

Exercises:

Please have a look at the article to see which team is working on it. There are three teams for each article; please work on each topic independently in your teams .

Based on the publication 'A Review of Bioplastics and Their Adoption in the Circular Economy', prepare a presentation that will include information on:

- the bioplastics market
- examples of bioplastic production
- biodegradation and compostability of bioplastics
- life-cycle assessment of bioplastics

Based on the publication 'Environmental Impact of Food Packaging Materials: A Review of Contemporary Development from Conventional Plastics to Polylactic Acid Based Materials', prepare a presentation that will include information on:

- the use of packaging in the food industry
- biodegradable food packaging
- classification and application of bioplastics
- PLA - properties and application

Based on the publication 'Recent Advances in Bioplastics: Application and Biodegradation', prepare a presentation that will include information on:

- the classification of bioplastics
- medical use of bioplastics
- biophotonic application of bioplastics
- the use of bioplastics in tissue engineering
- the use of bioplastics in packaging

Based on the publication 'Bio-Based Packaging: Materials, Modifications, Industrial Applications and Sustainability', prepare a presentation that will include information on:

- the classification of bio-based materials for the packaging sector
- PLA, PHA, cellulose, starch, proteins, etc.
- raw materials for the production of packaging materials
- methods of obtaining packaging materials
- industrial applications

Please watch the following movies:

https://www.youtube.com/watch?v=08r4r_5QfJY&t=2s

<https://www.youtube.com/watch?v=0yJoNRXwkq0&t=1s>

https://www.youtube.com/watch?v=nYzq-y_CJ4&t=1s

Taking into account the presentation on companies' approach to bioeconomy and given above examples, please look for 2 other examples of adoption of bioeconomy strategies or tools by companies in chosen by you sectors.

Work within the same group as during the Bioeconomy strategy and legal aspects of use of new materials and bio-based materials in packaging sector.

What is assessed:

- Informing about chosen sector of bioeconomy which the examples comes from
- Indicating the example no. 1 of adoption of bioeconomy strategy or tool
- Indicating the example no. 2 of adoption of bioeconomy strategy or tool
- Argument why it was chosen as an example
- style and writing

Using Annex III and V of Regulation 10/2001 <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32011R0010>

Determine the food simulant suitable for testing, contact time and temperature of one of the packaging:

- plastic coffee mug,
- plastic bottle for orange juice
- packaging for raw meat in the form of a tray closed with foil at the top
- standup pouche for apple mousse
- plastic tray for lasagne for microwave heating
- Doypack - Standup pouches

Based on the text posted at the link:

<https://rdo.psu.ac.th/sjstweb/journal/39-2/39-2-14.pdf?fbclid=IwAR1Kq4aOMD1EW-IIwLju1yyFCX7gKYpGrh2Iz12ovZxT0BnZQiAz9PtBs60>

1. Indicate the functions performed by packaging described in the paper for a selected entity in the supply chain: food producer, distributor, seller.
2. Fill in the table (attached file) which is the Lockhard's matrix. Complete the individual table cells with the features and properties of the packaging based on the analysis of relations between functions and environments.

PROJECT INFO

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PROJECT CONSORTIUM



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