**Wave Behavior and Boundary Conditions**

***Instructions****: Follow the links below, read the text on the page, follow the instructions given and answer the questions as directed below in your journal.* ***Formulate thoughtful responses*** *after careful study of the entire website lesson, rather than just trying to “look up” an answer.*

**PART I:**

1. Click on 🡪 [Waves](http://www.physicsclassroom.com/class/waves) 🡪 Lesson 3: Behavior of Waves
2. [**Lesson 3a**](http://www.physicsclassroom.com/class/waves/Lesson-3/Boundary-Behavior)**: Boundary Behavior**
   1. Take notes in your journal. Make sure to include the following:
      1. Define ALL of the terms in **bold red** text.
      2. [C:\Users\bennettk\Desktop\animation.PNG](http://www.physicsclassroom.com/mmedia/vectors/tb.cfm)Include ALL diagrams with labels as needed.
   2. Watch all 3 animations provided. Be sure to include a brief description.
   3. Compare and contrast fixed and free end reflection.
   4. Complete either Case 1 OR Case 2 in the **Check Your Understanding** Questions.
3. [**Lesson 3b**](http://www.physicsclassroom.com/class/waves/Lesson-3/Reflection,-Refraction,-and-Diffraction)**: Reflection, Refraction, and Diffraction**
   1. Take notes in your journal. Make sure to include the following:
      1. Define ALL of the terms in **bold red** text.
      2. Include ALL diagrams with labels as needed.
   2. Compare and contrast reflection, refraction, and diffraction.
4. [**Lesson 3c**](http://www.physicsclassroom.com/class/waves/Lesson-3/Interference-of-Waves)**: Interference of Waves**
   1. Take notes in your journal. Make sure to include the following:
      1. Define ALL of the terms in **bold red** text.
      2. Include ALL diagrams with labels as needed.
   2. How can you tell if waves will interfere constructively or destructively?
   3. Complete both questions in the **Check Your Understanding** section.

**PART II:**

1. Click on 🡪 [Waves](http://www.physicsclassroom.com/class/waves) 🡪 Lesson 4: Standing Waves
2. [C:\Users\bennettk\Desktop\animation.PNG](http://www.physicsclassroom.com/mmedia/vectors/tb.cfm)[**Lesson 4a**](http://www.physicsclassroom.com/class/waves/Lesson-4/Traveling-Waves-vs-Standing-Waves)**: Traveling Waves vs. Standing Waves**
   1. Watch the included animation. Be sure to include a brief description.
   2. What is the difference between standing waves and travelling waves?
3. [**Lesson 4b**](http://www.physicsclassroom.com/class/waves/Lesson-4/Formation-of-Standing-Waves)**: Formation of Standing Waves**
   1. Take notes in your journal. Make sure to include the following:
      1. Define ALL of the terms in **bold red** text.
      2. [C:\Users\bennettk\Desktop\animation.PNG](http://www.physicsclassroom.com/mmedia/vectors/tb.cfm) Include ALL diagrams with labels as needed.
      3. Watch the included animation. Be sure to include a brief description.
4. [**Lesson 4c**](http://www.physicsclassroom.com/class/waves/Lesson-4/Nodes-and-Anti-nodes)**: Nodes and Anti-Nodes**
   1. Take notes in your journal. Make sure to include the following:
      1. Define ALL of the terms in **bold red** text.
      2. [C:\Users\bennettk\Desktop\animation.PNG](http://www.physicsclassroom.com/mmedia/vectors/tb.cfm) Include ALL diagrams with labels as needed.
      3. Watch the included animation. Be sure to include a brief description.
   2. What is the difference between a node and an anti-node? How are they formed?
   3. Complete all 6 **Check Your Understanding** questions.