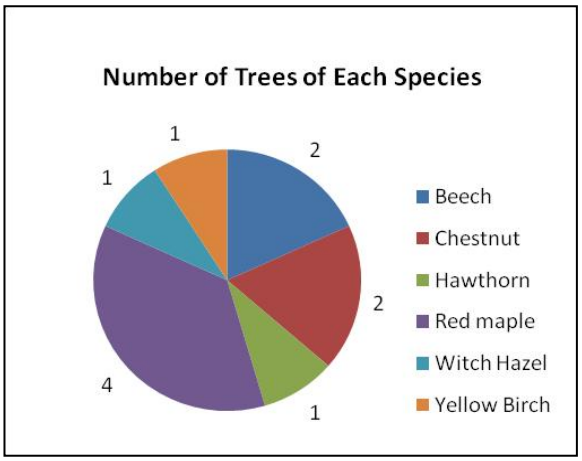
WEEK 4

EXERCISE ON CHARTS

1. Create a Pie Graph by Selecting a Data Table

Select data in an existing data table and creates a pie graph ofthe data (Figure G1).

Figure G1. Tree species sampled in schoolyard phenology study at Athol-Royalston Middle School, 2004-2007.



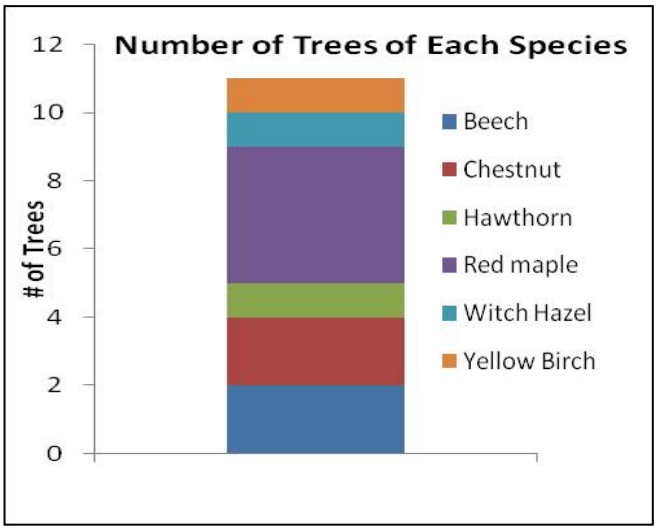
Tree Species	Number of Trees
Beech	2
Chestnut	2
Hawthorn	1
Red maple	4
Witch Hazel	1
Yellow Birch	1

NOTE: Formatting and editing a pie chart can include specifying a title, adjusting the legend, changing colors for individual pieces of the pie, deciding whether to include data values on the graph and where to put them, choosing whether to have a solid pie or one with the pieces exploded, and various other options. Take the time to explore ways to change the appearance of the pie chart you have created, and consider how the changes enhance or fail to enhance the story you want to tell.

2. Create a Stacked Bar Graph Using Source Data Dialog Boxes in Excel

Use the same tree-species data as in the pie graph in Exercise 1, but use the Source Data dialog boxes to specify thedata you will be using to create a stacked bar graph, as in Figure G2.

Figure G2. Trees sampled in fall phenology study by students at Athol-Royalston Regional Middle School, 2004-2007.



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1. Use the Data Source dialog box to specify individual data to be graphed, creating a series.
2. Format/edit the graph, as appropriate – format axis titles, change font size, adjust the range, alter fonts and colors, and make other changes to make your graph attractive and informative.

