I. **What is a pivot table**

    A. Definition from Wikipedia-In data processing, a pivot table is a data summarization tool … pivot-table can automatically sort, count total or give the average of the data stored in one table or spreadsheet. It displays the results in a second table (called a "pivot table") showing the summarized data. … The user sets up and changes the summary's structure by dragging and dropping fields graphically. This "rotation" or pivoting of the summary table gives the concept its name.

    B. It is a tool for answering questions about data

    C. Prepare your data open fruit and vegetable data

        1. No blank rows or columns

        2. Header row with unique titles

        3. No data next to the data table

        4. No text data in value or date fields

        5. Column headers short unique and easy to understand

        6. Use Data Table for source

II. **Create and Use a Simple One Dimension Pivot Table**

    A. Plan your pivot table

        1. Plan your question

            a) *How many of each product have we shipped?*

            b) *Which product have we shipped the most of?*

            c) *Try to find the answer right now*

                (1) Sort by product

                (2) Get total for each one

        2. Layout how you want the pivot table to look

            a) *Draw out the table*

    B. Understand the parts of the pivot table

        1. Row-each fruit

        2. Column-total sales

        3. Values-amount of sales

        4. Filters-choose which countries

Product	Total
Apple	191257
Banana	340295
Beans	57281
Broccoli	142439
Carrots	136945
Mango	57079
Orange	104438
Total	1029734

C.   Create your pivot table

1.   Convert data to a Table if needed

2.   Click in or select your data

3.   Go to Insert, Pivot Table

4.   Make sure it has chosen your data correctly

5.   Decide where you want the pivot table

6.   Look at the Pivot Table Field List Dialog Box

a)   *Field box*

b)   *Row Label*

c)   *Column Label*

d)   *Report Filter*

e)   *Values*

7.   Set up the table

a)   *Drag product to row area*

b)   *Drag Amount to Value area*

c)   *Drag Country to Filter*

D.   Filter

1.   Think of what you want to know like sales to France

2.   Click on the drop-down list in the filter area and choose France

3.   You can also filter the products that you want to see in your table

E.   Change Calculations

1.   What if I wanted to know how many orders for each product?

2.   Look at your main data table and try to see how you would figure that out.

3.   Right click on one of the total cells and choose value field setting

4.   Change it to "count"

F.   Formatting Pivot Table

1.   To format Value as currency, right click and chose "Number Format"

2.   Look at options in PivotTable Tools, Design Ribbon

G.   Practice

1.   Create a Pivot Table that answers the question how much fruit do I sell to each country

2.   Create a Pivot Table that answers the question how do my fruit and vegetable sales compare

3.   You can use the Field List to manipulate or pivot the data

III. Create and Use a Simple Two-Dimensional Pivot Table

A. Plan your pivot table

  1. Plan your question

   a) *How many of each product have we shipped to each country?*

   b) *See data for fruit or vegetables*

   c) *Look at your main data table and try to see how you would figure that out.*

  2. Layout how you want the pivot table to look

   a) *Draw out the table*

Country	Apple	Banana	Beans	Broccoli	Carrots	Mango	Orange	Grand Total
Australia	20634	52721	14433	17953	8106	9186	8680	131713
Canada	24867	33775		12407		3767	19929	94745
France	80193	36094	680	5341	9104	7388	2256	141056
Germany	9082	39686	29905	37197	21636	8775	8887	155168
New Zealand	10332	40050		4390			12010	66782
United Kingdom	17534	42908	5100	38436	41815	5600	21744	173137
United States	28615	95061	7163	26715	56284	22363	30932	267133
Grand Total	191257	340295	57281	142439	136945	57079	104438	1029734

  3. Set up the table

   a) *Drag country to row area*

   b) *Drag the product to the column area*

   c) *Drag Amount to Value area*

   d) *Drag Category to Filter*

B. Filter

  1. What if you want to see total sales for fruit in each country

  2. Click on the drop-down list in the filter area and choose fruit

  3. Change the filter to only show countries in North America

  4. Change the filter to only show apples and oranges in North America

C. Change Calculations

  1. What if I wanted to know how many orders for each product?

  2. Right click on one of the total cells and choose value field setting

  3. Change it to "count"

D. Practice

  1. Change the table so it shows fruit as the rows and countries as the columns

2. Create a Pivot Table that answers the question how do my fruit and vegetable sales compare in each country and filter that by date and only show January

IV. Practice

A. A factory produces parts for General Motors, they make the part then they ship it to different facilities for deburring, coating and finishing then it comes back to their warehouse. Then need to know how many of each part they have at each location and the total. They need to filter that information by the status of the part.

B. Draw out a sketch of how you want the pivot table to look

C. Create the Pivot Table

D. Sort the list to show the largest grand total numbers at the top

E. Filter the list to show only what is in production or stored.

F. Change the calculations so it shows now many lots of each part there are

G. Change the pivot table so it shows parts as the rows and location as the columns

V. Additional Features

A. Recommended Pivot Tables

B. Grouping
   1. Try adding additional rows such as using product and then country
   2. Try adding additional columns

C. Additional calculations
   1. What if you wanted to show the percent of sales rather than actual sales
   2. Right click on one of the value cells and choose "show value as"
   3. Choose % of row total
   4. Try some of the others

D. Get more detail
   1. What if you wanted to see the details that were used to get the data in a specific row?
   2. Right click on a cell and choose "show detail"

E. Create a Chart
   1. Click on the PivotTable, Analyze Ribbon and choose PivotChart
   2. Select the Chart use want to use

    3. Change the filter to change what shows in the chart

 F. Practice using machine shop data

    1. Change the calculations to show what percent of each part is at one location

    2. Create groupings by putting locations under parts in the row area

    3. Look at all the details for one row.

    4. Create a simple pivot table that just shows how many of each part there is

    5. Create a pie chart of that information.

    6. Change the filter on the chart so it does include what is projected or ordered

VI. Explore

 A. Design Ribbon

 B. Slicer

 C. Timeline

VII. Resources

 A. Knowledgewave.com

 B. Excel-easy.com