Discussion Question Answers
Hertha Ayrton and the Seashore Waves

1. **What is Mrs. Ayrton’s area of research?**
   She focused on two areas, electric arcs used in light bulbs, and fluid dynamics in her experiments on sand ripples and her invention of the Ayrton fan. The students might only list the fluid dynamic ones, which is OK.

2. **What led her to be curious about this subject?**
   Her husband was ill and needed to spend time at the beach, so she did as well. While she was there, she observed the ripples in the sand and became curious about their formation.

3. **What is her approach to her work? Describe her experiments.**
   She is very methodical and qualitatively describes way what she sees. For her ripple experiments, she put sand in the bottom of a large flat trough with water on top of it and rhythmically pushed it to create waves. She also found that soaked ground pepper worked well to sit at different levels in the water and show exactly what the water was doing as it swirled around. She tried using various sized and shaped troughs to see if that made a difference, though it did not.

4. **What are her greatest contributions to the field?**
   Here students may mention her work on the electric arc. She made the plasma stable enough to make lights as we know them now a possibility. Before her, they were extremely unstable and made unpleasant hissing noises. Hertha’s other contributions include starting the field of Plasma Physics with her work on the arc, as well as greatly advancing our understanding of fluid dynamics. Her work on the Ayrton fan also saved a lot of lives during WWI.

5. **What honors and awards has she received?**
   First woman to be elected member of The Institution of Electrical Engineers (London) 1899; Hughes Medal, Royal Society (London) 1906; Hertha Ayrton Research Fellowship established in Girton college, Cambridge.

6. **What surprised or interested you most about Mrs. Ayrton?**
   Answers will vary.

7. **What question would you like to ask her?**
   Answers will vary.