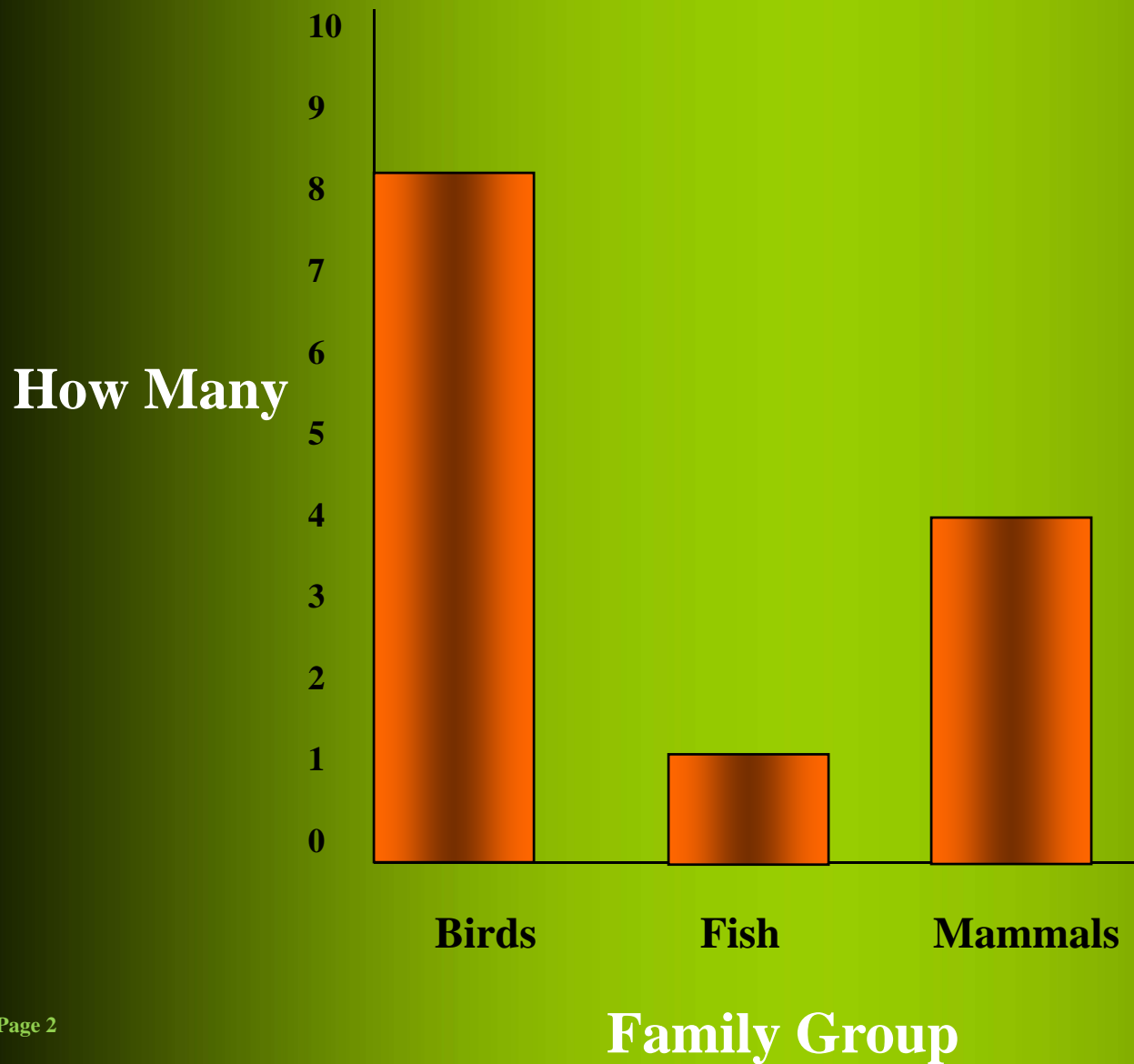


## **How to make two different graphs using the same data – manually**

### **Graph 1 – Bar graph by Family Groups**

1. List the species seen by their family groups (birds, mammals, etc.)
2. Total the number of species
3. Draw the “x” and “y” lines
4. Put a “0” at the bottom, “1”, “2” etc. up the “y” axis (vertical)
5. Put the names of the family groups along the “x” axis (horizontal)
7. Draw a rectangle from the “x” axis to the correct number on the “y” axis
8. Repeat for each family
9. Label the “x” axis “Family Group”
10. Label the “y” axis “How Many” or “Quantity”
11. Explain what the graph is showing

# Species Observed



## **How to make a pie chart by family groups – manually**

### **Graph 2 – Pie Chart by Family Group**

1. Make a list of family groups (e.g., mammals, birds, insects, etc)
2. Total the number of mammals, etc
3. Write the total next to the family group
4. Add the totals together to create the grand total
5. To calculate the percentage: Divide each family total by the grand total and multiply by 100
6. Draw a circle
7. Divide the circle by the percentages
8. Make a legend – explaining each piece of the “pie”
9. Label the pie chart
10. Explain what the pie chart is showing

## Species Seen by Family Groups

