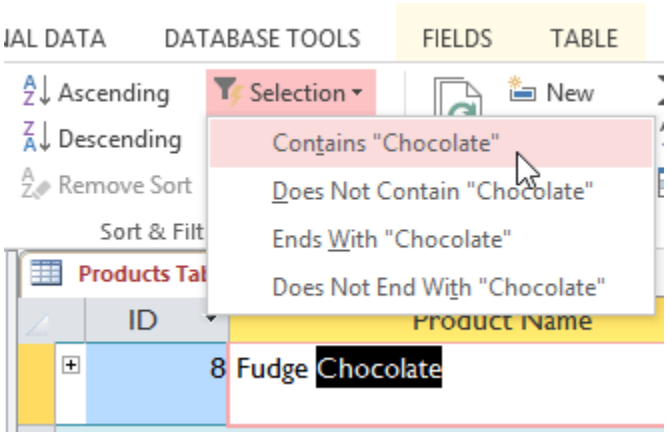
To create a filter from a selection:

1. Select the cell or data you want to create a filter with. We want to see a list of all of our products that contain the word **chocolate** in their names, so we'll select the word **chocolate** in the **Product Name** field.

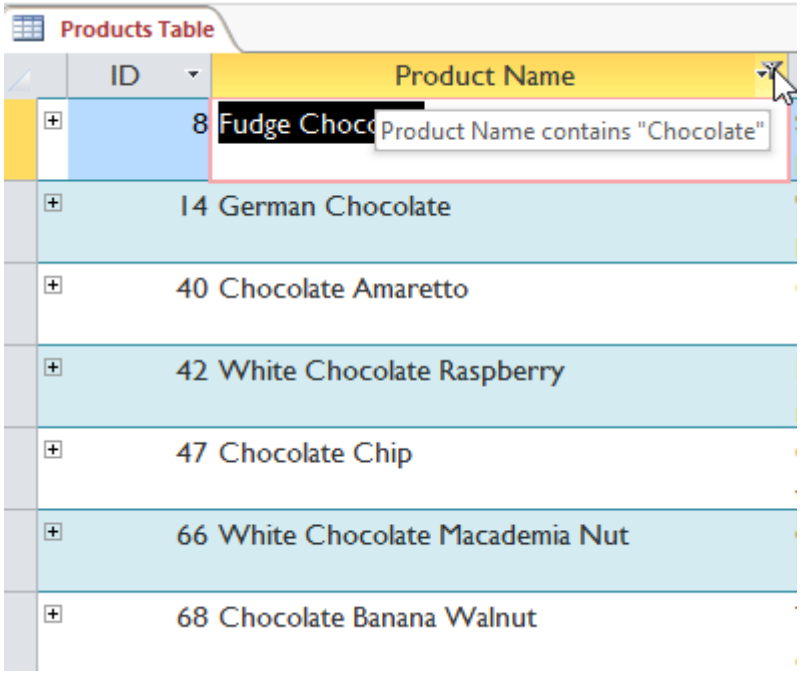
2. Select the **Home** tab on the Ribbon, locate the **Sort & Filter** group, and click the **Selection** drop-down arrow.



3. Select the type of filter you want to apply:
    - **Contains** includes only records with cells that contain the selected data. We'll select this because we want to see records that contain the word **chocolate** anywhere in the title.
    - **Does Not Contain** includes all records **except** for those with cells that contain the selected data.
    - **Ends With** includes only records whose data for the selected field **ends** with the search term.
    - **Does Not End With** includes all records **except** for those whose data for the selected field ends with the search term.



4. The filter will be applied. Our table now displays only products with the word **chocolate** in their names.



Creating a filter from a search term

You can also create a filter by entering a **search term** and specifying the way Access should match data to that term. Creating a filter from a search term is similar to creating a filter from a selection.

Filtering text by a search term

When filtering text by entering a search term, you can use some of the same options you use when filtering by a selection, like **Contains**, **Does Not Contain**, **Ends With**, and **Does Not End With**. You can also choose from the following options:

- **Equals**, which includes only records with data that is identical to the selected data
- **Does Not Equal**, which includes all records except for the data that is identical to the selection
- **Begins With**, which includes only records whose data for the selected field **begins** with the search term

- **Does Not Begin With**, which includes all records **except** for those whose data for the selected field begins with the search term

