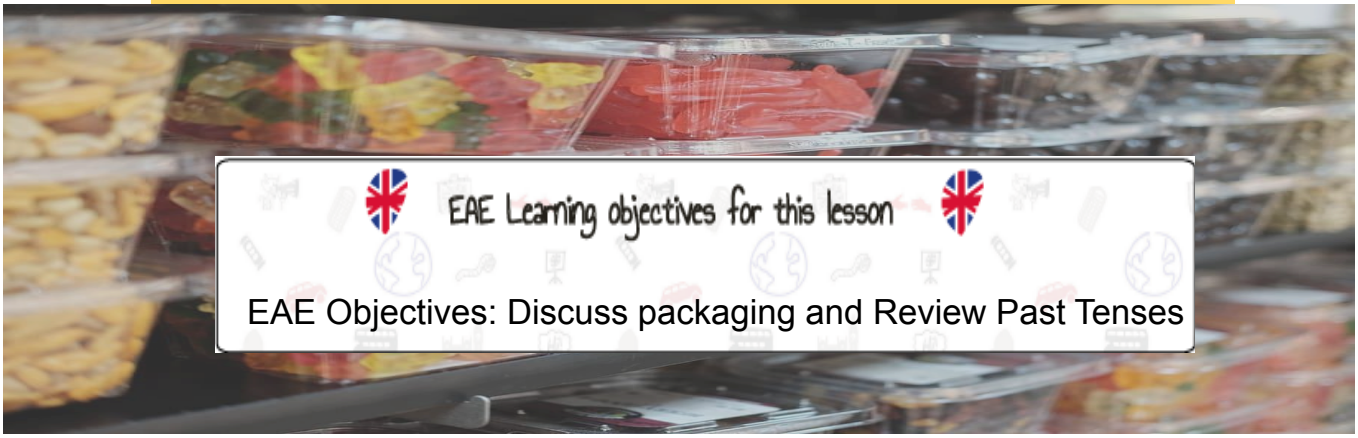
It's Time for a Packaging Revolution











Activity 1: Discussion

1. What different packaging materials can you see in the pictures above?
2. Are you concerned about the material used for packaging at work / at home?
3. What do you think is the best material to use for packaging?
4. Why do you think it is important to package products properly?

Activity 2: Past tense Review

Past Simple



Structure: regular verbs = verb + ed

Uses: 1. Action in the past taking place once, never or several times 2. Actions taking place one after another

Example: to invest = invested

*The company **invested** in a new eco-friendly packaging design last year.*

Past Continuous

Structure: to be (in the past simple) + verb + ing

Uses: 1. Actions happening at a certain time in the past 2. More than one action taking place at the same time in the past. 3. An action in the past that is interrupted by another action. (Interruption is in the past simple)

*Example: I **was packing** the order into boxes **when** they **cancelled** the order.*

Present Perfect

Structure: have / has + past participle

Uses: 1.Putting emphasis on the result (not the duration or the time) - the 'when' is not important. 2. Action that started in the past and continues to the present. 3. Action that has JUST finished recently. 4. A finished action that has influence on the present.

NOTE: With the Present Perfect, if we do mention time (which is not necessary), we use Unfinished Time Expressions, times that are undefined and incomplete, such as:
Before, still, yet, since June, for 3 days, today, this week, this month, this year,
once, twice, never, always, so far

*Example: I **have** always **tried** to buy products from eco-conscious businesses. My company **has** just **launched** a new eco-friendly packaging.*

Present Perfect Continuous

Structure: have + been + verb+ING

Uses: 1. Talking about past actions that are still ongoing and connected to the present. 2. Focussing on the activity

*Example: We **have been presenting** our new packaging solutions to our suppliers all week. I'm exhausted!*

Past Perfect

Structure: had + past participle

Uses: 1. Action taking place before a certain time in the past. 2. Putting emphasis on the event / the fact (NOT the duration)

*Example: They **had used** a lot of plastic packing **before** they **realised** it was harmful to the environment.*

Past Perfect Continuous

Structure: had + been + verbING

Uses: 1. Action taking place before a certain time in the past. 2. Putting emphasis on the duration.

*Example: They **had been using** plastic packaging **for many years** before they realised it was harmful to the environment.*

Task: Compare the example for the past perfect and past perfect continuous. Explain why the tenses are used differently in each example.

