

ENVIRONMENTAL TOXINS

BalticSea2020

THE BALTIC SEA & ENVIRONMENTAL TOXINS - LESSONS TO LEARN

STUDY GUIDE TO THE DOCUMENTARY
THE SECOND WAVE

TEACHERS COMPENDIUM



ULLA ARNBY
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MEDIA PROJECT



The Baltic Sea is surrounded by some of the world's most environmentally conscious societies. And scientists all agree on the most important steps to take. Still, in many respects, the state of this sensitive and almost landlocked sea is deteriorating. The efforts to save the sea are spoiled by national disagreements and short-term interest.

The future and life quality of 85 million people are affected by the Baltic Sea environment. The next ten years will be critical. Can we save the sea that ties us together?

Filmmakers Mattias Klum and Folke Rydén are spending ten years documenting efforts to save the Baltic Sea. Focusing on the decision-making processes for environmental, scientific and political issues, the aim is to produce a television documentary every other year in cooperation with public service broadcasters around the region.

More information: www.saveourbalticsea.com.

BalticSea2020

BalticSea2020 is a private foundation with the main goal to contribute to turning the negative environmental trend of the Baltic Sea in a positive direction by the year 2020. This is achieved through using a donation of 500 million SEK for concrete measures such as: research, opinion making and active engagement in projects.

Read more about BalticSea2020 at: www.balticsea2020.org.

TO THE TEACHER

THIS IS INCLUDED WITH THE DVD BOX “THE BALTIC SEA - LESSONS TO LEARN”

The related study guides accompany this DVD box of Folke Ryden's documentary films. The study guides are based on the documentaries *For Cod's Sake* (2009), which focuses on overfishing in the Baltic Sea, *Dirty Waters* (2011) which addresses the problems of how the industrial meat production causes the eutrophication of the Baltic Sea, and *The Second Wave* (2013), which is about how environmental toxins affect animals and people around our inland sea.

FILM 1: FOR COD'S SAKE - LESSONS TO LEARN ABOUT FISHERY (2009)

Nobody wants to see a situation where Baltic Sea cod has died out. Neither the fish nor the scientists, nor the citizens nor the policy decision-makers. Yet that is precisely what we are facing today. *For Cod's Sake* is a harrowing documentary which examined over a period of two years the systematic and deliberate extermination of the Baltic Sea's most valuable species. When the last cod is dead, we will all be losers.

The study includes study questions, questions for discussion, crossword puzzles and a word search. Topics include policy in the EU, the management of natural resources, the Baltic Sea's fauna, and geography.

FILM 2: DIRTY WATERS - LESSONS TO LEARN ABOUT EUTROPHICATION (2011)

The Baltic Sea faces an uncertain future. The dangers are many, but all of them are amplified by something as simple as how we produce our food around the sea. The quantities of pork, poultry and livestock farms are supplying the fields around the inland sea with fertilizer, far too much fertilizer. The film *Dirty Waters* documents how we, through an increasingly intensive and industrialised meat production, are pushing the Baltic Sea to the suffocating, dead sea bottom that we have today.

The study materials include study questions, questions for discussion, homework assignments, and interactive tasks linked to the Internet and to the film. Topics include politics (national and EU), ecosystems, environment and geography.

FILM 3: THE SECOND WAVE - LESSONS TO LEARN ABOUT ENVIRONMENTAL TOXINS (2013)

Something has happened in and around the Baltic Sea. Several species of animals are in poor health or have decreased in numbers. Prosperity or “lifestyle” diseases among the human population, such as cancer and infertility, are increasing. Scientists warn that a new wave of environmental toxins is on its way. Fetuses and infants are the most vulnerable. Cecilia, an inhabitant of the archipelago, wants to know what environmental contaminants her newborn baby Alfred has swallowed. For the first time, researchers have the opportunity to analyse the infant's blood. The result will surprise and cause worry.

The Second Wave examines environmental toxins found in and around the Baltic Sea, in nature and in human bodies. The study materials are divided into three sections; information to be used in preparation for viewing the film, tasks that the students can focus on during the time they are watching the film, and in the last part tasks that are done in order to work with and process the contents of *The Second Wave*.

INTRODUCTION

ABOUT THE FILM *THE SECOND WAVE*

The poor environmental state of the Baltic Sea affects life in the Baltic Sea in many ways. Many species are threatened or even about to vanish. Hazardous substances and environmental deterioration affect different animals such as porpoises and seals, sea eagles, guillemots, eider, otters, bass, salmon and herring in many different ways. Many suffer from impaired fertility and/or immune system, others from ulcers, shell-tinning and thiamine deficiency.

