Wave interactions teacher guide

**A diagram of a measurement

Description automatically generated**

**A diagram of a student

Description automatically generated**

*The amplitude of the wave should approximately double at the center mark when the two waves combine.*

*A black and red arrows

Description automatically generatedA red and black line

Description automatically generatedA black and red lines

Description automatically generated*

*Watch example of constructive interference:*

<https://www.youtube.com/watch?v=ypcX1LdmMPM>

**A diagram of a student

Description automatically generated**

**A diagram of a diagram

Description automatically generated**

*The amplitude should cancel out and be close to zero at the center mark.*

*A black and red arrows

Description automatically generatedA black cross with a white background

Description automatically generated*A black and red line

Description automatically generated

**A diagram of a student

Description automatically generated**

**A screenshot of a white board

Description automatically generated**

*The amplitude of the new wave will be the sum of the amplitude of the individual waves.*

*A red line on a white background

Description automatically generated*

*Constructive interference describes when waves combine that have amplitude in the same direction so that the result is a wave with a larger amplitude than the original waves.*

**A screenshot of a white board

Description automatically generated**

*The amplitude of the new wave will be the sum of the amplitude of the individual waves, which cancels the individual waves.*

**

*Destructive interference describes when waves combine that have amplitudes opposite directions so that the result is a wave with a smaller amplitude than the original waves.*

**A diagram of a wave pattern

Description automatically generated**

**A diagram of a graph

Description automatically generated**

**A screenshot of a white board

Description automatically generated**

**A white background with black text

Description automatically generated**

**A graph with a diagram

Description automatically generated**

Answer:

A picture containing chart

Description automatically generated

**A graph with lines and squares

Description automatically generated**

Answer:

A picture containing chart

Description automatically generated