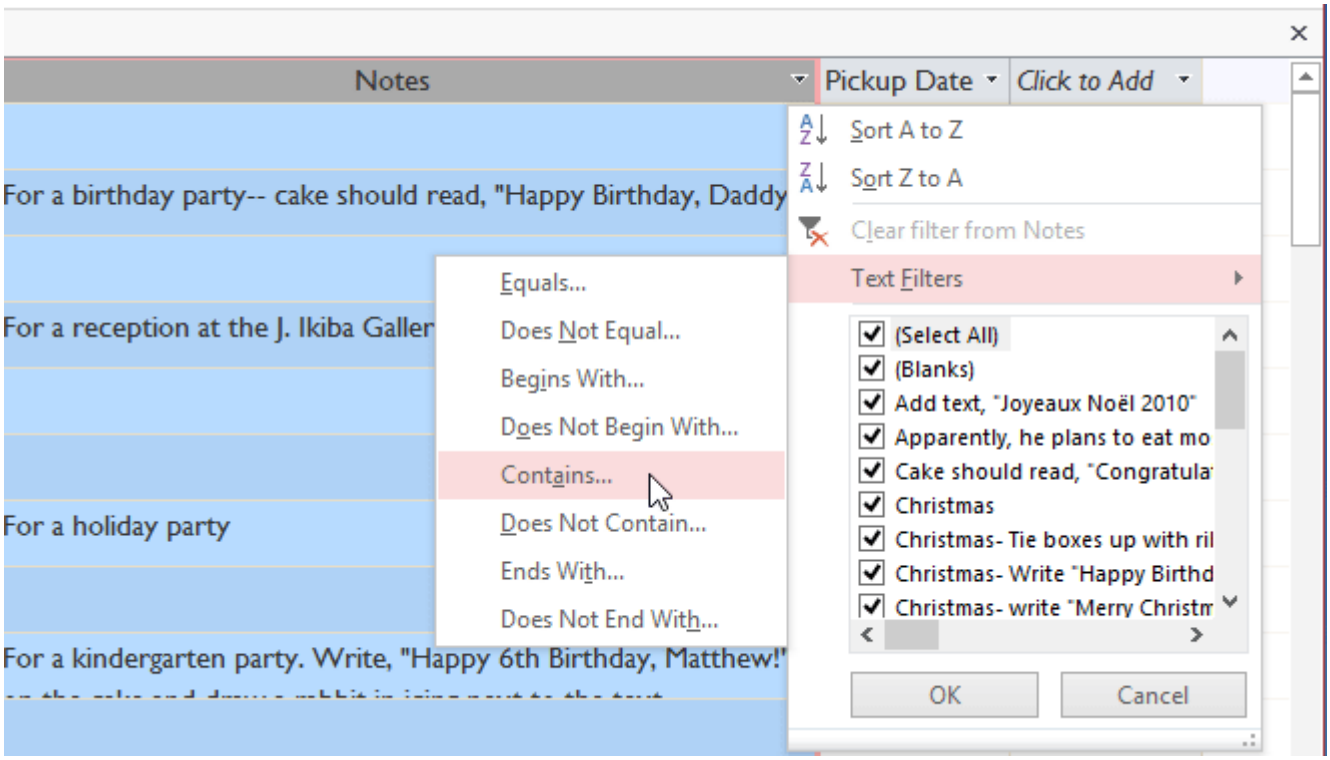
To filter text by a search term:

1. Click the **drop-down arrow** next to the field you want to filter by. We want to filter the records in our orders table to display only those that contain notes with certain information, so we'll click the arrow in the **Notes** field.

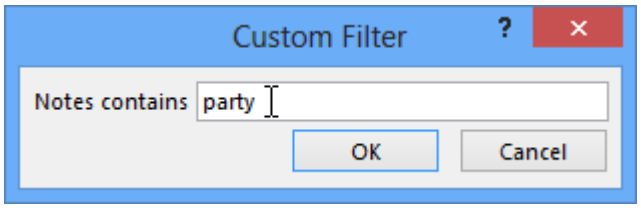
Orders Table

ID	Customer ID	Paid	Pre Order	Notes
5	44	Yes	No	
6	136	Yes	Yes	For a birthday party-- cake should read, "Happy Birthday, Dad
7	131	Yes	No	
8	145	Yes	Yes	For a reception at the J. Ikiba Gallery