Meanwhile, there has been a dramatic increase in the so-called “wellfare diseases” among the 85 million people living in the catchment area (this goes for the population in the Western world at large). Cancer, diabetes, allergies and obesity, Attention Deficit Hyperactivity Disorder (ADHD) and behavioral disorders, infertility, neurological disorders and mental illness are some of the diseases which have increased dramatically over the last decades. Scientists call it “a second chemical wave”, referring to the new pollutants entering the Baltic Sea which frustrated scientists admit that they have too little knowledge about.

The Second Wave is the third documentary within the “Baltic Sea Media Project”. The documentaries give a broad perspective on the environmental problems which affect the Baltic Sea, problems which we all in the catchment area have to deal with. In order to have a better environment in the future, we need to have a better understanding of the art of the problems and how deal with them. Education and awareness for future generations is an important part of the solution. We hope that this material will facilitate the processing and consolidation of the information in the film.

ABOUT THE TEACHERS COMPENDIUM

The material was updated in the spring of 2014 in order to relate the information to the core content for different subjects according the Swedish curriculum (Lgr 11). This is to make it easier for the teacher to assess which sections of the material that may be relevant in view of the curriculum and the track system.

In the Swedish curriculum we can read the following: “Everyone working in the school will promote respect for every human being and respect for our shared environment”¹, and: “An environmental perspective gives the opportunitie to both take responsibility for the environment they themselves directly can influence and to gain a personal approach to global environmental issues.”²

In the study guides produced for the film series within the project the Baltic Sea Media Project, is a large number of tasks that are highly relevant for working towards the objectives of the Swedish current curriculum. One of the school's overall goals is that each student “show respect and care for the local community and environment in a broader perspective.”³

At school, each pupil completing compulsory school will have gain “knowledge of the conditions for a healthy environment and sustainable development, have acquired knowledge and understanding of the importance of lifestyle on health, environment and society.”⁴

¹ School's fundamental values, Lgr 11, s. 7

² School assignments, Lgr 11, s. 9

³ Overall objectives and guidelines, Lgr 11, s. 12

⁴ Knowledge, Lgr 11, s. 14

This material is made for students from twelve years and older. Not all exercises need to be done if there is a shortage of time, teachers can of course focus on tasks depending on their class.

The material provides examples of how issues related to the Baltic Sea can be addressed, based on the documentary film *The Second Wave*. The compendium is divided into three sections; preparatory tasks, tasks to be focused on when watching the movie and finally tasks to process the contents of *The Second Wave*, after you have seen it.

We hope you will find the compendium and the film to be efficient tools to increase the awareness and knowledge about the situation in the Baltic Sea. Please send any comments or ideas to us by email at: mail@ourbalticsea.com.

ABOUT THE STUDENTS COMPENDIUM

The material and exercises in the student's compendium follows the same format as this teacher's compendium and contains parts of the exercises described herein. You can download a printable PDF version of the study compendium on our webpage www.saveourbaltic-sea.com.

The teacher compendium and the student compendium are also available through the DVD *The Second Wave*. The DVD is also free to order via utbudet.se.

Best of luck with the schoolwork!

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BEFORE WATCHING THE DOCUMENTARY

MINDMAPPING

Before you see the documentary *The Second Wave* and get started with your work on the Baltic and environmental toxins, it is a good idea to let everyone do a mind map on the theme "Our Sea".

Have students work in groups. Use a large white sheet of paper to work on.

Encourage wild brainstorm – there are no wrong answers! You get an overall picture of knowledge and thoughts the pupils already share on the Baltic Sea.

Save all mind maps, put them on a wall if you like, in order to return to them later. Use them at the end of the project to compare them with the students' new knowledge: see what you can add in terms of new knowledge to the original mind map or just appreciate the fact that the knowledge among the pupils has increased!



THE DEAD SEA

From the essence of *Biology and Chemistry*:

