worksheet

Chain reaction

By now you will have viewed the internet animations that show how fission and chain reactions occur. Using this information and any other references you have located, answer the following questions.

1. In your own words describe the process of fission. You will need to use key words such as neutron, nucleus, unstable, etc to develop a good answer.

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2. What is meant by the term 'fissile material'?

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3. What happens to the initial fission reaction if there is enough fuel to exceed the critical mass?

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4. A fission reaction produces fragments of matter and neutrons. What is the other product of a fission reaction?

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5. What is the main cause of a fission reaction NOT proceeding to a chain reaction?

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6. Draw three well-labelled diagrams to illustrate a typical fission reaction:

    1. before the initial collision of neutron and nucleus,
    2. during the splitting of the nucleus, and
    3. after the splitting of the nucleus .

1
2
3

7. In what situation is a chain reaction beneficial to mankind?

Extension Question

8. Explain why a neutron is the most likely atomic particle to be used to 'split the nucleus'.
