

# RETURN TO THE FUTURE

## RETURN TO THE FUTURE STUDY MATERIALS INFORMATION FOR THE TEACHER

Welcome to your journey into the future!

When a bottle or can is returned to a reverse vending machine, it may be found on the store shelf in the distant future as a new bottle and can.

The 'Return to the Future' study materials in your hands will take your students on this journey of beverage containers, explaining how the materials in bottles and cans circulate, how the return system works, and how you can contribute to a better future.

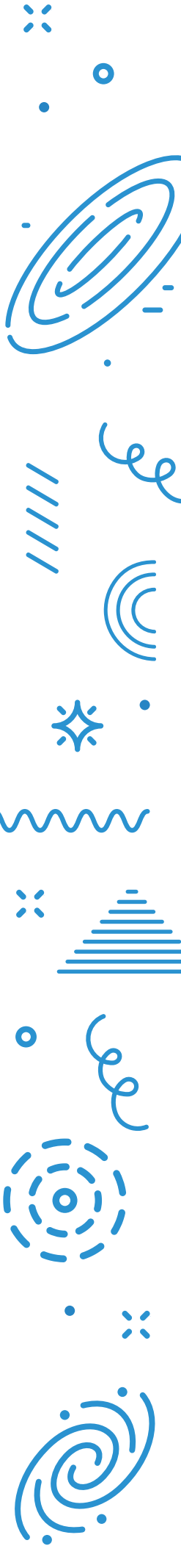
In Finland, there are nearly 4,000 reverse vending machines where more than two billion beverage containers are returned every year. Finns are the world's most diligent returners of beverage containers. The habit of returning bottles and cans is adopted as a child and considered important throughout life. Returning becomes second nature as people already learn to recycle and avoid unnecessary waste at day-care centres and schools as well as in their families. The recycling system for beverage containers is also an excellent practical example of how people and society strive to act more sustainably for the benefit of the environment – which is why it is a good teaching topic.

### WHO ARE THE RETURN TO THE FUTURE STUDY MATERIALS AIMED AT?

The primary target group of the study material package is the fourth to seventh grades of comprehensive school, but the materials can also be applied to teaching for other age groups.

### WHAT MATERIALS ARE INCLUDED IN THE RETURN TO THE FUTURE STUDY MATERIAL PACKAGE?

The 'Return to the Future' study material package includes several different materials that you can use together or separately. The 'Return to the Future' practice book can be ordered free of charge and pre-printed for each student at [www.subjectaid.fi](http://www.subjectaid.fi). There are also other materials on the website that support teaching. In addition, all materials are available for download in electronic format ([www.palpa.fi/schools](http://www.palpa.fi/schools)).



- **The practice book** contains information on the recycling of beverage containers and related questions, exercises and a quiz. The practice book can be examined together or the students can examine it independently.
- **The teacher's Powerpoint presentation** contains largely the same information as the practice book, but in a format suitable for projecting. The presentation works well when the teacher leads the discussion, but it can also be printed for pupils to review independently or in groups.
- **The quiz** repeats what is discussed in the different materials and encourages people to seek information proactively. The quiz can be found at the end of the practice book, but it can also be printed separately from Palpa's website.
- **Background information for the teacher** can be found at the end of this brochure. The background information package provides additional resources for discussing the questions presented in the other materials and developing additional exercises.

## FOR WHICH SUBJECTS ARE THE MATERIALS SUITABLE?

Responsibility for the environment, well-being and a sustainable future is among the cross-curricular themes included in the comprehensive school curriculum. The recycling of beverage containers is well-suited as part of discussing this theme, and it can be applied to several subjects.

**Environmental and natural science, biology:** The recycling of beverage containers is a good everyday example known to everyone when discussing topics such as sustainable development, environmental responsibility, waste management and the cycle of materials.

