



ONCE UPON A TIME...THE SEA

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Methodical guide for learning activities



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MEDGIDIA ROMANIA

LESSON PLAN

Teacher: Cristina Dumitrașcu **Grade:** IInd STEP BY STEP

SUBJECT	S READING	WRITING	MATHS	ART
SUBJECT	AQUATIC ANIMALS	AQUATIC ANIMALS TRANSCRIPTION TEXTS	REVISION- ADDITION AND SUBTRACTION OF NATURAL NUMBERS from 0 to 100	COLLAGE- "BEWITCHED FISH"
TYPE OF LESSON	Language acquisition	Systematization and consolidation of knowledge	Systematization and consolidation of knowledge	Training of skills and skills
SPECIFIC SKILLS	 1.1.Identifying the meaning of an oral message from various accessible texts 1.2. Identify various information from a listening text 3.1 Reading some written messages, encountered in the known environment 3.2. Identifying the message of a short text that tells stories, phenomena from the known universe 	 4.1. Writing messages in various communication contexts 4.2. Drafting up simple messages, observing basic conventions 	1.4. Performing mental and written assemblies and decreases in the 0-1000 concentration, counting and / or grouping whenever necessary 1.6. Use of mathematical names and symbols (term, sum, total, difference, rest, unfold, subtraction, product, factors of a product, divided, divider, $<,>, =,$ +, -,., :) in solving and / or the composition of problems 3.1. Solving problems in investigations by observing and generalizing models or regularities in the near environment	 2.3. Making useful and / or aesthetic products combining easy-to-use materials and accessible techniques 2.4. Transforming a material through various techniques
OPERATIONAL OBJECTIVES	 To read correctly, in their own rhythm, the aquatic animal records. To tell the reading texts. 	 To maintain a correct position of the body during writing. To properly transcribe the 	 To use an appropriate mathematical language. To correctly perform the data addition and subtraction 	-To use the center materials correctly. - To list the working steps.
		text about aquatic animals.	operations. - To solve the problems correctly.	- To attach the wooden scales of the fir cone to

	 To formulate questions and answers based on what they read. To make sentences about aquatic animals. 	 To respect the layout of the page. To analyze the records after the end of the transcript. To replay, one by one, the new acquired favorite information. 	- To fill in the gaps, to reconstitute the text about aquatic animals.	the cardboard, to make the proposed collage. -To analyze the works according to the given criteria.
METHODS AND PROCEDURES	 story, problem-solving; observation; explanation; exercise; heuristic conversation. 	-conversation; -explanation; -exercise;	-explanation; -exercise; -problem-solving; -conversation;	-conversation; -explanation; -demonstration; -exercise.
MEANS	-worksheets;	-worksheets; -plasticine, - boards.	-worksheets	-boards; -glue; -crayons, felt-tip pen; -pine cones; - scissors.



ACTIVITY DEVELOPMENT

THE	It is ensured the appropriate climate fo	r the proper conduct of the activit	у.	
MOMENT				
THE CALENDAR	It is completed the calendar of Septem	ber and the one on the papel speci	fic to the Step by Step class	
	 Catching the attention: 	our and the one on the paner speer		
THE MESSAGE OF	Role-play:" At the news"			
THE DAY	Children can imagine that a pencil	or pen is the microphone. On by o	one, those who want are aske	ed to present an
	imaginary news or not, about the a	quatic world.		1
	Watching the movie "Exploring the movie" (Exploring the movie)	ng the Coral Reef"		
	Debate based on what you wa	tch		
 	Presenting the news.			
THE DAY'S				
AGENDA:	Somene reads the agenda of the	e day where the students will find	the centers to be opened, as	well as the topics
HOMEWORK AND	addressed.	1		
OBJECTIVES	I he students will choose their v	work centers.		
		~	L . ³ X	
		WRITING		
	The students will read the tasks	The students will read the	The students will read	AKIS AKIS AKIS
OBTAINING	 The students will read the tasks. They will receive different sheets 	tasks	the tasks	materials in the center
	that include information about: the	[®] They will warm their hands.	[®] They will compose	and the work stages
	balloon fish, the jellyfish, the abyssal	[®] They will mold from	and solve a fish problem	(tearing the cones,
	fish, the sea turtle, the flying fish and	plasticine an aquatic animal.	on the center sheet;	sticking on the
	the seahorse.	They will transcribe texts	They will solve the	cardboard, filling the
	They read the records for	about aquatic animals.	datasheet: they will make	collage);
	themselves.	They will analyze the	additions and	The students will
	They read one after the other.	records.	subtractions, solve the	bring about the
	They tell what they read.	^(a) They will present, one by	problem, complete the	"Magic Fish" collage,
	^(a) They form questions and answers	one, their favorite new	gaping text spaces, color	respecting all stages of
	about what they read.	Information.	marine animals.	WORK.
	studied aquatic animals	individually both in the contor	done individually both	iudoments according
	a The evaluation will be done	and the front at the afternoon	in the center and the	to established criteria
	individually, both in the center and	meeting.	front, at the afternoon	
	the front, at the afternoon meeting.		meeting.	

