

## 12.7: Electromagnetic Properties of Materials

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Different types of matter have a variety of useful electrical and magnetic properties. Some are conductors, and some are insulators. Some, like iron and nickel, can be magnetized, while others have useful electrical properties, e.g., dielectrics, discussed qualitatively in the discussion question on page 592, which allow us to make capacitors with much higher values of capacitance than would otherwise be possible. We need to organize our knowledge about the properties that materials can possess, and see whether this knowledge allows us to calculate anything useful with Maxwell's equations.

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