Pg <pg 20> VIANB Name: Dessa Shapiro

**Prompt #1**

When you increase the frequency of a wave, the wave length decreases . An observation I made to support this is in the water exploration when the frequency is turned up the ripples are much closer together and when wavelengths measured this claim is supported.

**Prompt #2**

| Color | Frequency (High or Low) | Wavelength (short or long) |
| --- | --- | --- |
| Red | low | long |
| Violet | High | short |

|  | Sensor Color | Amplitude - Draw what you see on sensor | What is actually happening? | Type of Interference (constructive or destructive) |
| --- | --- | --- | --- | --- |
| **Prompt #3** | Grey |  | Water is making 2 wave that are interfering with each other but then coming together in the middle of the two making its own wave with a high amplitude - the waves add up together | Constructive |
| Black |  | Water is making 2 waves interfering and at this point is where the interference is happening and moves the waves causing this section to have a lower amplitude | Destructive |
| **Prompt #4** | Grey |  | Light is interfering and making making locations of intersection and each intersection results in a bright spot and this spot is where the two lasers maxima adds together | Constructive |
| Black |  | Light is interfering and making making locations of intersection and at each interaction there are dark spots and these are made when the positive displacement of a wave is cancelled by the negative from the other wave | Destructive |

**Prompt #5**

The flat water spots and dark spots are similar because they are both the points of the waves intersection that are canceled out by a positive part of a wave and a negative part of the other wave that cancel each other out making a low amplitude and also called destructive interference

**Prompt #6**

The red interference pattern was different from the violet because <the frequency of the violet light is higher than the red light so on the final screen the “dots” of visible light for the violet light were much smaller and there were more dots while the red light was wider and there were fewer.

This helps explain the colors in the fridge box because <This explains the fridge box because with the sunlight all the colors of light are shown because it is white light so the lights such as violet light are closer to the middle and closer together since the frequency is higher and the lights with lower frequencies will be further towards the end and longer slits because their wavelengths are longer and the light with also become less condensed the further from the middle point of constructive interference.