

Lab #18 A Throw-Away Society?

This Project

Students create spreadsheets to analyze landfill content. They will then utilize this data to create exploded doughnut charts.

Materials

None

Before the Computer

- Explain to your students that they are going to use data collected about the current contents of our nation's landfills to create an informative chart.
- This information is important for our society, because our country's population is growing, and we need to conserve our resources as best we can.
- By studying landfill contents, it is possible to identify the items that might be reused or recycled. Not only does recycling perpetuate our nation's resources, but it also reduces the need to rely on large landfills that may cause damage to the environment.

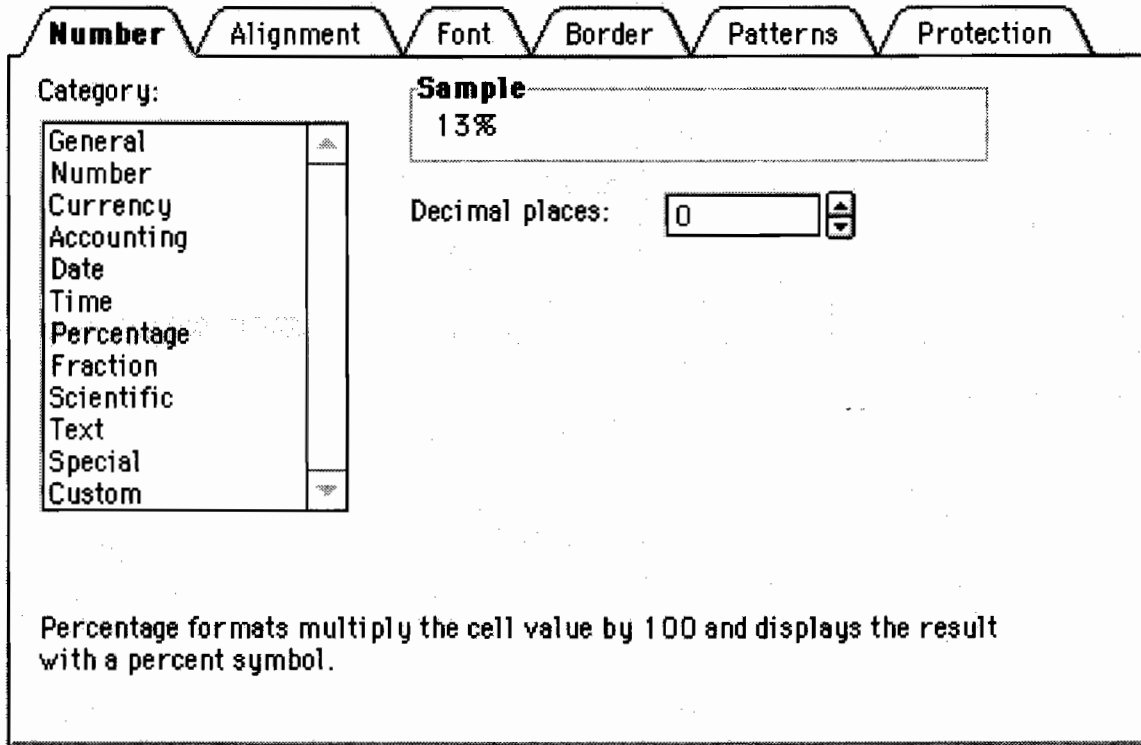
A. Create a Spreadsheet

1. Open a new workbook document in *Excel*.
2. Click in cell A1. Type the label (*Type of Waste*).
3. Press the **Tab** key on your keyboard to move to cell B1.
4. In cell B1, type (*Volume of Landfill Waste*).
5. Change the style of each label to **Bold**. To do this, highlight the cells and click the **Bold** button (**B**) on the tool bar.
6. Adjust the width of each column so both labels are readable. This is done by moving your cursor up to the line separating one column from another. The cursor will change to a line with two arrows pointing outwards. **+** Click and hold your mouse button down as you drag the line until all of the text shows.
7. Enter the data for landfill composition as listed in the following table. Make sure you enter the percentage of the waste in its decimal form. For example, 25% would be entered as 0.25.

Volume of Landfill Waste	
Type of Waste	Volume of Landfill Waste
Organic Material	13%
Glass	1%
Metal	6%
Plastic	10%
Paper	50%
Other	20%

Lab 18 (cont.)

