**AP Physics – Wave Interference PhET Lab**

Today, you will use the Wave Interference PhET simulation to explore how the characteristics of water waves and how they interact.

**Part 1 – One source**

1) Open the Wave Interference PhET simulation. On the first tab, what can you change about the simulation?

2) Start with **one drip** and change the frequency and amplitude first predict what you think will happen then record what happens below.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Prediction | Observations | Does anything stay the same? \*hint you may need to use the available tools to study this\* |
| Changing frequency |  |  |  |
| Changing amplitude |  |  |  |

**Part 2 – Two sources**

3) Try **two drips** and repeat #2.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Prediction | Observations | Does anything stay the same? \*hint you may need to use the available tools to study this\* |
| Changing frequency |  |  |  |
| Changing amplitude |  |  |  |
| Small spacing |  |  |  |
| Large spacing |  |  |  |

4) Based on your observations, summarize what happens when you change the frequency, amplitude and spacing with one or two drips.

**Part 3 – Adding a slit**

5) Predict what you think will happen when you add a slit then describe what happens when you add a slit with one a two drips.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Prediction | Observations | Picture |
| One drip |  |  |  |
| Two drip |  |  |  |

**Conclusion**

Although we did not explore sound today, what do you think would happen if you were to complete this investigation with sound, how do you think that would affect what you would hear? Be specific on how changing the frequency, amplitude and number of sources would alter what we would hear. What would adding a slit do?