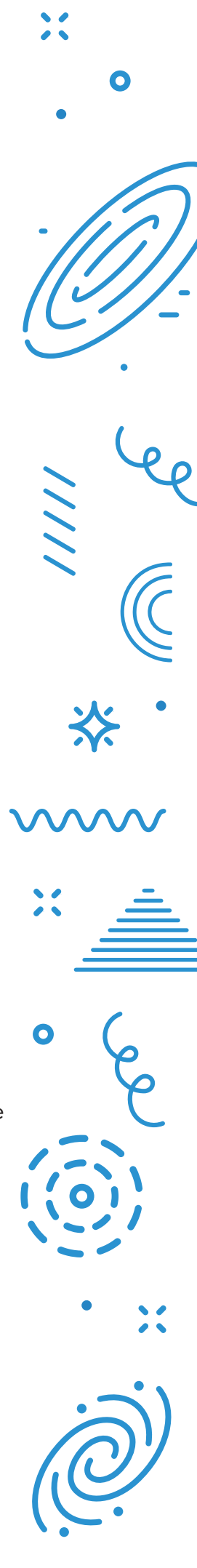
**Social studies:** In Finland, the existence of the beverage container recycling system is based on the Waste Act and the tax benefit on recycling. It is a good example of society's means of encouraging companies and consumers to do something that is in the common interest.

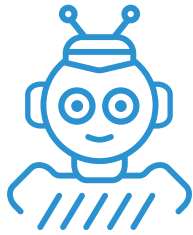
**Mathematics:** The lengths, weights, numbers, areas and percentages associated with the recycling system can be used for applied exercises.

**Home economics:** The recycling of beverage containers is part of a home's waste management, and the importance of sorting waste can also be discussed more extensively based on it.

## WHO IS BEHIND THE MATERIALS?

Behind the Return to the future study materials is Suomen Palautuspakkaus Oy, or PALPA, which manages the recycling systems for beverage containers. PALPA is a non-profit company owned by operators in retail trade and the beverage industry. One of the statutory tasks of PALPA is to promote and support recycling through communications, among other ways.





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**TO THE FUTURE**

# BACKGROUND INFORMATION TO SUPPORT TEACHING

## WHY IS RECYCLING BEVERAGE CONTAINERS WORTHWHILE?

The purer the material and the better its composition is known, the better it can be recycled. When the materials to be recycled are sorted at the very beginning of the recycling process, less time and money is required for cleaning and sorting it later. A deposit-based beverage container recycling system is effective: it is much more efficient to collect beverage containers separately and sort them by packaging material than to screen them from mixed waste at a waste processing plant.

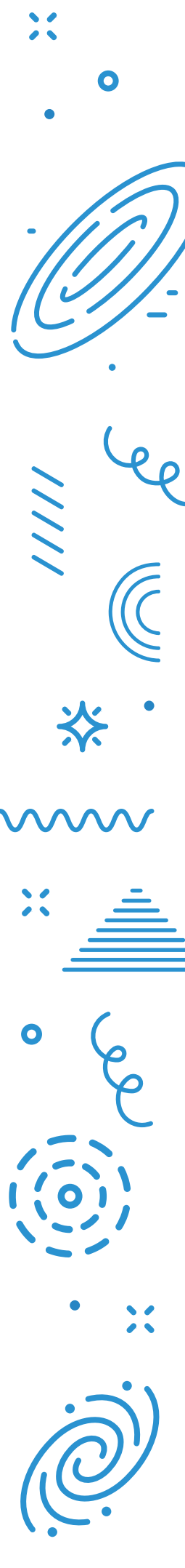
## HOW DOES THE DEPOSIT SYSTEM WORK?

