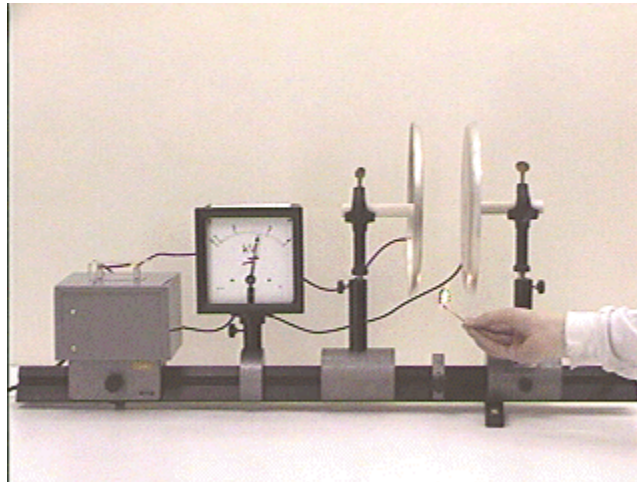


Answer #183

The answer is (b): the capacitor will rapidly discharge as ions and electrons produced by the flame are attracted to the plate with the opposite charge. This is shown in an mpeg video by clicking your mouse on the photograph below.



Flames create an abundance of both electrons and positively charged ions. The reason that you see the flame is that free electrons in the flame "plasma" are continually being attracted to positive ions in the plasma, causing emission of colors characteristic of the burning material, such as the blue color of natural gas or the yellow color of burning sodium. One technique for identifying materials is by burning them and looking at the resultant spectra.

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For questions and comments regarding the *Question of the Week* contact [Dr. Richard E. Berg](#) by e-mail or using phone number or regular mail address given on the [Lecture-Demonstration Home Page](#).