Nuclear fission – Computer based activity

date: ..... , class: ..... , student: .....

- **Activity 1: "Fission – One Nucleus"**

  A) What do you need to do to make ^{235}U unstable?

  B) Explain in around 5 lines the meaning of the graph at the bottom of the window.

  C) Explain what happens to the ^{235}U atom when you fire neutron at it (also in terms of what you see in the energy graph).

- **Activity 2: "Chain reaction"**

  A) Add a large number of ^{235}U atoms: what happens when you fire a neutron? What happens if you increase or decrease the number of atoms?

  B) What happens if, instead of ^{235}U atoms, you use ^{238}U atoms?

  C) In your opinion, which of the two isotopes would be a better fuel for a power plant? Motivate your answer.

  D) What happens if you add a containment vessel? Try changing the size of the vessel and describe how the scenario changes.

- **Activity 3: "Nuclear reactor"**

  A) Explore the functions of this part of the applet.

  B) What is the purpose of the control bars?