Name: _____

Class: _____

Due Date: _____

Physics Topic 64 – Wave-Particle Duality and de Broglie Wavelength

If you are interested in learning more about atomic, quantum, and nuclear physics then please read the book *The Quantum Story: A History in 40 Moments* by Jim Baggott.

Also watch all the videos from this website:
https://www.learner.org/series/physics-for-the-21st-century/

Answer the following questions.

1. C: What is the de *Broglie hypothesis*? What is the equation?

2. E: Usain Bolt has a mass of 94.0 kg. He is running with a speed of 10.44 m/s. What is his wavelength?

3. E: An electron, which has a mass of 9.11×10^{-3} kg, is traveling with a speed of 10.44 m/s. What is its wavelength?

4. C: Where can we see particles, such as electrons, diffract? In which experiment do electrons diffract?

5. C: What is the meaning of *wave-particle duality*?