Wave Interference Activity **Name**_____

This exercise will provide you with an opportunity to experiment with interference that results from the interaction of sinusoidal waveforms.

1) Browse to the Wave Interference Applet page. What does the blue wave at the bottom of the applet represent with relation to the two green waves at the top?

2) Drag the double-headed arrow at the left end of Wave 1 to the right and to the left. Explain why this causes the shape of the blue wave to change.

3) Drag the four-headed arrow at the left end of Wave 1 up and down. Explain why this causes the shape of the blue wave to change.

4) Drag the four-headed arrow at the left end of Wave 1 to the right and left. Explain why this causes the shape of the blue wave to change.

5) Use the sliders to make the wavelengths of the two green waves identical, and to make their amplitudes identical. Move the phase slider of one of the waves to make the blue wave become a straight line. What are the values of .the phase positions when this happens? What is the result of subtracting the smaller phase number from the larger one?

6) Move the phase slider of one or both of the green waves until the height of the blue wave reaches a maximum. What is the relationship between the values of the two phase positions when this occurs?

7) Look up “wave interference” on the web. What is constructive interference? What is destructive interference?

8) Press the start button to initiate the wave animation. Experiment with different values for the various sliders. What are some of the interesting things you can make happen with the blue wave, and how did you do it?