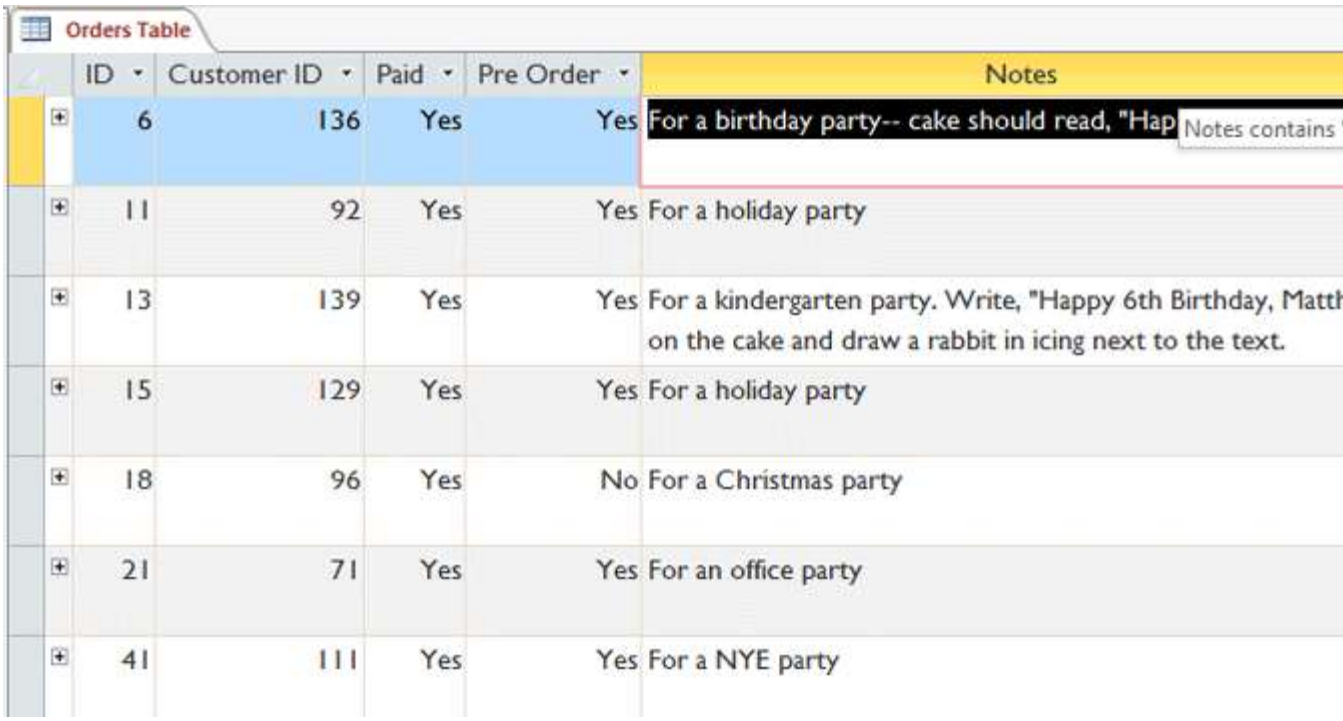
2. In the drop-down menu, hover your mouse over **Text Filters**. From the list that appears, select the way you want the filter to match the term you enter. In this example, we want to view only records whose notes indicate the order was placed for a party. We'll select **Contains** so we can search for records that contain the word **party**.



