

The Baltic Sea Project of UNESCO ASP schools WebQuiz 2015

Organizer:

Foundation Tartu Environmental Education Centre (Tartu Loodusmaja), Estonia.
(www.tartuloodusmaja.ee)

Sponsors:

Republic of Estonia Ministry of Education and Research (<https://www.hm.ee/en>)

Web design and management:

Walk & Learn (<http://www.mineavasta.ee/>)

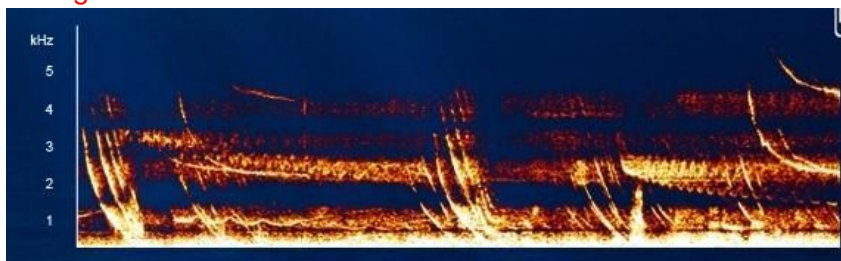
Questions and Correct answers

Before starting the quiz, all participants were asked to check if they had access to 1) internet connection, 2) video software, and 3) headphones. Total score can be + 100 points. Each correct answer gives +10 points. Each participant could submit their results only once. The organizers would count only the first submitted quiz for each person.

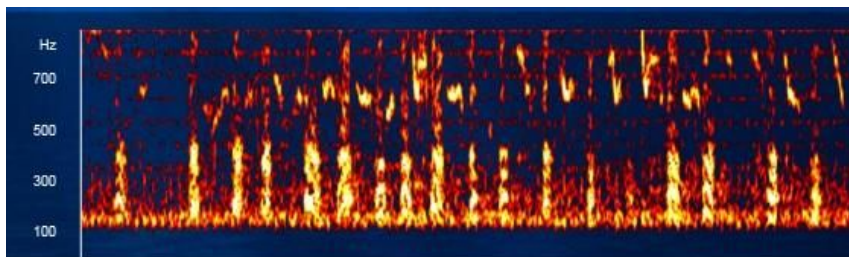
Question 1: Listen to the call of the ringed seal (*Pusa hispida*) and choose the correct spectrogram that describes the sound you hear.

