PARSEL teaching –learning materials compiled by the consortium
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Shall we create new organisms?

A 9th to 12th grades student's module for use in Biology; Integrated Sciences and Science for Public Understanding curricular areas

Abstract

Scientific literacy constitutes a vital element enabling all citizens to play an active role in decision-making concerning scientific and technological issues. It is up to science teachers to promote the development of scientific knowledge and competences for analysing the consequences and problems related to rapid scientific and technological growth. This activity contributes to citizenship education through the promotion of thinking competencies and responsibility attitudes concerning society.

This unique teaching-learning material is intended to guide the teacher towards promoting students' scientific literacy by recognising learning in 4 domains – intellectual development, the process and nature of science, personal development and social development.

Its uniqueness extends to an approach to science lessons which is designed to be popular and relevant. For this the approach is intentionally from society to science and attempts to specifically meet student learning needs.

This uniqueness is specifically exhibited by:

1. a society related and issue-based title (supported in the student guide by a scenario);
2. student-centred emphasis on scientific problem solving, encompassing the learnign of a range of educational and scientific goals;
3. including socio-scientific decision making to relate the science acquired to societal needs for responsible citizenship.

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Country: Portugal

Subject: Biology; Integrated Sciences and Science for Public Understanding

Grade level: 9th -12th

Overall Objectives/Competencies: The objective of this task is evaluating the impact of different applications of genetic engineering on our society, with the aim of deciding on the attribution, or not, of a large funding for research in this field. For that, students are expected to:

Search for information on the website

Analyse information concerning their initial questions

Write an individual report where they present their decisions and their arguments

Work in group to make a decision concerning attribution of a funding for research in the field

Present their decision to the class

Defend their ideas and discuss other's ideas and arguments

Curriculum content: Genetics and ecology

Kind of activity: Webquest (discussion trough role-playing and decision making)

Anticipated time: 4 lessons (40 to 50 minutes each)

Prior Learning: Some knowledge about genetics and genetic engineering

Attached files		
1.	Student activities	Describes the scenario in more detail and the tasks the students should perform
2.	Teaching guide	Suggests a teaching approach
3.	Assessment	Suggests formative assessment strategies

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