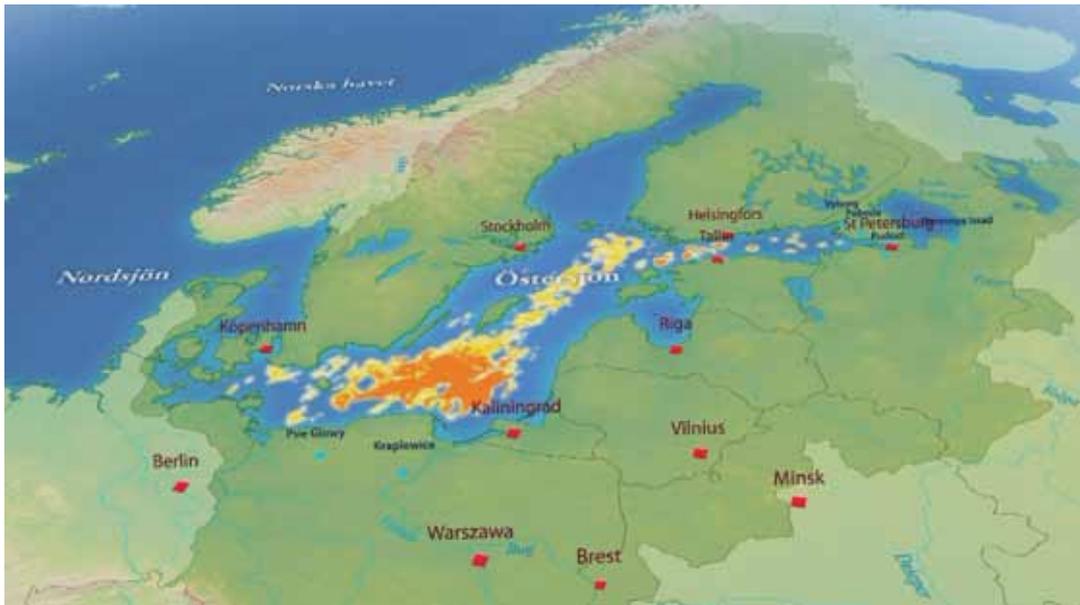
- *Ecosystem energy flow and cycles of matter...*
- *Chemical processes in the soil, air and water in the aspect of environment and health.*
- *Human use of energy and natural resources locally and globally, and what it means for sustainable development.*

In the documentary *Dirty Waters*¹ we learned how eutrophication affects the Baltic Sea. The researchers can today see that a large part of the ocean floor is dead.

The image below is taken from the documentary.

Study it and discuss the following questions:

- How can you explain the words “the seabed is dead”?
- What are your thoughts on what caused the seabed to die?
- Study the map and describe what parts of the Baltic Sea have dead zones!
- How much of the ocean floor is dead according to the illustration?



¹ The second documentary in the Baltic Media Project. Watch it at this link:
<http://www.saveourbalticsea.com/index.php/education/education-materials>

THE EXCITING SEA

From the essence of Swedish, Biology and Art:

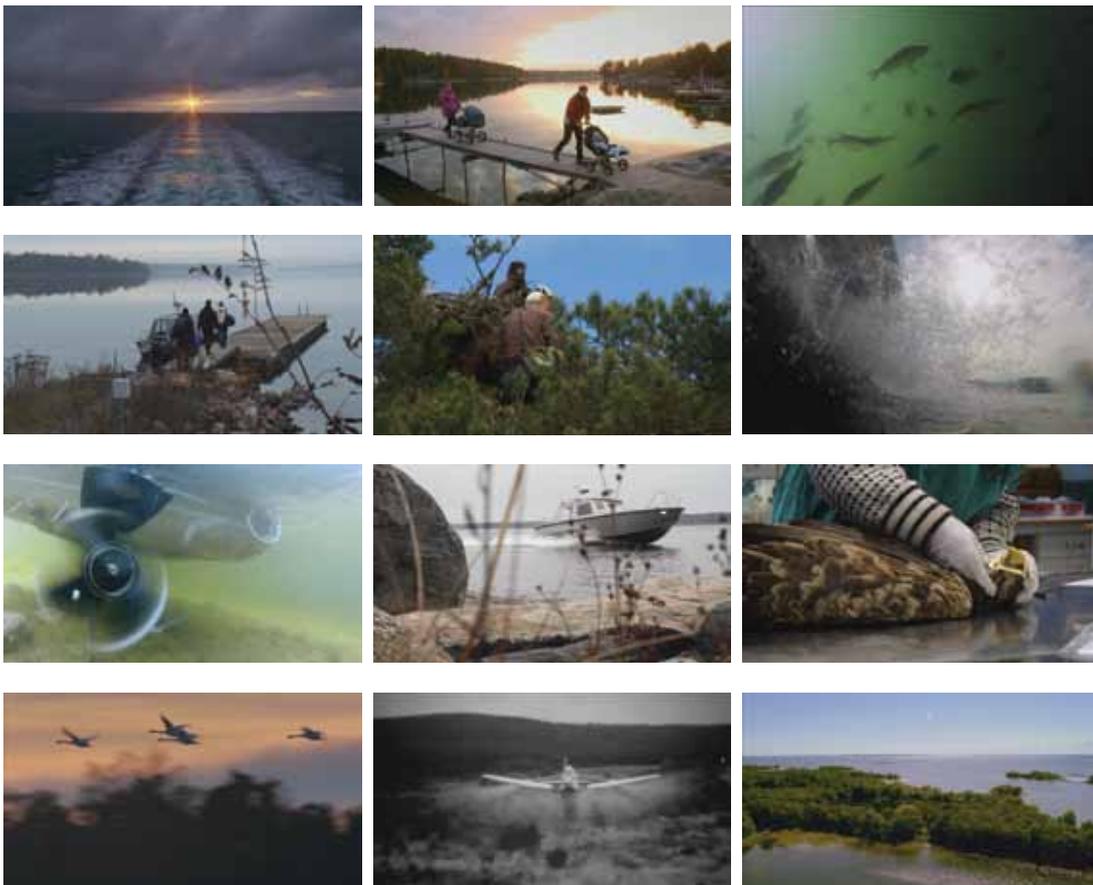
- *Oral presentations and storytelling for different receivers ...*
- *Nature as a resource for recreation and experiences and what responsibility we have when we use it.*
- *... documentary footage ... how they are designed, and what messages they convey ...*