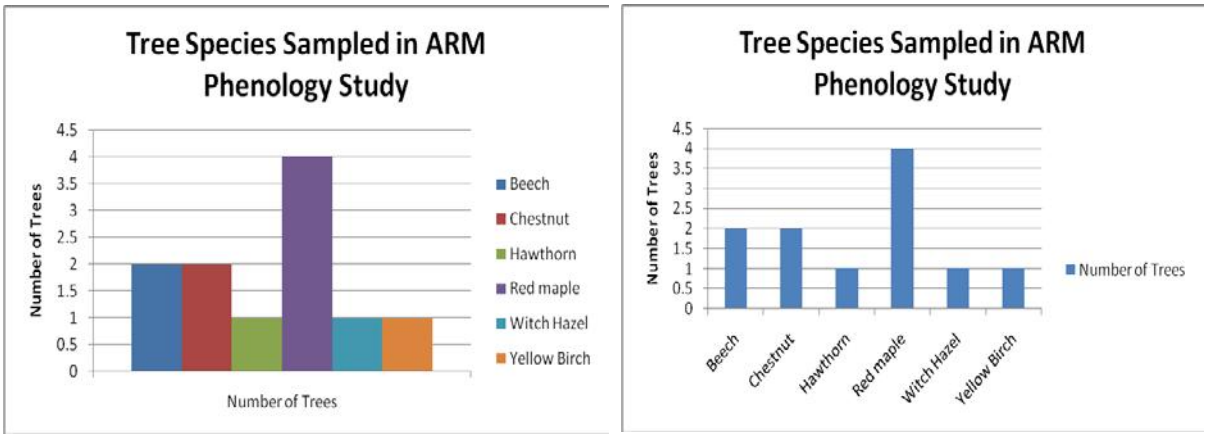
3. Create a Simple Bar Graph from an Existing Graph

The aim is to convert an existing graph into another kind of graph, specifically the simple bar graphs shown in Figure G3.

Figure G3. Two versions of simple bar graphs produced from the pie graph and stacked bar graph in Figures G1 and G2.

Left, graph produced by specifying that data are in rows.

Right, graph produced by specifying that data are in columns.

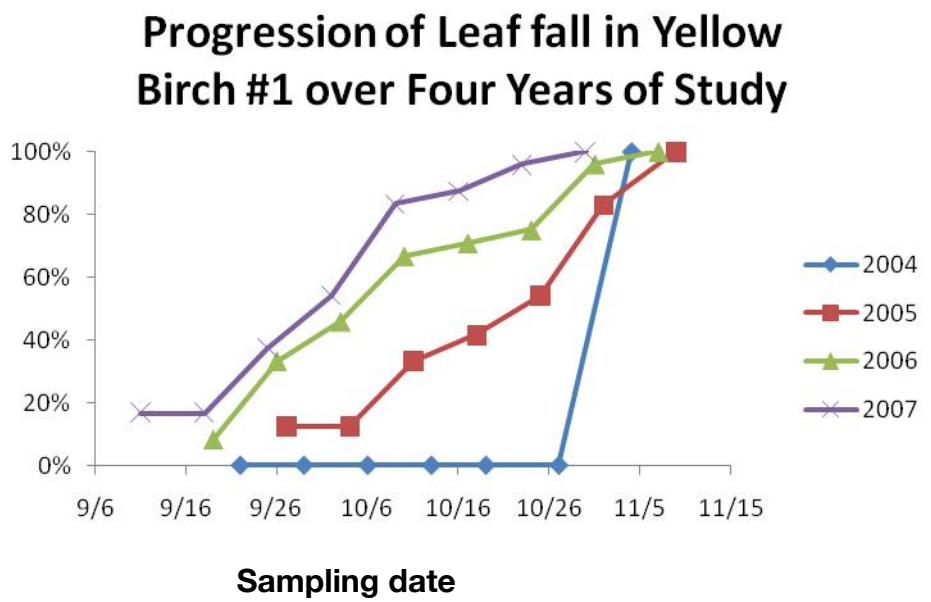


- In Excel, become familiar with commands such as Switch Rows/Columns command, the Change Chart Type dialog, and the Source Data dialog boxes

4. Graph Leaf-Fall Data from One Tree

The data will be graph leaf fall from a single tree over four years of sampling. The graph will be similar to Figure G4.

Figure G4. Progression of leaf fall in a yellow birch sampled in 2004-2007 by students at Athol-Royalston Middle School



1. Sort the data to organize the data by tree, so each tree's data are presented chronologically, together.
2. Add a new column to the data table, and in this column insert the percent of leaves fallen for each tree on each date. (The data set shows number of leaves fallen, so you will need to convert the number fallen on each date into a percent of all leaves observed on that date.)
3. Insert a new graph that will show percent of leaves fallen vs. date. Specify that you want a scatter plot with lines connecting the points.
4. Edit the graph, as appropriate. You may want to adjust the symbols used for the different years, their colors, and their sizes; edit the legend; format the axes to make them more readable; or make other changes to make the graph more effective at showing the results of the study.

5. Convert count data in a spreadsheet to percentages
6. Use the Source Data dialog to create acomplex graph.