Classification and Cladograms

Objectives:
This activity will have you identify different characteristics of well known materials. You will learn how to organize this data in an ordered manner. By manipulating the data you collect, you will be able to apply these findings and concepts to higher order organisms, just like scientists!

Predict/ Hypothesize:
Which of these candies do you think are the most similar?

Instructions:
1. Identify as many different characters you can about the candy given to you. Fill in the data table below with 1's if the character is present and 0's if it is not present in each of your given samples.

↓Character/→Candy					

2. Make a dichotomous key of your candies. Make sure each line has a yes or no answer. Use the boxes below to write your different steps. You can use the presence of the characters you listed above or you can make new identifying categories.   Depending on how you separate the categories will change the amount of steps you need, so you may not use all of the boxes provided below.

Step	Character	Go to step/Candy name
1a 1b		
2a 2b		
3a 3b		
4a 4b		
5a 5b		
6a 6b		

Analysis and Conclusions

1. Do you think the characters you picked were the best one to determine the relationship between the candies? Did you need to adjust from your original data table? EXPLAIN.

2. Based off of your data collection and tree, what new perspectives have you gained about evolution?

3. What character separates one candy the most from the others? Is there one?

4. What type of evolutionary trend does your tree appear to follow? Gradualism? Punctuated equilibrium?

5. Do you think candy has evolved? Explain.

6. If a stick of gum were added to this tree, where would you add it? Why?