In the documentary *The Second Wave*, you will encounter a variety of images from the Baltic Sea; its grandeur and vulnerability, its history and its future.

Prepare for the documentary by studying a number of images taken from it.

Let all students choose an image that somehow says something to them.

Maybe they think it is beautiful, exciting, horrifying? What is it? What thoughts does it raise? Why does it affect you, why did you choose this picture? Let them write about the photo for a short time, no more than 3 minutes. Then make presentations in small groups where all students have chosen different images.



- Why did you choose this picture?
- What does the picture tells you?
- Where was it taken? In which country? Which season? How's the weather?

Appendix: Images for printing, 4 /page.

BALTIC SEA POPULATION

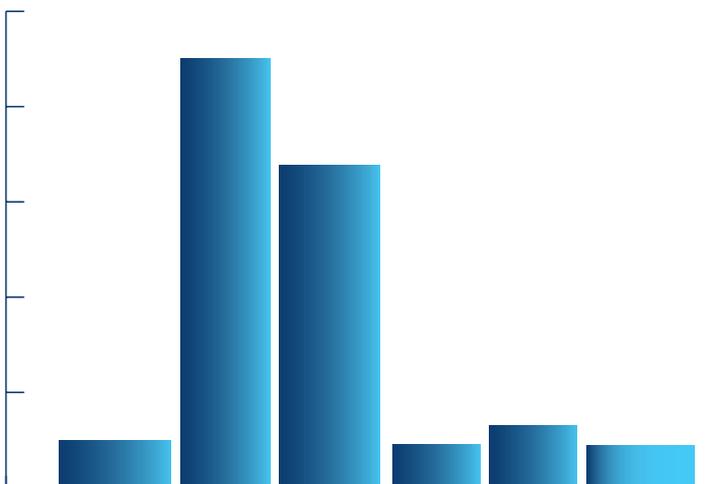
From the essence of Mathematics and Geography:

- Tables and graphs to describe the results of studies. Interpretation of data in tables and charts.
- Name and location of other European countries ...

Find out which countries border the Baltic Sea and how large the population is for each country. Produce a graph or chart showing the size of the different countries populations.

Continue with the country area.

COUNTRY	POPULATION	AREA



OLD GRUMPY AND THE OTHERS

From the essence of Biology:

- The life of animal, plants and other organisms.
- Evolution of Life and organisms adapt to different habitats.
- Interpretation and review of information related to biology ...

Introduce this task before you see the documentary. Have students select one of the animals and let them record the facts presented about that animal while watching the documentary.



There are many scientists, zoologists, who specialize in studying different animals. Björn Helander has spent almost all his life researching the behavior of eagles. Through hard work and a lot of patience, he has had the opportunity to follow "Old Grumpy" throughout his life. It's an eagle that you will get to know in the documentary *The Second Wave*. Otters, gray seals, porpoises and guillemots also feature in the documentary. Select one of the animals and write about how the animal lives.

Use the following questions in your work:

1. Which animal did you choose?
2. What type of animal is it? (mammal, insect, reptile ...)
3. Where does this animal live? (land, water, air ...)
4. Describe the environment, nature and climate where the animal lives!
5. How does the animal adapt to its environment?
6. Describe its appearance and size.
7. What does the animal eat?
8. How does the animal care for its young?
9. Does the animal have any natural enemies? If so, which ones?

Write down the facts you will learn about the animal while watching the documentary:

10. What special information do you learn about the animal in the documentary

Additional task:

Write down questions addressed directly to the animal you chose, as if conducting an interview. Then ask the same questions to a friend who should respond in the animal's place.

WHAT MUST NOT HAPPEN!

From the essence of Social Science and Swedish:

- *Current social issues, threats and conflicts in Sweden ...*
- *To argue in different communicative situations and decision-making.*

Divide students into small groups, give them the following scenario and let them discuss potential solutions. Present the result of the discussion in smaller groups.

