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The diagram below represents one type of wave created on a guitar string when the string is plucked. The string has a length of 0.65 m and vibrates at a frequency of 880 Hz.



- In your Student Answer Booklet, copy the wave diagram and label the wavelength of the wave.
- Calculate the velocity of this wave on the string. Show your calculations and include units in your answer.

The wave on the guitar string also creates sound waves in the air. The speed of the sound waves is 340 m/s in air. The pitch created by the guitar string matches the pitch heard by an observer.

- Compare the frequency **and** wavelength of the wave on the guitar string to the frequency and wavelength of the sound waves in the air.