8. Center all of the data in each cell. To do this, highlight the cells and click on the **Center** button on the tool bar.
9. Highlight cells B2-B7. Go to the **FORMAT** menu and drag your mouse down to select **Cells**.
10. Click the **Numbers** tab. Choose **Percentage** and set the **Decimal Places** to (0).



11. Click **ok**.

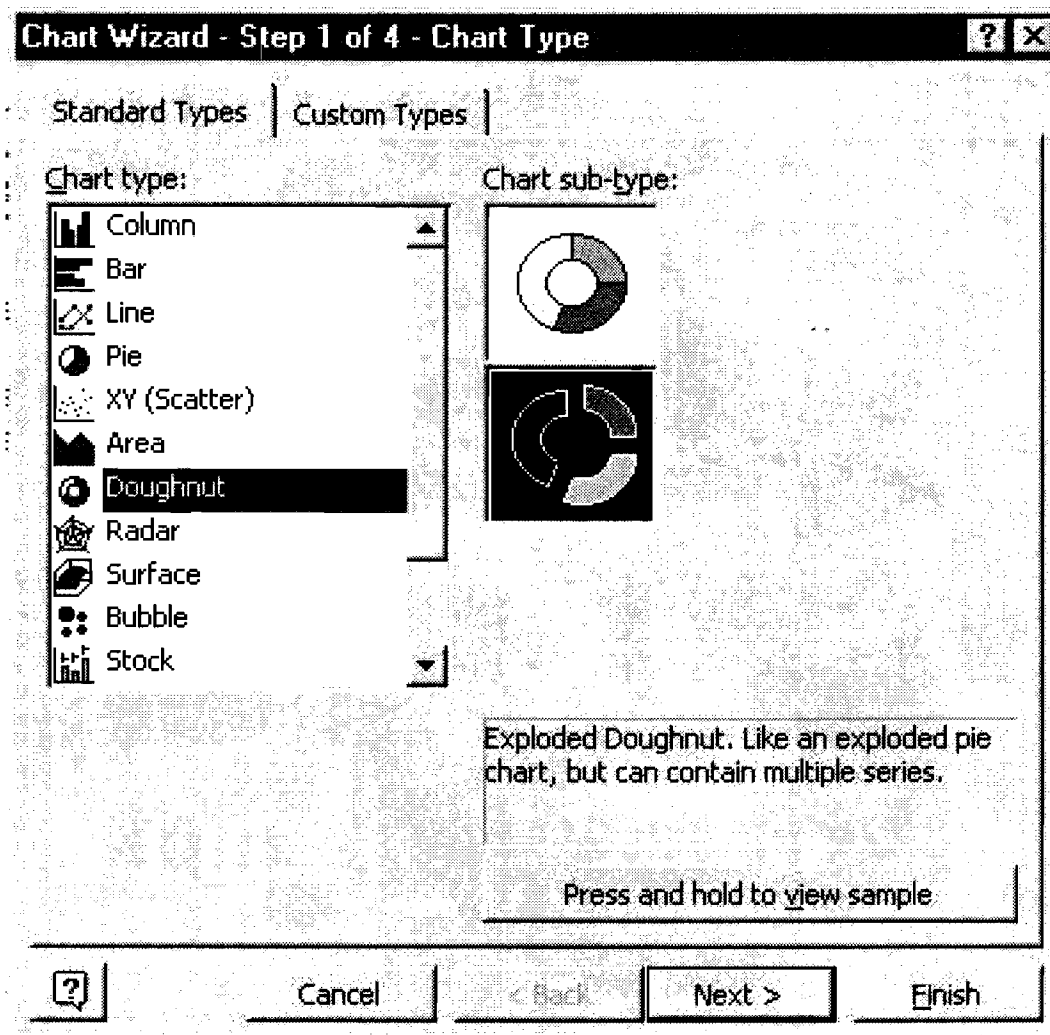
	A	B
1	Type of Waste	Volume of Landfill Waste
2	Organic Material	13%
3	Glass	1%
4	Metal	6%
5	Plastic	10%
6	Paper	50%
7	Other	20%

12. Save your data at this point and continue with part B.

Lab 18 *(cont.)*

B. Create an Exploded Doughnut Chart

1. Highlight cells A1-B7.
2. Pull down the **INSERT** menu and choose **Chart**. You can also click on the **Chart Wizard** icon located on the tool bar.
3. Select **Doughnut** from the **Chart Type** list.
4. Choose **Exploded Doughnut** from the **Chart Sub Type** selections.

