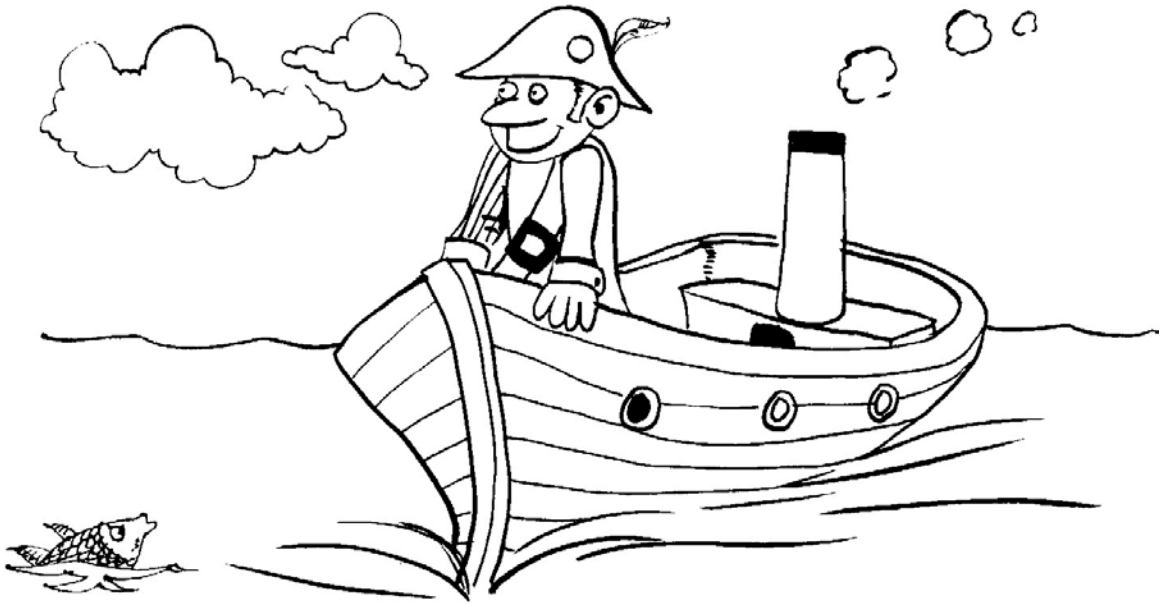
Day 4 Hot Sounds, Microwave and speed of light

1. **Collect PGA$ & Textbooks (show clipboard of seating chart for each class of who is done and not)**
2. **Take back to microwave under hook in resource area of science and microwave American cheese and measure the half wavelength between cooked parts. (cook cheese 8 sec and later with hood fan going CD for 4 – 7 seconds)**
3. **Calculate the speed of light using the freq. in back of microwave and wavelength by doubling the width of cooked spots on cheese. V = freq X wavelength**
4. **Hot Sounds – Show standing waves in dancing flames above a 3 m long furnace pipe. Watch flames dance to keyboard being played and CD's being played.**
5. **Start problems from unit 9 problem sheet on smart board. Save to the smile2340.weebly.com under unit 9 above days**



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- On back of the microwave it says the microwaves in this microwave have a freq. of 12450 Mhz = 2450 X 10^6 hz = 2.45X 10^9 hz
- The distance from the center of one melted place on the cheese to the next melted place was about 6.0 cm but this is only a half wavelength from antinode to antinode so the wavelength is about 12.0 cm. = 0.12 m
- V = freq. X wavelength so v = (.12 m)(2.45X10^9 hz)

= .294 X 10^9 m/s change to scientific notation

Figure % error where the actual is 3 X 10^8 m/s

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- Hot Sounds Tube
- Note standing wave in flame from tone generator sound
- Note standing waves in flame from keyboard notes in flute
- Student play keyboard and watch flames dance
- Play CD songs watching flames dance. Too cool!!!!

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