



**Title**

**English tea and cyclic compounds**

**Author**

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**Table of activities**

|                                       |  |
|---------------------------------------|--|
| <b>School subject</b>                 | <i>Chemistry</i>                                   |
| <b>Topic</b>                          | <i>Cyclic compounds</i>                            |
| <b>Age</b>                            | <i>18 years</i>                                    |
| <b>Required time for the activity</b> | <i>90 minutes</i>                                  |
| <b>Required materials</b>             | <i>Tea, water, the Internet</i>                    |
| <b>Cultural concept</b>               | <i>Famous tradition of drinking tea in England</i> |



# Education Resilience in Europe

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## Teaching concept

The aim of this activity is to introduce students to cyclic compounds by using elements of English tea tradition. Through this activity, students will learn about the chemical structure and properties of cyclic compounds commonly found in tea, such as caffeine and theophylline. By combining scientific knowledge with cultural aspects, students will be able to better understand the relevance of chemistry in everyday life and appreciate the diversity of tea culture.

## Cultural concept

Tea has a long and fascinating history that is as complex and diverse as its flavors. It is enjoyed around the world for a variety of reasons, including its nutritional and medicinal benefits, its use in cultural and spiritual rituals, and simply for its delicious taste. Tea has been cherished by emperors, nobles, and everyday people alike. Originally from China, tea has a special significance in Chinese culture that goes beyond its consumption as a beverage. It was introduced to Europe by Portuguese and Dutch traders, and quickly became a popular drink among the aristocracy, particularly in England where it became a national tradition. The most famous of these British tea rituals is the traditional afternoon tea, also known as "tea at five," which often includes the addition of milk. Through exploring the English tea tradition, students will learn about cyclic compounds and their properties.

## Chemical concept

Cyclic compounds.

## Aim of the activity

The objective of this activity is to provide students with the opportunity to apply their knowledge of chemistry in order to comprehend the properties of cyclic compounds.

## Activities

This activity is divided into three segments:

In the first segment, students will learn about the chemical properties of cyclic compounds. They will understand that organic cyclic compounds can be either carbocyclic or heterocyclic, depending on the type of atoms that are present in the ring. Heterocyclic compounds are commonly found in nature and have important applications in medicine and biochemistry, such as alkaloids, antibiotics, amino acids, and nitrogenous bases from nucleic acids.

*In the second segment, students will learn about the chemistry of tea, including its structure and properties. Tea is a popular drink that has both physical and mental benefits, but it can also have negative effects on people who are sensitive to caffeine. Green tea and black tea are the two most common types of tea, with black tea being fermented and having a stronger taste and aroma. Students will also learn about the differences between Chinese, Ceylon, and Georgian black teas, which are influenced by factors such as variety, origin, and fermentation technology. Green tea extracts are commonly used for therapeutic and cosmetic purposes.*

*In the third segment, students will prepare and taste traditional English tea with milk, a well-known British tradition that has been around for centuries. This will allow students to apply their knowledge of tea chemistry and learn about the cultural significance of tea in British society.*

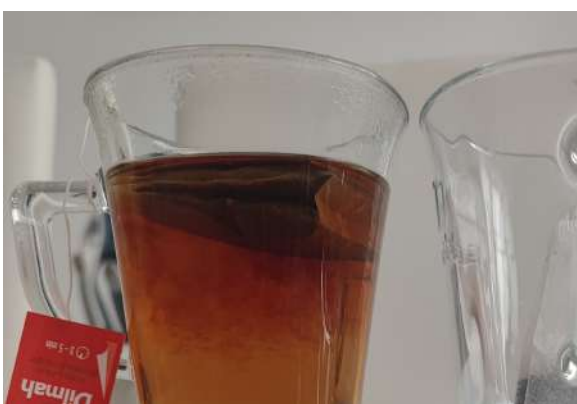
### **Additional materials**



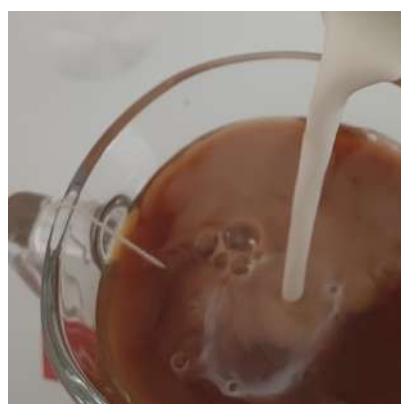
*Figure 1 Tea bags*



*Figure 2 Preparing tea*



*Figure 3 Served tea*



*Figure 4 Adding milk to tea*