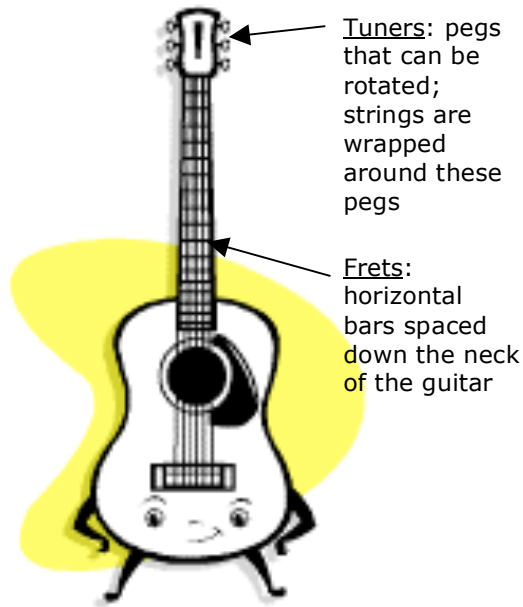


MUSIC LAB ANALYSIS QUESTIONS

1. How would you change both the tension and the length of the string and keep the same pitch?
2. Suppose you increased length and decreased the tension of the string at the same time. What would happen to the sound being produced?
3. Compare the sound from a flute and a piccolo. Both instruments require air to be blown through a pipe, however flutes are longer than piccolos and have a lower pitch. Why?
4. What affect does closing the end of a pipe have on the sound generated?
5. What can you conclude about the relationship between sound and vibrations?
6. If you wanted to generate a loud sound with a guitar, what would you do? Include 'energy' and 'amplitude' in your explanation.
7. Look at the guitar below. Find the tuners (at the end of the guitar). Why does the guitar need tuners?
8. What is the purpose of the frets on a guitar?
9. Violins and cellos don't have frets. Why might a violinist and a cellist require more accuracy in playing than a guitarist?



10. The wavelength of the longest organ pipe is 11m long. Assume this pipe is closed at one end.
 - a. For this pipe, calculate the wavelength of this standing wave. Show your math.
 - b. Why does a long wavelength indicate that the frequency will be low? Give a reason for your answer.
11. Suppose you are listening to the sound of an organ pipe that is closed at one end. The pipe is 3 m long.
 - a. Calculate the wavelength generated by this pipe.
 - b. The speed of sound in air is about 340 m/s. Calculate the frequency of the sound wave.
 - c. Suppose you are listening to an organ pipe that is open at both ends. As before, the pipe is 3 m long. Calculate the frequency of the sound wave generated in this pipe.

More questions on the back!!!