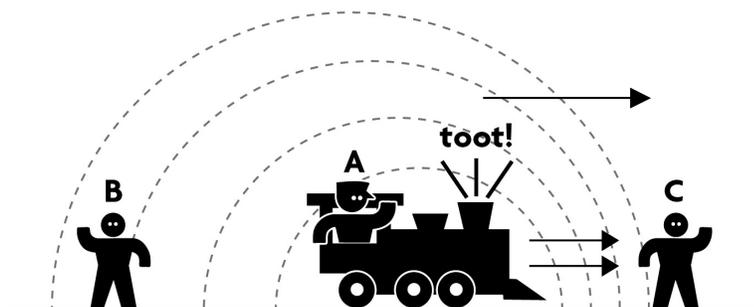


# Astronomy Ranking Task: Doppler Shift

## Exercise #1

**Description:** The figure below shows a train traveling toward the right and sounding its horn. Three persons are shown at locations A, B, and C. Assume that all three people can hear the train blowing its horn.



**A. Ranking Instructions:** Rank the pitch of the horn from highest pitch (or frequency) to lowest pitch (or frequency) as heard by each person (A – C)

**Ranking Order:** Highest 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ Lowest

Or, the pitch heard by each person would be the same. \_\_\_\_\_ (indicate with check mark).

**Carefully explain** your reasoning for ranking this way:

---

---

---

---

**B. Ranking Instructions:** Rank the wavelength (from longest to shortest) of the sound of the horn as heard by each person (A – C).

**Ranking Order:** Longest 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ Shortest

Or, the wavelength heard is the same for each person. \_\_\_\_\_ (indicate with check mark).

**Carefully explain** your reasoning for ranking this way:

---

---

---

---