

Lab: Absolute Zero-Video

Students: There is no prelab! All you must do is print out this page and bring it to class on lab day.

Name _____
Period _____

Date _____
Lab Group # _____

Answer the following questions in complete sentences.

1. James Dewar, was a Scottish scientist who set out to liquefy what gas (the last of the so-called permanent gases)?
2. Dewar's competitor, Heike Kamerlingh Onnes, a Dutch scientist also sought to liquefy the same gas. Describe the two different approaches taken by Dewar and Kamerlingh Onnes to reach their goal.
3. The next competition between Dewar and Kamerlingh Onnes was to liquefy was other gas?
4. Describe the role that competition plays in science.
5. What is superconductivity? How do superconducting magnets work?
6. Scientists Satyendra Bose and Albert Einstein came to predict that a new state of matter—one that behaved according to quantum mechanical rules—could be produced at temperatures just above absolute zero. What is this new state of matter known as?
7. What two teams raced to create this new state of matter? Who created it first?