A disaster occurs in an archipelago somewhere in the Baltic Sea. You are all participants in the region's crisis team and must now deal with the task of ensuring that the disaster will have the least possible impact. There has been an accident in a factory that uses toxic chemicals, which are now leaking into the sea ...

What is your priority/what should be done first?

- evacuate the area of the disaster
- gathering the crisis group to investigate the situation
- seek help from neighboring municipalities
- other

Who should you inform first?

- hospital
- the local rescue team
- media
- other

What's most important to protect first in your immediate environment?

- forest
- seas and lakes
- animals and plants
- other

Who should clean up after the disaster?

- industry
- state
- volunteers
- other

What can we do to prevent a similar disaster from happening again?

- put greater demands on industries
- start a research center
- other



WHILE WATCHING THE DOCUMENTARY

THE MAIN MESSAGE OF THE DOCUMENTARY

From the essence of Biology and Geography:

- *Human impact on the environment locally and globally ...*
- *Current social issues related to biology.*
- *Conflicts over natural resources, such as access to water and land.*

Think about the main message of the documentary while watching it. Discuss it in class at the end. Choose some of the questions below:

- What is being described?
- What is the problem?
- What have we learned from past experiences?
- Who are the victims?
- What is the main message of the documentary?

THE IMPORTANT RESEARCH

From the essence of Geography and Biology:

- *In what ways vulnerable places can be identified and how individuals, groups and communities are able to prevent risks.*
- *Current social issues related to biology.*
- *... contemporary discoveries in biology and its importance to society, human living conditions and the view of nature and science.*

In the documentary *The Second Wave* you will meet several scientists passionate about their work. They want to learn more in order to better understand the interaction between people and nature. Many times they stand bewildered before the mystery as they have not yet found a solution. But they continue to work hard in their quest for answers...

In the documentary, you will meet, among others:

Eagle researcher Björn Helander, who for almost half a century has been following the eagle in the Baltic Sea: "The eagle is extremely exposed to environmental toxins because it's so high up in the food web, it eats other fish, it eats mergansers, it eats even dead animals ... it can be used to look for new environmental toxins as it gets so high levels of concentration in the body."



Lennart Balk has devoted his life to bird death: "We are seeing huge changes. Many of the populations are at risk of extinction. It looks as if humans have introduced a disturbance in the environment that we do not really understand and it causes diseases, the birds lack certain things in their bodies that they need to function. "

Jessika Hagberg, Örebro University, working with the UN mission to study environmental toxins: "We have analyzed both your (The mother in the documentary) breast milk and your serum and Alfred's serum and we have found a total of 35 different toxins in the blood, but we were able to retrieve 24 of them in your blood. There are pesticides, PCBs, and perfluorinated compounds that we found in your blood and breast milk. "

Anna Roos, seal researcher: "Even if we say that it is getting better for the gray seal and that they are increasing in number, they still have a lot of pollutants in their bodies that should not be there. There are many different theories about what it could be and it is very difficult to identify a single poison as causing a disease. It can also be a combination of new environmental toxins that we do not know much about. "

Lars Förlin researches the perch: "Everyone is concerned about climate change, but environmental toxin problem is still as bad as it was 40 years ago. We use a lot more chemicals in society today than 40 years ago. "

Go through the quotes above and discuss the scientists' main tasks.

Have students in groups or individually consider what researchers they would like to work with? Present in class or in small groups.

- Which scientist would you like to work with?
- Why?
- What could be the solution to the researchers' particular problem?

AFTER WATCHING THE DOCUMENTARY

PFOS, PFOA

From the essence of Chemistry:

- *Current social issues related to chemistry.*

“According to the product register of the Swedish Chemicals Agency there is about 20 tons of perfluorinated substances in chemical products in Sweden. But the amount shows only part of the truth. Perfluorinated substances are used in low concentrations in many products and therefore they do not need to be notified to the product register. Furthermore there is no information about the amount of perfluorinated substances that enter the country by products, which probably accounts for the highest amount of use in Sweden.”²

Read more on Chemicals Agency website!

Find out more about these topics, PFOS and PFOA:

- What qualities do they have?
- What are they used for?
- How do they affect us?

EXPLAIN THE CONCEPT

This is a game that consolidates knowledge from the documentary.

In the appendix you will find a number of cards with concepts and explanation.

Make copies and have students play in small groups

To prepare the game, read the cards together and discuss the meaning of the concepts.

Put all the cards upside down in a heap. In turn pull a card and read the explanation.

The first person to answer with the right concept gets the card. Pull another card.

The player with the most cards at the end of the game wins!

Baltic Sea	old grumpy	DDT and PCB	gray seal	otter
retardants	water exchange	cocktail effect	porpoises	relict
welfare disease	PFOA	guillemot	teflon	persistent
fluorinated material	PFOS	inventory	species bank	indicator species

Appendix:

A number of cards with concepts and explanations used in the documentary.