<http://digipamu.mineavasta.com/users/tasks/showDetailMedia?id=525>

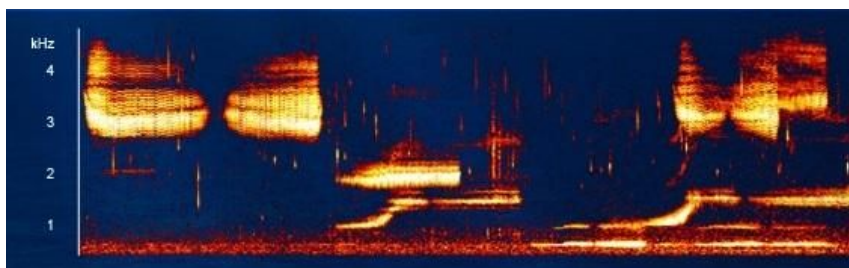
Spectrogram no 1



Spectrogram no 2



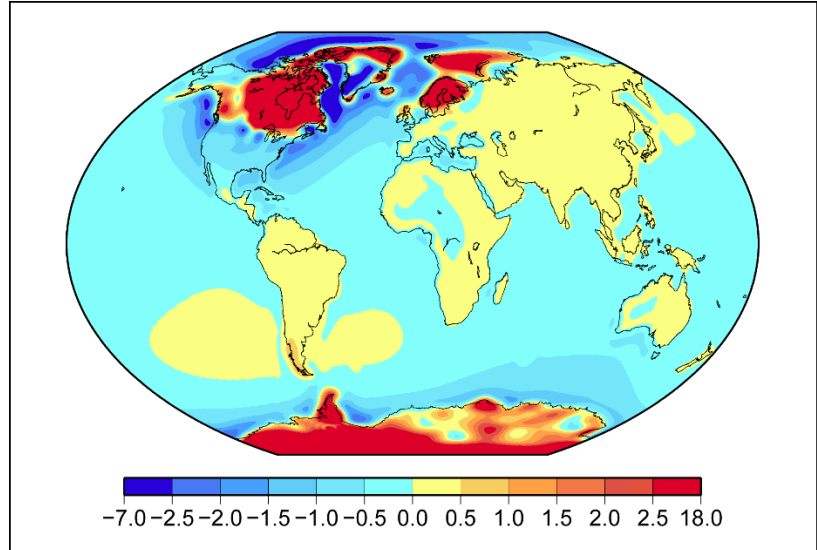
Spectrogram no 3



Reference: <http://cetus.ucsd.edu/voicesinthesea.org/>

Question 2: This picture shows one phenomenon that affects the Baltic Sea as well. It was caused by the weight of ice during the last glaciation. How does the scientists call the phenomenon when the land is still emerging isostatically from its depressed state?

- pre-glacial sink
- post-glacial sink
- pre-glacial rebound
- post-glacial rebound



Reference:

<http://www.antarcticglaciers.org/glaciers-and-climate/sea-level-rise-2/recovering-from-an-ice-age/>

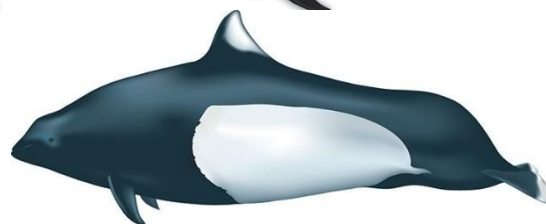
Question 3: The known threats to the Baltic harbour porpoises (*Phocoena phocoena*, L.) are incidental catches in fisheries, high loads of toxic and persistent harmful substances, disturbance by underwater noise and reduced amounts of their prey. This fact is putting this small dolphin in danger. Scientists are asking our help: if you see a live porpoise at sea or a dead animal washed ashore, reporting your sighting will help researchers gather more information about this species and protect it better! Let's make sure we will recognise this creature. You can listen to the sound it makes, and then choose the correct picture of the harbour porpoises (*Phocoena phocoena*, L.).

<http://digipamu.mineavasta.com/users/tasks/showDetailMedia?id=527>

Species no 1



Species no 2



Species no 3



Reference: http://cetus.ucsd.edu/voicesinthesea_org/

Question 4: Amber is fossilized tree resin, which has been appreciated for its color and natural beauty since Neolithic times. Scientists have learned a lot about historic insects because their bodies have been trapped in amber that has been washed ashore onto the coast. Amber is named differently in different regions, depending on its components and origin. How is the Baltic amber also called?

- Retinite amber
- Succinite amber
- Communic amber
- Enantio amber



Reference:

<http://www.amber.com.pl/en/resources/amber/item/408-the-varieties-of-baltic-amber-succinite>

Question 5: All those ray-finned fish species are from the order Scorpaeniformes. Three of them need rocky seafloor and only one of them needs sandy seafloor for spawning. The fish that needs sandy seafloor is also mythical. It was known as dark magic fish that brings bad luck for the fisherman. Which fish is that?



- Longspined bullhead (*Taurulus bubalis*)
- Fourhorn sculpin (*Trigloporus quadricornis*)
- Lump sucker (*Cyclopterus lumpus*)
- Short-spined sea scorpion (*Myoxocephalus scorpius*)

Reference: <http://www.folklore.ee/tagused/nr12/kala.htm>

Question 6: During breastfeeding the gray seal puppy gains 2 kg per day, the ringed seal puppy gains 0,5 kg per day, and human baby gains 0,03 kg per day during first 4 months. Look at the graph of breast milk fat content and calculate how many times more fat a seal breast milk contains than there is in human breast milk? Then choose the correct range for your answer.

- 1-5 times more
- 6-10 times more
- 11-15 times more

Species

Table 3. Composition of Milk from Different Mammalian Species (per 100 g fresh milk).