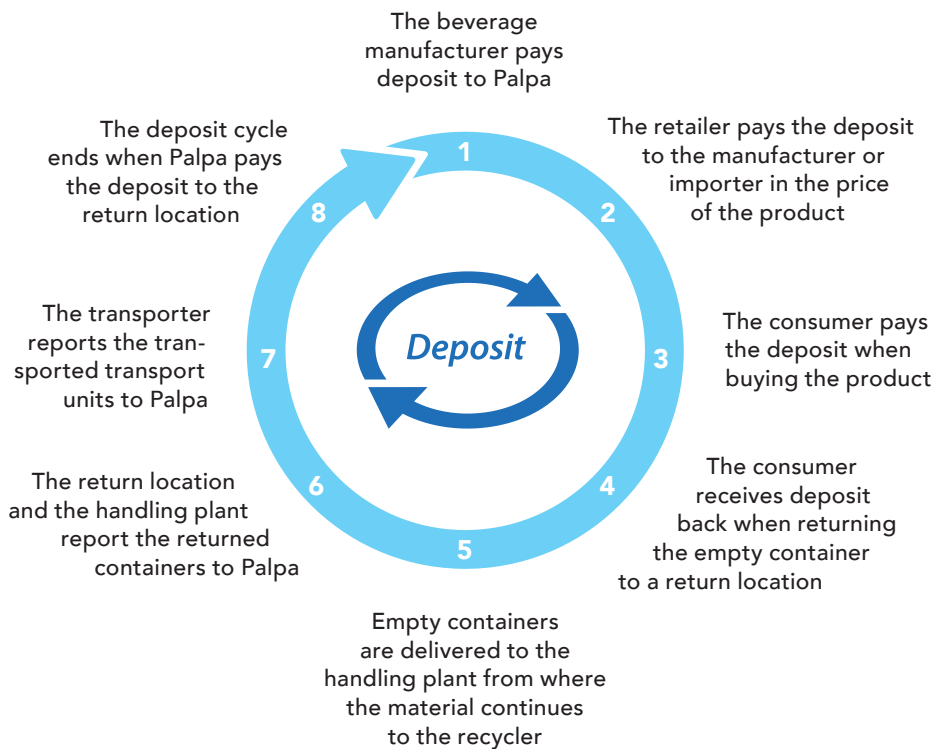
Beverage manufacturers and beverage importers are encouraged to recycle through taxation. There is a packaging tax for certain beverages of EUR 0.51 per litre on the containers of alcohol and soft drink containers, but the tax does not need to be paid when joining an approved functioning return system or providing one independently. In practice, most companies join the system operated by Suomen Palautuspakkaus Oy, or PALPA. The Waste Act also lays down provisions on the recycling rate goals of the system and minimum deposits for different types of beverage containers.

## HOW AND THANKS TO WHOM DO THE DEPOSITS CIRCULATE?

The majority of beverage manufacturers and beverage importers have joined the return system managed by Palpa. For beverage container recycling to work and for packaging materials to be reused again and again, cooperation is also required from retailers, logistics and recycling operators and, of course, consumers.

PALPA is responsible for the management of the recycling system and purchases the services necessary for the transport and handling of materials from its subcontractors.





## WHAT MOTIVATES PEOPLE TO RETURN BEVERAGE CONTAINERS?

Although a deposit is a good incentive to recycle, the willingness to recycle is still influenced by other factors, such as the location of the nearest return location and how well its reverse vending machines work. Habits and attitude matter, too: Finns learn to return bottles already as children, and they consider it important. The return rate of bottles and cans from households is excellent. Altogether, well over 90 per cent of deposit containers are returned for recycling, the return rate varying slightly between different container types.

## HOW DOES THE RECYCLING OF BEVERAGE CONTAINERS FUNCTION ELSEWHERE?

In the other Nordic countries, beverage containers are recycled in the same way as in Finland through a nationwide deposit-based system. The recycling rates, or the percentage of containers returned of the total number of containers sold, are very high in the Nordic countries.

Other alternatives for the recycling of beverage containers include retail chains' own deposit systems, voluntary sorting in the same way as other household waste, and sorting at the waste processing plant.

**Questions or feedback?** We would be happy to hear feedback on these study materials! You can complete the feedback form at [www.palpa.fi/palaute](http://www.palpa.fi/palaute) or send e-mail to the address [asiakaspalvelu@palpa.fi](mailto:asiakaspalvelu@palpa.fi).