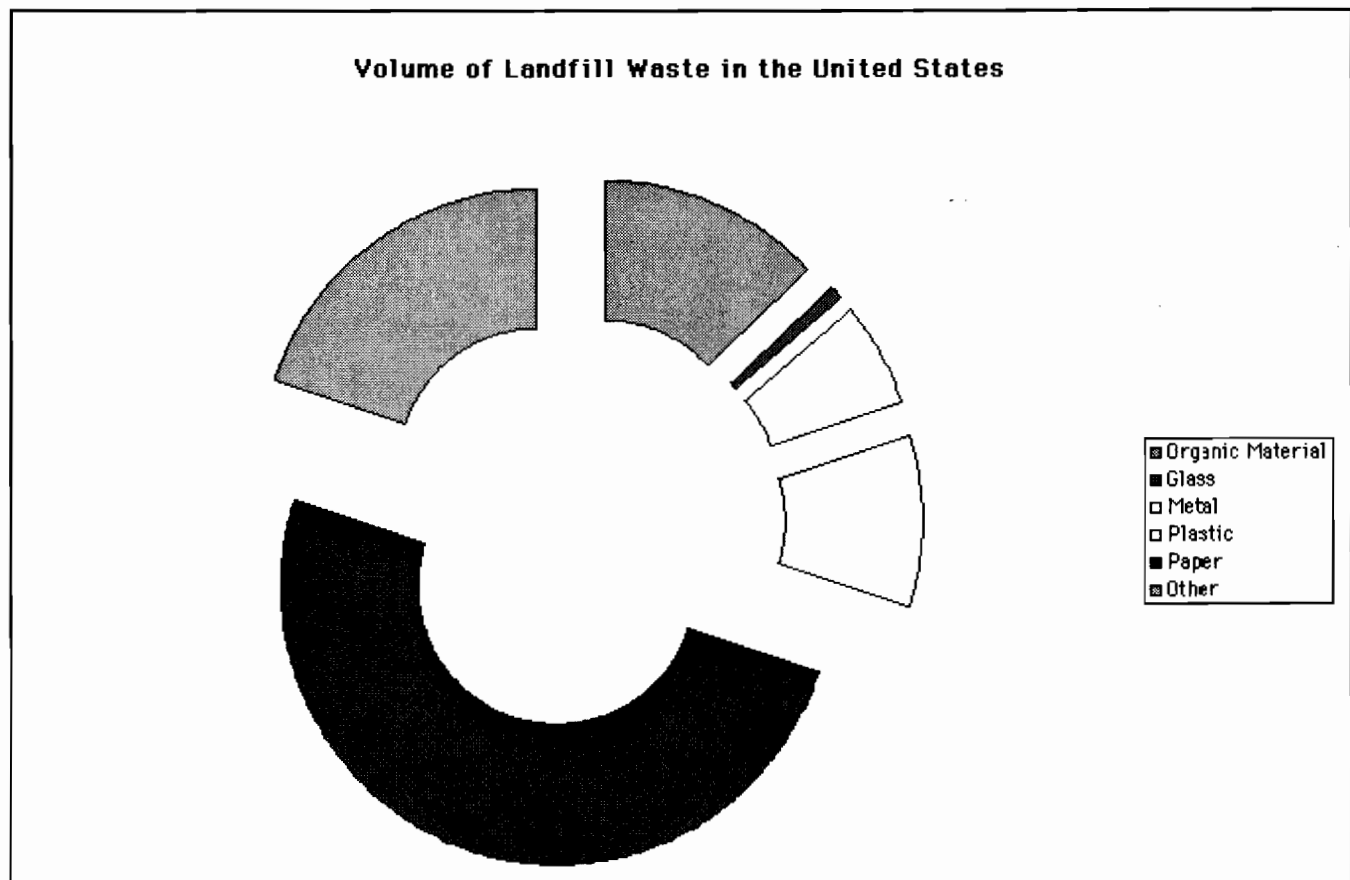


5. Click the **Next** button.
6. Click the **Next** button once again to accept the default values in the **Data Range** window.

Lab 18 (cont.)

7. In the **Chart Options** window, click the **Title** tab. Type (*Volume of Landfill Waste in the United States*).
8. Click the **Data Labels** tab, and choose **Show Label** and **Percent**.
9. Click the **Next** button.
10. **Choose As New Sheet**. Label it (*doughnut chart*).
11. Click **Finish** to display your chart.

Do you believe that all of the items in your chart belong in landfills and cannot be recycled? Using your chart, by how much do you think that landfill volume can be reduced if there was more recycling done in the United States?



This completes the activity.

Remember to save your file.