² Read more at www.kemi.se/sv/Innehall/Fragor-i-fokus/Perflourerade-amnen-PFOS-PFOA-med-flera/ 20130401



ALFRED'S GENERATION

From the essence of Chemistry and Biology:

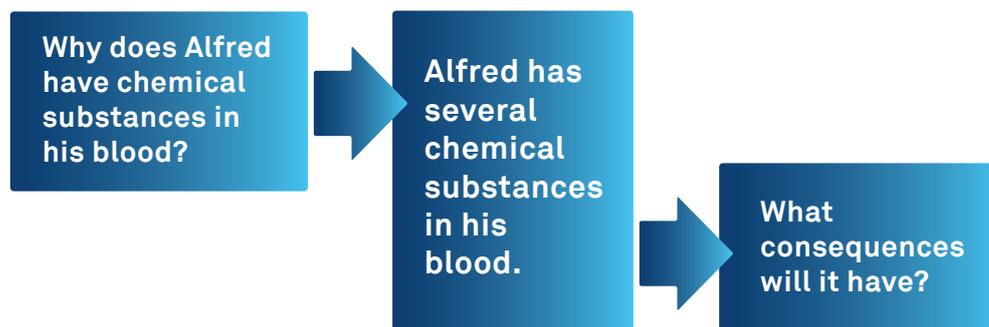
- *The content of food and beverages and its importance to health.*
- *How the physical and mental health is affected by diet.*

Alfred leaves a blood test. It turns out that he, a young child of a few months, has several chemical substances in his blood. They should not be there. Cecilia, Alfred's mother, thinks a lot about what will happen to her children and their children in the future ...

What are the reasons that Alfred has chemicals in his blood?

What consequences can you see?

Discuss in small groups in class, use the following pattern:



WHAT CAN I DO?

From the essence of Chemistry:

- *Common chemicals in the home and in society. Their use and impact on health and the environment and how they are labeled and how they should be handled.*
- *... such as cleaning products, cosmetics, paints and fuels and their impact on health and the environment.*

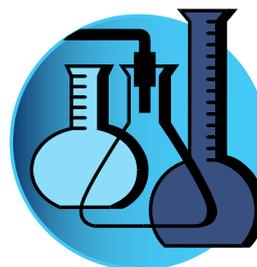
"The presence in the environment of substances that have been created or extracted by society shall not threaten public health or biodiversity. The levels of artificial substances is near zero and their effects on public health and ecosystems are negligible. The levels of naturally occurring substances are close to original levels."

-The Swedish Parliament's definition of the national environmental target

Surely you and your family already have good habits that make you think about the environment: trying to make your impact on nature and the environment – your so called biological footprint – as small as possible. Even so, there are lots of different chemicals around you that affect the nature and life around us in different ways!

What else could we do to improve the environment for everyone?

Make a list of the products you use at home in the household that may contain chemicals. In the kitchen, the scullery/laundry room, the garage, the bathroom, etc...



What can we do to reduce the use of chemicals?

Brainstorm in small groups. Make a list of things to do to reduce the amount of chemicals. Then put the activities in a list starting with the one activity that would be the easiest to perform.

Share with the class what you came up with. Compile the lists of the whole class, write it neatly, copy and distribute at home and to adults at school.

Reference:

Search the Internet for chemicals in everyday products

Review the list of ingredients on the products you have in your home

TRUE OR FALSE

When you have watched the documentary *The Second Wave* you will have learned a lot. Answer the following statements on your own or together in groups. If you have different opinions, discuss them and try to work out a collective response.

	TRUE	FALSE
1. Around 85 million people live around the Baltic	<input type="checkbox"/>	<input type="checkbox"/>
2. 35 out of 49 environmental toxins is found in Cecilia's blood	<input type="checkbox"/>	<input type="checkbox"/>
3. The substance PFOS is forbidden since this year	<input type="checkbox"/>	<input type="checkbox"/>
4. Young specimen/animals have higher levels of toxin	<input type="checkbox"/>	<input type="checkbox"/>
5. "Old Grumpy" was 15 years old when he was found dead (the old eagle)	<input type="checkbox"/>	<input type="checkbox"/>
6. Thirteen countries have coastlines along the Baltic	<input type="checkbox"/>	<input type="checkbox"/>
7. DDT and PCB are toxins that are now forbidden	<input type="checkbox"/>	<input type="checkbox"/>
8. Toxins accumulate in breast milk	<input type="checkbox"/>	<input type="checkbox"/>
9. 40 years ago, a toxic scandal was revealed	<input type="checkbox"/>	<input type="checkbox"/>
10. The toxic chemical PFOA is still permitted	<input type="checkbox"/>	<input type="checkbox"/>
11. If you are pregnant you should not eat freshwater fish	<input type="checkbox"/>	<input type="checkbox"/>
12. Toxic chemicals are found in casual sportswear	<input type="checkbox"/>	<input type="checkbox"/>
13. Seals suffer from ulcers and parasites	<input type="checkbox"/>	<input type="checkbox"/>
14. The higher in the food chain – the more affected by toxins	<input type="checkbox"/>	<input type="checkbox"/>
15. "The cocktail effect" is a drink	<input type="checkbox"/>	<input type="checkbox"/>
16. A "persistent substance" is a substance that is quickly broken down	<input type="checkbox"/>	<input type="checkbox"/>
17. The Baltic Sea is an inland sea	<input type="checkbox"/>	<input type="checkbox"/>
18. Fetuses and infants are more vulnerable to environmental toxins than adults	<input type="checkbox"/>	<input type="checkbox"/>
19. An eagle may eat dead seals	<input type="checkbox"/>	<input type="checkbox"/>

