Wave Exploration: Student Activity Sheet

Name:_____ Date:_____

Traverse Waves

Go to https://s3.amazonaws.com/NacreData/waves/project/wave-on-a-string/wave-on-a-string_en.html.

1. Set the frequency and amplitude controls at 48 and begin running the wave. Use the pause button to stop the wave. Measure a wavelength. The wavelength measurement is _____.
2. With the wave stopped and the frequency and amplitude still set at 48, measure the amplitude of the wave. The amplitude measurement is _____.
3. Make a wave that has a length of 20 cm. Record the control settings that achieved this length.
   a. Amplitude _____ Frequency _____
   b. Which of the two controls made the most difference in length? _____
   c. What difference did the other one make?_____
   d. What do you think might explain this?_____
   _____
4. Adjust the controls to make a wave measuring 15cm in wave height.
   a. Amplitude _____ Frequency _____
   b. Which of the two controls made the most difference in height? _____
   c. What difference did the other one make? _____
   d. What do you think might explain this?_____
   _____
5. Set the frequency to 25 and use the timer to find how long one complete cycle takes. Record the time (to the nearest .01sec.): _____ seconds
   a. Describe how you know when the wave looked exactly like it did when you started. _____
   _____
6. Minimize the window on the screen. Predict the time the wave will take to go through a cycle with the frequency set to 50. Your prediction:
   a. Describe how you went about predicting this. _____
   _____
   b. Open the window and test your prediction. Compare your prediction to what actually occurred?
   _____
   _____
7. How does the frequency control relate to actual frequency? _____
   _____