The day's agenda

8:00-8:45 – THE MORNING MEETING

9:00-13:00 - CENTRE-BASED ACTIVITY

READING – AQUATIC ANIMALS

WRITING - AQUATIC ANIMALS - TEXT TRANSCRIPTION

MATHEMATICS - REVISION - ADDITION AND SUBTRACTION OF NATURAL NUMBERS FROM 0 TO 100

ARTS – COLLAGE – THE BEWITCHED FISH

13:00-14:00 – HAVING LUNCH

14:00-15:45 - THE AFTERNOON MEETING

15:00-15:45 – EVALUATION ON THE AUTHOR'S CHAIR



<u>THE JELLYFISH</u>

Important statistics:

Length: 10 m Class: Mammalia Weight: up to 2 kilos Breeding season: October – April Gestation period: 20 days Average life expectancy – less than a year Food- small fish and zooplankton





The jellyfish is not a fish, it is an invertebrates being the relative of corals and sea anemones. Interactions of certain species of jellyfish such as the sea wasp are deadly. It has no head, brain, heart, eye or ear or bone. He has a soft body with long, poisonous tentacles that stings, and with which he catches the fish. Its tentacle arms around the mouth start from the center of the body in the shape of a bell.

His body is soft. The jelly body has several mouth holes.

The water represents 98% of the jelly composition. The sea turtle is not affected by the jellyfish sting and regularly consumes it. Jellyfish frees poison whenever its tentacles come in contact with an object or a living creature.

THE ABYSSAL FISH

Important statistics:

Length: 60 cm Class - Mammalia Breeding season – January-April Gestation - 2 years Average life expectancy - over 80 years Food- fish, shrimp and plankton.

The Abyssal fish has the most bizarre appearance among the creatures of the depths. It is a long-haired species with huge rays, living at depths between 1500 270 0 m. It does not have a muscular body but possesses a very stretched stomach, and to catch the prey, acts as a living fishing net, swimming with wide open mouth. He is capable to eat bigger prey than him, due to the lack of bones which covers the gills (operands) such as ribs. He does not have scales, pelvic swimmers. It has a similar body with a snake. It has huge jaws, but not very strong teeth. At the top of the tail there is a red color. The dorsal swimmer has no spades and stretches all over the body. His eyes are small which are at the top of his mouth. His jaws are particularly mobile. It lives in all temperate and tropical oceans.





THE SEA TURTLE

Important statistics:

Length: 100 cm Weight: 150 kilos Class – Reptilian Sexual maturity – 20-50 years Average life expectancy - over 80 years Food- water grass and algae.



The sea turtle lives in the warm oceans, spending almost the entire life in the water. It is a massive species, with greenish meat, appreciated for its delicious taste, especially in turtle soup. It is the largest of the sea shells. It nourishes seaweed in secluded areas, but makes its nest on the beaches with intense traffic. Eating and laying places are located at quite large distances, these cold-blooded creatures being very good swimmers. It can retract its head in the shell. Marine turtles are considered endangered species in all their habitats. They are the most valuable of all reptiles, being hunted for skin, meat, shell and for edible cartilage. Only 1% of egg chicks survive and reach maturity. Its massive, heart-shaped shell is covered with a layer of tiles called crown scales. He has long legs, turned into swimmers.

THE FLYING FISH

Important statistics:

Family – Exocoetidae Class – Mammalia Length: 45 cm Weight: 500 g Gestation – 60 days Food- Consumes a variety of foods including plankton.



The Flying fish is a common species in tropical waters, especially in the Caribbean. The name of this fish comes from its ability to float in the air for long distances, sometimes reaching even 3.2 m. It is supposed to be endowed with this ability to plun ge to get rid of predators. Today there are about 40 known species of flying fish. It has uneven bifurcated tail. His pectoral swings are exaggerated, wings-like. His body has a hydrodynamic, torpedo shape. His eyes are big. Flying fish can squeak at an appreciable height, the sailors often find it on the decks of the boats. The flesh fish meat is tasty, with a firm texture. Like other aquatic creatures, it is attracted to light.

THE BALLOON FISH

Important statistics:

Class: Tetraodontidae **Length:** up to 90 cm **Breeding season:** March - May **Average life expectancy** – five years



Food - consumes generally corals, sponges, sea urchins, other echinoderms and small crustaceans.

