

Assignment XIII, PHYS 150 (Physics of Sound and Music)
Brass Instruments
Due 4/18/14

This homework assignment has material from class lecture as well as from presentations given by your classmates. You may wish to go use the links near this assignment on the course webpage (http://larsenml.people.cofc.edu/phys150_spr14.html) to find materials supplied by your classmates that should aid in solving these problems. If you gave one of the presentations, *you still have the answer the associated questions*. Good luck.

Brass Instruments

(See chapter 11 for additional help if needed).

1. Describe the path of a puff of high pressure air initially released by a brass player and moving through a brass instrument and its subsequent reflections that ultimately lead back to another puff of air being released by the players lips.
2. What is the Bernoulli effect?
3. Explain why valved brass instruments must have at least 3 valves to play all notes.
4. Explain the main difference between a trumpet and a flügelhorn.
5. What has a greater length of tubing: a French horn or a trombone?
6. Why doesn't a brass instrument have the same resonances/open pitches as a cylindrical pipe closed on one end?