	Protein (g)	Fat (g)	Carbohydrate (g)	Energy (kcal)
Cow	3.2	3.7	4.6	66
Human	1.1	4.2	7.0	72
Water Buffalo	4.1	9.0	4.8	118
Goat	2.9	3.8	4.7	67
Donkey	1.9	0.6	6.1	38
Elephant	4.0	5.0	5.3	85
Monkey, rhesus	1.6	4.0	7.0	73
Mouse	9.0	13.1	3.0	171
Whale	10.9	42.3	1.3	443
Seal	10.2	49.4	0.1	502

16-20 times more

Reference:

http://www.tartuloodusmaja.ee/docs/327_Praktilisi_toid_Laanemere_teemadel_2011.pdf

Question 7: The Anatidae are the biological family of birds that includes ducks, geese, and swans. They dive into the water to feed of the species living on the seafloor. Usually Anatidae change their plumage (feathers) maximum 2 times a year. Which one of these Anatidae species changes its certain body area plumage (feathers) 3 times in a year?

Steller's eider (*Polysticta stelleri*)



Velvet scoter (*Melanitta fusca*)



Common goldeneye (*Bucephala clangula*)



Long-tailed duck (*Clangula hyemalis*)



Reference: http://www.visitbalticsea.net/download/Book_EE.pdf

Question 8: *Saduria entomon* is one of the Baltic glacial crustacean relicts and it likes to live in deep cold water zones in the Baltic Sea. It is one of the largest crustaceans in the Baltic Sea, but the loss of oxygen in the sea bottoms has caused some declines in the population. It is a predator that feeds on other benthic animals, such as *Monoporeia affinis*, *Macoma balthica*, and chironomid larvae. Our question is: for what animal this species itself is a food source? Please choose one correct answer.

It is food for Atlantic cod (*Gadus morhua*).

It is food for Baltic prawn (*Palaemon adspersus*)

It is food for *Furcellaria* (*Furcellaria lumbricalis*).

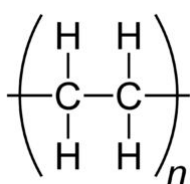
It is food for Baltic herring (*Clupea harengus membras*).



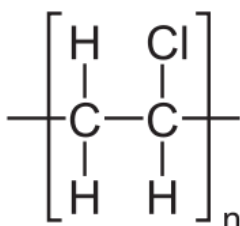
Reference: http://www.visitbalticsea.net/download/Book_EE.pdf

Question 9: Watch this 12 minute video about marine scientists expedition on the Baltic Sea to investigate microplastics and their impact. As their marine expedition result, the scientists found out that all the samples they took from the sea included two main chemicals. Choose those 2 chemicals from the list! <https://vimeo.com/129801901>

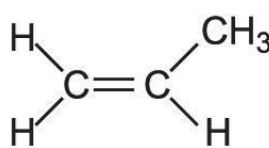
Polyethylene



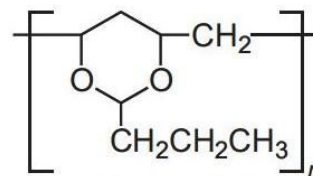
Polyvinyl chloride



Polypropylene



Polyvinyl butyral



Reference: <https://vimeo.com/129801901>

The Baltic Sea Project of UNESCO ASP schools is an international network among schools for a better environment in the Baltic catchment area. The countries bordering on the Baltic share many environmental problems, starting with the pollution of the Baltic Sea. In attempting to solve the environmental problems, education is one of the key factors. The Baltic Sea Project (BSP) has therefore initiated cooperation among schools in all the countries around the Baltic.

Today, over 200 schools are active in the BSP. Most are secondary schools situated on the Baltic coast, but the number of inland schools from the entire catchment area is increasing. In many schools, the BSP has been organized as a joint effort including many subjects.

Objectives

- To increase the awareness of the students about the environmental problems in the Baltic Sea area and to give them an understanding of the scientific, social and cultural aspects of the interdependence between man and nature.
- To develop the ability of the students to study changes in the environment.
- To encourage students to participate in developing a sustainable future.

Practical measures

- To set up a network of schools and other educational institutions.
- To create and develop educational approaches and joint programmes for environmental and international education.
- To organize joint activities and events.
- To publish the BSP newsletter and other relevant information.

Educational approach

- To achieve a balance between a holistic view and individual subject studies.
- To change the role of the student from passive recipient to active constructor.
- To change the role of the teacher from supervisor to guide in a learning process.
- To use networks to provide participants with opportunities to learn and pass along new ideas.
- To use international cooperation as an inherent element of school work.

Your school is welcome to join!

The Baltic Sea Project's homepage: <http://www.b-s-p.org/home/>