The correct answers can be found in the appendix

QUESTIONS

Answer the questions together after you have seen the documentary and see how much data the class picked up together!

1. Describe the exchange of water in the Baltic Sea?
2. What are the major threats to the environment that has long existed in and around the Baltic Sea?
3. What new threats are described in the documentary?
4. Which pollutants, mentioned in the documentary, were widely used 50 years ago but are now banned?
5. How old can eagles become?
6. Which vitamin is the sea birds lacking?
7. What changes can be seen in the bowels of the gray seal?
8. What chemical is used in the production of Teflon?
9. What ominous signs do the scientists find in otters?
10. Which has the highest concentration of the contaminant itself, older or younger animals?
11. What does the term "cocktail effect" mean?
12. Where are traces of contaminants found in Cecilia?

Answers in appendix.

ENVIRONMENTAL CONSULTANT

From the essence of Chemistry and Swedish:

- *How to handle chemicals and flammable materials in a safe manner*
- *Current social issues related to chemistry.*
- *Critical of sources and review of information and observations that the student encounters in different sources and community discussions related to chemistry.*
- *To argue in different communicative situations ...*

We, the humans, have a lot of needs that we need to fulfill. Everything we do affect the environment around us in different ways. What scare us are the negative effects we have on our environment. How can we overcome them?

We are using various products daily that interfere with the environment as they contain manufactured chemicals that do not belong in nature. We've created them in order to satisfy some of our needs and make life easier, without thinking about or knowing enough about the negative impact they have on the environment, and that they have on us in the long run. Of

course products go through tests before production, but while a single chemical may not affect nature much on its own, they can become big environmental villains when they interact with others. That is what we call the "cocktail effect" – while we may know a lot about the effect of single chemicals, we do not know much their effect in combination. Thankfully, researchers are trying to find out more about them and devise solutions for the future. But how do we reach out to the public so that they can understand that there are ways in which we can change our behavior and thereby protect nature and the environment?

Work together in teams

You are all part of a team working with communications for environmental management. Your mission is to inform citizens about environmental problems.

Think about your habits, the different tasks you have in one day. How and in what context do you use chemicals? In what products you use can you find them?

Make a list together!

Think about what you could avoid.

What is substituted easily, and what is more difficult to change?

Put together an information leaflet to all households where the message will get recipients to somehow change their behavior for the better. For example, stop using liquid soap containing toxic pollutants in favor of block soap which is considered to be a more environmentally friendly alternative.



FURTHER INFORMATION

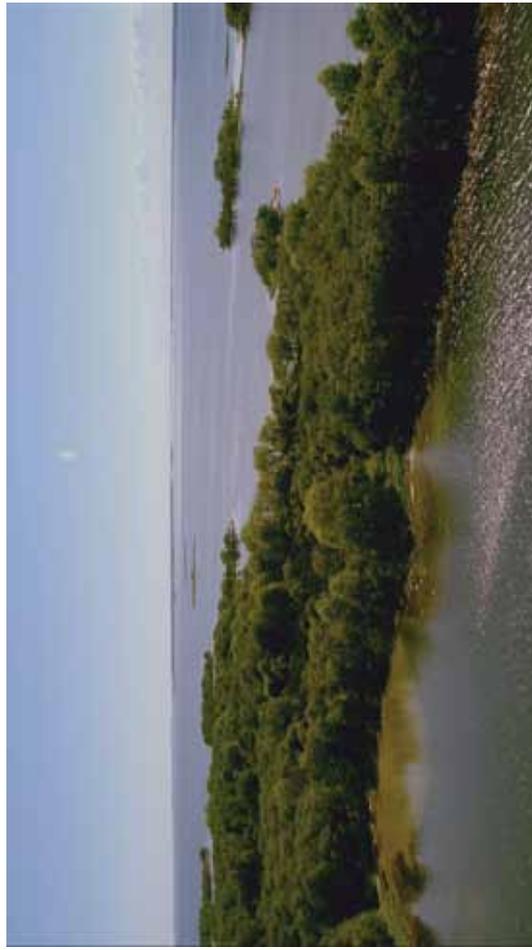
Here are some suggested websites for further information and inspiration:

Baltic Sea Media Project	www.saveourbalticsea.com
BalticSea2020	www.balticsea2020.org
The Baltic Sea Portal	www.fimr.fi/en_GB
Helcom	www.helcom.fi









Word cards for *The Second Wave*.