3. The **Custom Filter** dialog box will appear. Type the word you want to use in your filter.



4. Click **OK**. The filter will be applied.



Filtering numbers with a search term

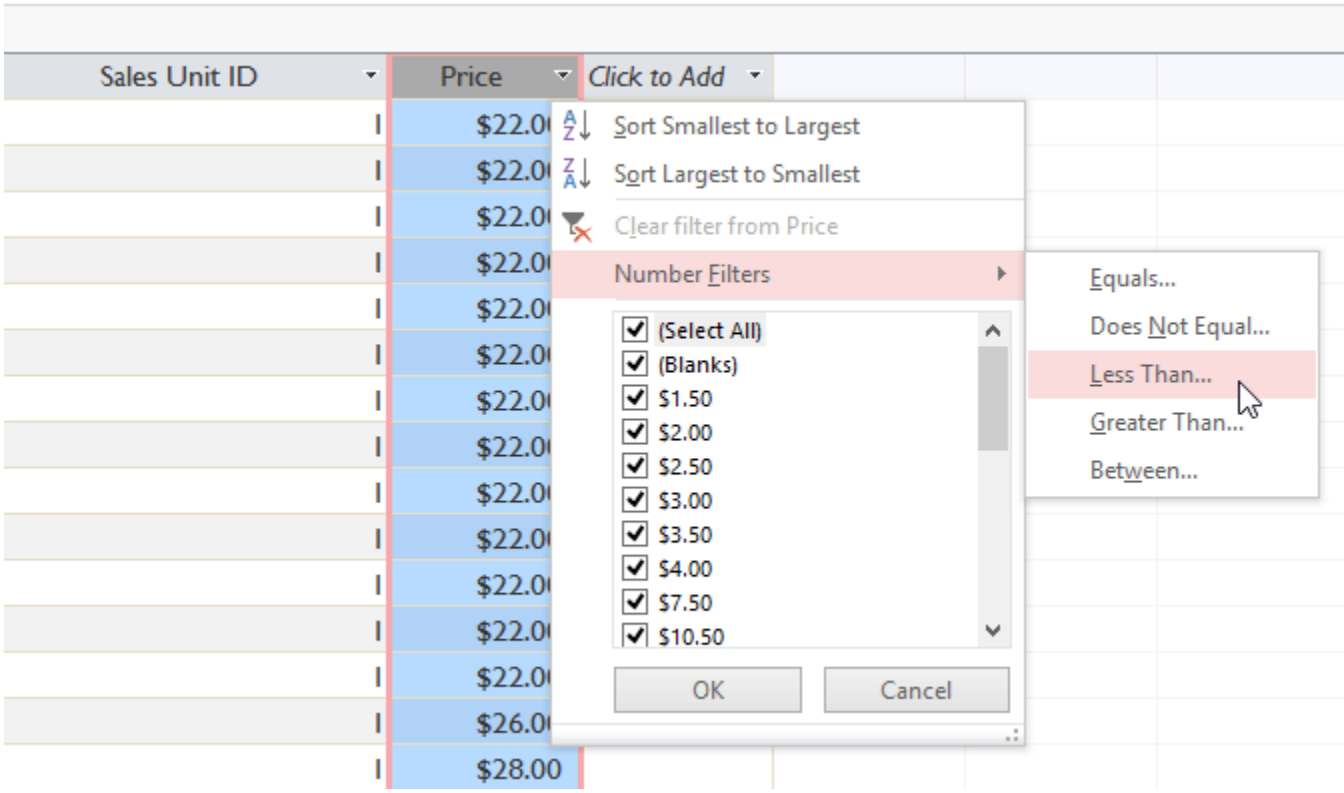
The process for filtering numbers with a search term is similar to the process for filtering text. However, different filtering options are available to you when working with numbers. In addition to **Equals** and **Does not Equal**, you can choose:

- **Greater Than** to include only records with numbers in that field that are **greater than or equal to** the number you enter
- **Less Than** to include only records with numbers in that field that are **less than or equal to** the number you enter
- **Between** to include records with numbers that fall within a certain range

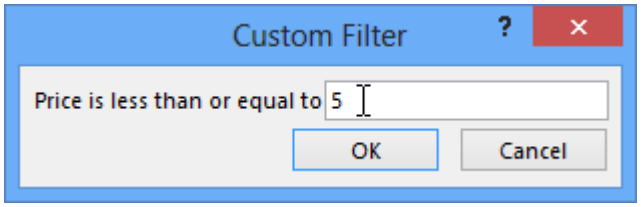
To filter numbers by a search term:

1. Click the **drop-down arrow** next to the field you want to filter by. We want to filter the records in our menu items table by price, so we'll click the arrow in the **Price** field.