The Balloon fish is a carnivore given this name due to the fact that, in moments of disturb, it swallows water, inflating up to two in its normal size. There are over 100 of species living in the Atlantic, Indian and Pacific oceans. In ancient Egypt, this life was used as a ball in various games. Moon Fish (a variety of fish balloon) contains a deadly venom in its organs, but despite the danger of poisoning, it is a delicacy in Japan. This defense is vital because of its specific mode of movement. It has large eyes, closed in color, and is marked by white rings. The skin of the fish is very elastic. The mouth is small in size. His swimmers are low. The balloon fish is also called the Month, or the star balloon. Some species have leather covered with spikes to defend themselves from predators. Balloon fish can blink and close its eyes, which is unusual for a fish.

THE SEA HORSE

Important statistics:

Family: Syngnathidae
Class: Actinopterygii
Length: 1.5 cm – 35 cm
Breeding season: after the full moon
Average life expectancy – one-five years
Food- the sea horse consumes mainly saltwater shrimp, small fish and plankton.

The sea horse lives in the shallow waters of tropical coasts and in temperate climate zones. Due to the shape of the body, it is a weak swimmer and often die exhausted if they are caught in the storm waters. This species has a body covered with horned plaques. Its head is long, looking like a horse. The Sea Horse has big eyes. The body of this living creature is covered with rectangular horns. It has a curved tail. He has no teeth or stomach, but in turn has pectoral, dorsal and tail flippers. Food goes through the digestive system very quickly, so it has to feed itself constantly to stay alive. It is the only species on the ground where the embryo carrier is the male.















Aquatic animals Add and subtract natural numbers from 0 to 100

1. Calculate and find out what fish catches every fisherman.



2. An octopus weighs 25 pounds. A fisherman has twice the octopus's kilograms.

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How much do the two aquatic animals weigh together?

3. A marine turtle has a length of 100 centimeters. A flying fish is 55 centimeters

shorter than the turtle. Find the length of the flying fish.

4. A sea cat is 15 years old, a starfish has 20 years more, and a lobster is 5 years old. How many years have the three animals together?

		-				 -	-		 	 	-						

5. Complete:





LESSON PLAN

Teacher: Anișoara Cornea

Grade: 4th B

Time of lesson: 45 minutes

Curricular area: Math and science

Subject: Science

The thematic unit: The relationships between living creatures and their living environment

The title of the lesson: Animals and their environment

Type of lesson: Revision

GENERAL COMPETENCES: Solving problems in everyday life by capitalizing on environmental acquisitions

SPECIFIC SKILLS:

- Use of criteria for ordering and classification of bodies and phenomena
- Drawing conclusions on the results of their own investigations
- Present your own conclusions

OPERATIONAL OBJECTIVES: During and until the end of the lesson, students must be able to:

- 1 Fill in the gaps with specific terms;
- 2 Determine the truth value of some statements;
- 3 Find missing items from a food chain;
- 4 Write a dialogue on a given theme;
- 5 Show information gathered by them.

AFFECTIVE OBJECTIVE - Manifestation of concern for correct behavior in relation to the natural environment.

TEACHING STRATEGIES

METHODS AND PROCEDURES: explanation, exercise, conversation, didactic play. **EDUCATIONAL MEANS:** PC, PPT presentation, worksheets, portfolios.

FORMS OF ORGANIZATION: frontal, by groups

EVALUATION FORMS AND TECHNIQUES: systematic observation of student behavior, verbal appreciation, incentives

				Teaching s	strategy	
Lesson moments	Operational objectives	Didactic approach	Forms of organization	Methods	Means	Assessment
Organizational moment		The conditions for the lesson are created. Students prepare their materials.	Frontal	Conversation		
Catching students' attention		I will show the students a presentation about Seahorses.		Observation	PPT, video projector	
Announcing the lesson's subject and the operational objectives		Today we will revise the knowledge about animals adapting to living conditions in different environments. We will see how marine life has adapted to life in the water.		Conversation		
Content revision	O1 O2	Students are required to solve a knowledge refresh report. 1. Complete the statements with the words in brackets: Animals and plants in different areas have been	Individual	Conversation, exercise	Worksheets	Pair assessment
		2. True or False? There is only one food chain in a living environment If a species in a food chain disappears, the other living creatures in the environment have no problems. Pasture is a man-made environment Fir trees grow in the plain The water of the seas and oceans is sweet				

