Suggestions to Teachers
(Joliot-Curie and artificial radioactivity)

Expected results

After the lesson, the students are expected to:

1. Write a text demonstrating, why the discovery of neutron was not attributed to Irene and Frederic Joliot – Curie while they had successfully implemented the relevant experiments but to Chadwick, based on the narration as well as the lesson activities.
2. Write a text demonstrating, how the science is progressed, based on the narration as well as the lesson activities.
3. Write certain characteristics the Nature of Science, based on the narration as well as the lesson activities.
4. Describe the principal properties of the positron, based on the suggested data resources or by their research in the web.
5. Verify the conservation of the mass and the electric charge in the both sides of the reaction, during the transmutation of the aluminum into phosphorus, according Juliot Curie's experiment.
6. Make inquiry in the web and to write a text about the artificial radioactivity and its uses for the benefit of humankind.

About the activities of students

The proposed students' activities are indicative and they aim at the accomplishment of the above expected outcomes. Moreover, the teacher may choose some of them for the teaching process in relation to its aims, the needs of students and the available time. Finally, she/he can create her/his own activities.

About the emergence of the characteristics of science in the narration, these characteristics are quoted in the website, comprehensively (in classification of the stories by NOS).

About the locating of the characteristics of Nature of Science in the proposed activities, indicatively, we can quote the following:

A) The activity 2 concerns the characteristics of Nature of Science: a) "Scientific knowledge is tentative but durable", b) "Science demands and relies on empirical evidence" and c) "Science has a subjective element".

B) The activity 3 concerns the characteristics of Nature of Science: a) "Science has a subjective element" and b) "Science demands and relies on empirical evidence".

C) The activity 4 concerns the characteristic of Nature of Science, which are quoted in the above activities 2 and 3 and the characteristic: "Knowledge production in science includes many common features and shared habits of mind"

D) The activity 5 concerns the characteristics of Nature of Science: "Science has a subjective element" and b) "Science demands and relies on empirical evidence".

E) The activity 7 concerns the characteristic of Nature of Science: "Scientific knowledge is tentative but durable".

G) The activity 8 concerns the characteristics of Nature of Science, which are quoted in the above activities 2, 3, 4, 5 and 7.

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