Activity Three: Video: Evolution of Packaging
https://www.youtube.com/watch?v=xz9UM9ZVvXY

1. Watch the video and discuss what you learned.
2. What past tense was used the most?

Activity Four: Gap fill past tense activity

1. The chinese _____ paper making. (to invent)
2. We _____ (to preserve) food since the Napoleon age
3. A mistake by a printer in 1879 _____ to the creation of the first folded carton (to lead)
4. Clarence Birdseye _____ (to live) with eskimos when she _____ (to learn) about food freezing techniques
5. We _____ (to use) tin cans for beverages until aluminium was available.
6. We _____ (to start) focussing on sustainable packaging this year

Activity Five: Reading Comprehension and Discussion

https://abcnews.go.com/Business/pha-biodegradable-plastic-southeast-asia/story?id=78859058

Read the article at home .



What to know about PHA biodegradable plastic and how it could help Southeast Asia.
PHA may provide a solution for the plastic pollution problem.

SUWON, South Korea -- South Korean conglomerate CJ Cheiljedang is jumping into the global market to begin mass production of PHA biodegradable plastic, or polyhydroxyalkanoates.

PHA is considered a viable alternative to petroleum-based plastic because the new technology allows its plastic waste to decompose completely in the ocean and soil in a significantly shorter period of time.

“Plastics made from crude oil are said to take over 500 years to completely decompose, while biodegradable plastics take decades at most,” SungYeon Hwang, Head of Bio-based Chemistry Research Center at the Korea Research Institute of Chemical Technology, told ABC News. “Biodegradable plastic does not pollute the sea even if it accidentally flows into the shore.”

The inevitable move from petroleum-based plastic to an eco-friendly substitute has been exacerbated by Europe’s sales ban of the 10 most commonly found plastic waste items at the bottom of the ocean such as straws, takeout containers and water bottles made of polystyrene.

“With PHA, CJ Cheiljedang hopes to play a leading role in changing the paradigm of the global materials market,” CJ Cheiljedang’s communications team told ABC News. “'Going green' is an inevitable trend in all industries.”

CJ Cheiljedang’s PHA has been certified biodegradable in industry use, household compost, soil and water by TUV Austria, an institution for biodegradability testing and certification.

While a number of biodegradable materials have been proposed as a solution to the global plastic pollution problem, there is still much controversy over how the biodegradable plastic waste is disposed of.

“Ideally, it is best to collect used PHA-based plastic waste and process them in an industrial compost in order to meet its biodegradable characteristics,” In-Joo Chin, president of the Korean Bioplastics Association, told ABC News.

Bioplastics like PHA are, theoretically, compostable if collected and buried separately but, for now, consumers are advised to throw them away together along with general waste.

The amount of commercial waste at this point is not enough to design a separate collecting system, experts say. PHA will only become an effective eco-friendly alternative for plastic when its manufacturing reaches an adequately sized economy of scale in the future.

CJ Cheiljedang, as a starter to its next generation makeover, has recently begun wrapping their tofu bundle with vinyl packaging containing their own PHA as a test use in consumer goods. But reaching economies of scale is still a long way off.

“The cost of replacing the original vinyl packaging made out of petroleum based plastic PP with a biodegradable alternative was more expensive, but we consider the biodegradable plastic market as an economy of scale,” Technology Strategy professional Young Min Lee told ABC News. “As more and more plastics are replaced with biodegradable plastic, the production cost will naturally go down.”

“It will make a big step for a better environment if the plastic waste that has no choice but to go to general waste such as straws, agricultural mulching films and small containers, are replaced with biodegradable plastic like the PHA,” Hong Soo-yeol, chief researcher at Seoul-based Resource Recycle Consulting, told ABC News.

Comprehension Questions:

1. What is the problem with the petroleum-based plastic that we use today?
2. Why is PHA considered to be a viable alternative to petroleum-based plastic?
3. What has exacerbated the inevitable move away from petroleum-based plastic?
4. What is the current problem with the PHA- based plastic waste?
5. What do you think about changing to PHA based plastic?

Activity Six: Listening Comprehension and Discussion

Food Packaging: Making the best out of a bad situation
https://www.youtube.com/watch?v=v08F0YE-k2E

Watch this TED talk about the pro’s and con’s of packaging and answer the comprehension and discussion questions.

1. What is her job?
2. What is she concerned about?
3. According to her, what is the main issue?
4. What is she concerned about for the future of her child?
5. What are the benefits of packaging?
6. What does she think is the solution to the problem?
7. What do you think about the ideas raised in the ted talk?
8. What do you think you can do on a personal level to help this problem?

Activity Seven: Role Play

1. You are at a restaurant and you notice that they are giving plastic straws with every drink. You ask to speak to the manager about it.
2. Your friend does not understand the problem with plastic and you try to explain it in simple terms.
3. You are speaking at an sustainability meeting at work about introducing PHA plastic packaging.

EXTRA:

If you are interested in learning more about the sustainable packaging revolution, watch this short documentary:

The Sustainable Packaging Revolution - A Documentary by Jabil