<p>Baltic Sea</p> <p>inland sea around which there are around 85 million people</p>	<p>Old Grumpy</p> <p>an old eagle followed by researcher Björn Helander</p>	<p>DDT PCB</p> <p>pollutants that are now banned</p>
<p>grey seal</p> <p>occurs in the Baltic Sea and the Atlantic Ocean</p>	<p>porpoises</p> <p>small whale, can grow up to 2.5 meters</p>	<p>otter</p> <p>predator belonging to the family mustelids</p>
<p>retardants</p> <p>chemicals used in products that may be flammable</p>	<p>water exchange</p> <p>exchange of water between lakes and seas</p>	<p>relict</p> <p>a remnant of a pre-existing formation</p>
<p>cocktail effect</p> <p>results when multiple chemicals are mixed</p>	<p>welfare disease</p> <p>diseases of the rich world</p>	<p>PFOA</p> <p>chemical belonging to the fluorinated substances</p>
<p>guillemot</p> <p>small black or brown speckled auks of northern seas</p>	<p>teflon</p> <p>a material used where sticking is to be avoided</p>	<p>persistent</p> <p>retained; never-ceasing</p>
<p>flourinated</p> <p>unnatural substances used in industry</p>	<p>PFOS</p> <p>chemical banned since 2009</p>	<p>inventory</p> <p>count number of a particular species in an area</p>
<p>species bank</p> <p>collection of samples for research</p>	<p>indicator species</p> <p>particularly sensitive animals that shows the status of its environment</p>	

TRUE OR FALSE

CORRECT ANSWERS

	TRUE	FALSE
1. About 85 million people live around the Baltic	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. 35 out of 49 environmental toxins is found in Cecilia's blood	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. The substance PFOS is forbidden since this year – The substance PFOS is forbidden since 2009	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Young specimen/animals have higher levels of toxin	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. "Old Grumpy" was 15 years old when he was found dead (the old eagle) – Grumpy" was 33 years when he was found dead	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Thirteen countries have coastlines along the Baltic Nine countries have coastline along the Baltic	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. DDT and PCB are toxins that are now forbidden	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Toxins accumulate in breast milk	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. 40 years ago, a toxic scandal was revealed	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. The toxic chemical PFOA is still permitted	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. If you are pregnant you should not eat freshwater fish	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12. Toxic chemicals are found in casual sportswear	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13. Seals suffer from ulcers and parasites	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14. The higher in the food chain – the more affected by toxins	<input checked="" type="checkbox"/>	<input type="checkbox"/>
15. "The cocktail effect" is a drink Cocktail effect is the total effect of several toxins	<input type="checkbox"/>	<input checked="" type="checkbox"/>
16. A "persistent substance" is a substance that is quickly broken down A "persistent substance" means that it almost never disappears	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17. The Baltic Sea is an inland sea	<input checked="" type="checkbox"/>	<input type="checkbox"/>
18. Fetuses and infants are more vulnerable to environmental toxins than adults	<input checked="" type="checkbox"/>	<input type="checkbox"/>
19. An eagle may eat dead seals	<input checked="" type="checkbox"/>	<input type="checkbox"/>

QUESTIONS

ANSWERS

1. The exchange of water between the Baltic Sea and the North Sea is very low: the straits between Denmark and Sweden are too narrow.
2. Environmental threats such as transport, eutrophication and extensive heavy industry has long existed in and around the Baltic Sea.
3. New threats to our environment are the use of new chemicals / pollutants.
4. The toxins DDT, PCBs and mercury were widely used 50 years ago.
5. Eagles can live to be over 30 years old.
6. They have vitamin B deficiency.
7. Ulcers and parasites are found in the bowels of the gray seal.
8. PFOA is an auxiliary chemical used in the manufacture of Teflon.
9. The researchers have found cysts on the vas deferens.
10. The younger animals have the highest concentration of contaminants in them.
11. The term "cocktail effect" is the enhanced effect when several toxins are mixed, and the result is unknown.
12. Cecilia's breast milk and blood contained traces of toxic pollutants.

