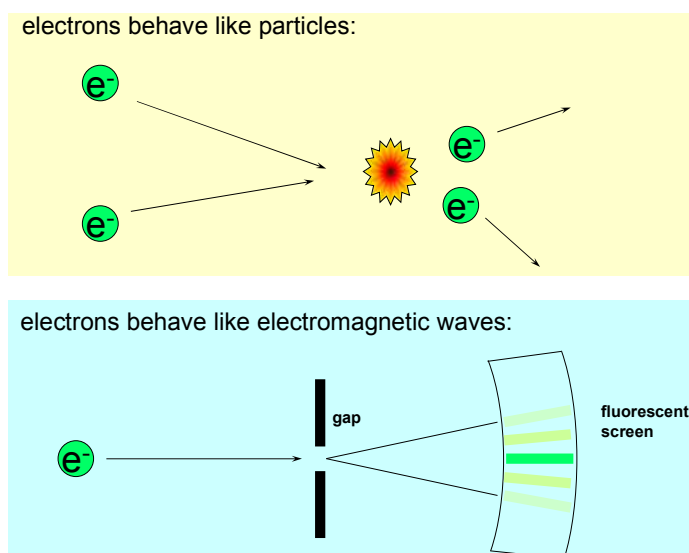


Exercises 1

- 1 Which statements on the properties of an electron are correct, which are false? *
 - a) An electron has no mass
 - b) An electron never has any influence on magnetism
 - c) In some experiments, an electron behaves like an electromagnetic wave
 - d) In some experiments, an electron behaves like a particle
- 2 Describe the diffraction experiment with an electron beam (the electron beam being sent through a narrow gap) in detail. What would you expect if the electrons would act as classical particles? How can you explain the actual pattern?
- 3 Which experiment can prove that electrons also behave like classical particles?
- 4 How could you determine the charge of an electron?
- 5 How can you determine the mass of an electron?
- 6 Why are electrons important in chemistry?



* One or several answers may be correct. Please indicate appropriately by repeating the assignments a), b), c), ... followed by the statements "right" or "wrong" on your answer sheet.