EXAMEN : Baccalauréat général - Série S-SVT ou S-SI	Session 2013
ÉPREUVE : Evaluation spécifique de Langue en section européenne	
PHYSIQUE-CHIMIE en langue ANGLAISE	
Thème : « Chimie et environnement »	**Sujet n° 13**

What differentiates bioplastics from conventional plastics?

The term bioplastics encompasses a whole family of materials which are biobased, biodegradable, or both.

Biobased means that the material or product is (partly) derived from biomass (plants). Biomass used for bioplastics derives from e.g. corn, sugarcane, or cellulose.

The term biodegradable depicts a chemical process during which micro-organisms that are available in the environment convert materials into natural substances such as water, carbon dioxide and compost (artificial additives are not needed). The process of biodegradation depends on the surrounding environmental conditions (e.g. location or temperature), on the material and on the application.

Of course, materials and products can feature both properties. They then offer all the benefits and additional options outlined.

Bioplastics already play an important role in the fields of packaging, agriculture, gastronomy, consumer electronics and automotive industry to name a few.

Bioplastic materials have long been used to manufacture short-lived materials and products, such as catering products, packaging and waste bags. However, as technology develops, more and more durable applications such as keyboard elements, mobile phone covers or certain components in cars are manufactured in larger quantities.

Bioplastics drive the evolution of plastics. There are two major advantages of biobased plastic products compared to their conventional versions: they save fossil resources and reduce greenhouse gases emissions. What is more, biodegradability is an add-on property of certain types of bioplastics, which offers additional ways for recovery at the end of a product's life.

From http://en.european-bioplastics.org/bioplastics/

1. Present and comment on the document.
2. What are the main principles of green chemistry and which of them are involved in the development of bioplastics?
3. In general, do you think chemistry is a drawback or an advantage for the environment?