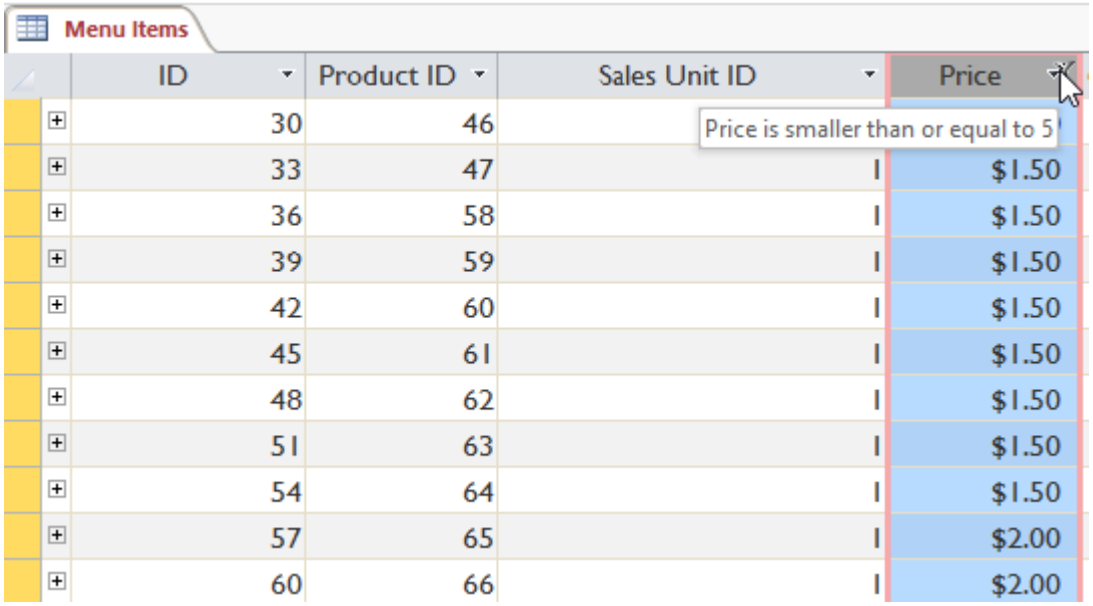
2. In the drop-down menu, hover your mouse over **Number Filters**. From the list that appears, select the way you want the filter to match your search term. In this example, we want to see items that are less than $5, so we'll select **Less Than**.



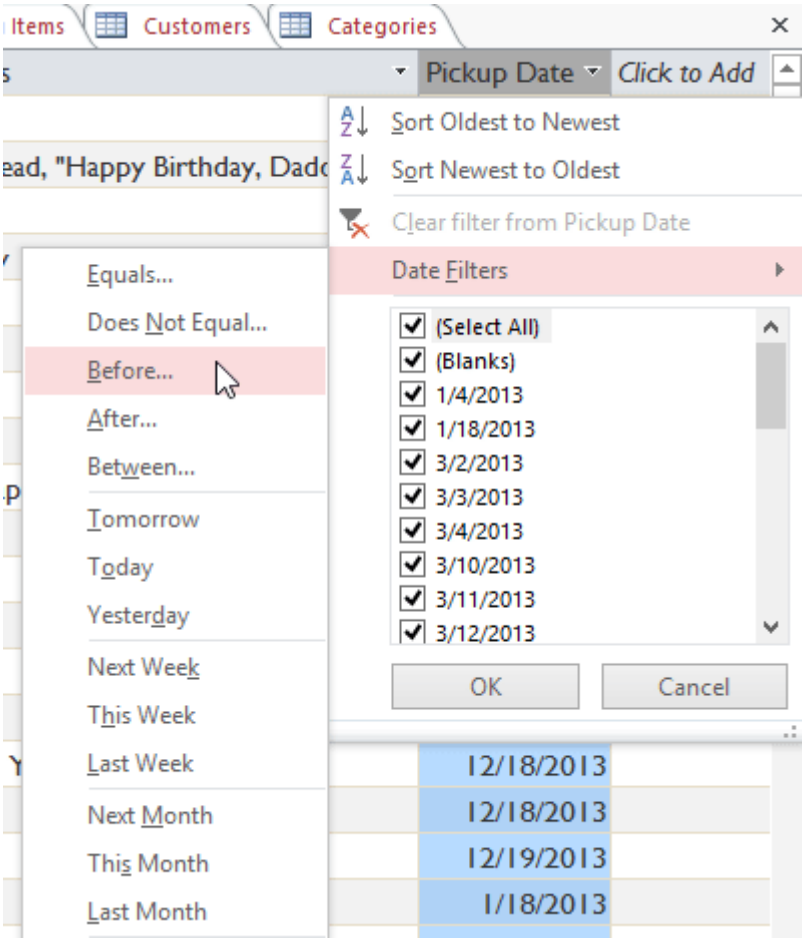
3. The **Custom Filter** dialog box will appear. Type the number or numbers you want to use in your filter. We'll type **5** so the filter will show us only menu items that cost $5 or less.



4. Click **OK**. The filter will be applied.



Specific types of numbers may include other filtering options. For instance,**dates** stored in numerical form (mm/dd/yyyy, or 12/01/2013) include options to filter by periods of time.



Challenge!

1. Open an **existing Access database**. If you want, you can use our "Sorting and Filtering.accdb".
2. Open the query called **Cakes and Pies Sold**.
3. Apply a **filter** to the **Product Types** field that shows only **Cakes**.
4. In the **Sum of Quantity** field, apply a filter that only shows numbers **greater** than five.
5. Apply an **ascending** sort to the **Sum of Quantity** field.
6. **Save** the database.