		In the desert, the nights are colder than the days There are no living creatures living in the desert				
	O3	3. Complete the schemes to get food chains:				
		wheat pigeon hawk				
		sprouts wolf				
		<u>mackerel</u>				
		anchovy				
Obtaining	O4	The theme is to create a dialogue between a dolphin and	Teams	Exercise	Worksheets	Paper
performance		a land mammal, recalling the similarities and differences				evaluation
-		between them, their food and the trophic chain they				
		belong to.				
Ensure	05	Students had the task of presenting a fish / mammifer /	Frontal	Conversation	Portfolio	Individual
retention and		mollusc living in the Black Sea. They will present their				assessment
transfer		records. These will be stapled in a folder and will form				
		the "Black Sea Book", with information, pictures and				
		curiosities gathered by students.				
	1					



WORKSHEET

1. Fill in the words with the words in brackets:

Animals and plants in different areas have been ______ at environmental conditions.
In a living environment, feeding relationships are defined _______.
The meadow is a place covered with _______, used for _______.
Forest is a living environment _______.
The marine life of plants and marine mammals is an environment _______.
The cause of lack of vegetation in the desert is the lack of _______.
(trophic chains, natural, aquatic, adapted, water, grass, grazing)
2. True or False?
In the living environment there is only one food chain. ______
If a species in a food chain disappears, the other living creatures in the environment have no

problems. _____

Pasture is a man-made environment.

Fir trees grow in the plain.

Alpine meadows meet on the top of the mountains.

The water of the seas and oceans is sweet.

In the desert, the nights are colder than the days.

There are no living creatures living in the desert.

1. Complete the schemes to get food chains:



LESSON PLAN

Teacher: ELENA UNTARU **Grade:** 5th B **Time of lesson:** 50 minutes **Textbook:** Snapshot Pre-Intermediate **Lesson:** *The Black Sea* **Type of lesson:** Language acquisition **Subject:** Biology **Description of the class:**

Level: Starter

Students between the ages of 11-12

The students are generally enth1siastic and they have good results.

Aims: to understand the importance of the marine ecosystem and the human's role in protecting it.

General skills:

- The exploration of the biological systems, the processes and the phenomena, with instruments and scientific methods.
- > Adequate communication in different scientific and social contexts.
- The solving of problematic situations from the living world, based on logical thinking and creativity.

Specific skills:

- To extract information from texts, films, tables, drawings, schemes, as sources for the identification of the characteristics of biological systems, processes and phenomena;
- > Targeted simple investigation activities with the help of some worksheets;
- Adequate use of specific biologic terminology in communication and writing.
- The use of known algorithms in investigating the living world;
- The recognition of the consequences of human activities and our own behavior on the environment.

Derived skills:

By the end of the lesson students will be able:

- ➤ To recognize vegetal and animal species from The Black Sea;
- To identify the relations which are establishing between species of plants, animals and environmental factors;
- To demonstrate the negative consequences of the human actions on the marine ecosystem;
- To form research skills;
- ➤ To show teams spirit;

- To cooperate among the target group to identify the appropriate actions, beneficial to the marine ecosystem;
- > To harness the plastic-artistic skills and to stimulate creativity.

Didactical steps:

- **procedural resources:** learning by discovery, problematic, clusters, Venn diagram, conversation, independent observation, explanation, description.

- material resources: manual, botanical atlas, zoological atlas, worksheets, drawing chips representing Black Sea creatures, video projector, computer, power - point presentation, leaflets with endangered species from the Black Sea, map, marine ecosystems.

Organizational forms:

- Individually and in teams.

- Front.

Evaluation methods: formative through oral questionnaires and solving tasks from the worksheets / feed-back.

Moments of the lesson	Tecaher activity	Student activity	Methods and teaching methods	Assessment methods
I.Organisational	-checks if there are optimum	- they get ready for the	conversation	questionnaires
moment	conditions for doing the	activity		oral
(2 min.)	lesson.			
	-spears the student to			
	appoint absent pupils and			
	writes them in the catalog.			
	-prepares the teaching			
	material required for the			
II. Catabina tha	lesson	(1		
II. Catching the	- asks students to enumerate	- they answer the	conversation	questionnaires
attention (2	some natural aquatic	questions	explanation	orai
······	ecosystems and the			
	components of an			
III Undating the	Ask students questions	they answer the	Individual	questionnaires
lossons loornod	about the subject matter	- they allswel the		questionnanes
hefore	taught the previous time:	questions	activity	worksheets
$(3 \min)$	• What kind of acosystem is		conversation	systematic
(5 mm.)	the aquarium?		conversation	onservation of
	• What are the components		explanation	students
	• what are the components of an aquarium biotope?		explanation	students
	Examples?			
	• What are the components			
	of an aquarium			
	biocenosis?			
	• What are the trophic			
	categories in an			
	ecosystem? Examples?			

IV. Anouncing	- writes the title of the	-they write down the	Conversation,	oral
the title of the	lesson on the whiteboard	lesson title in their	problem-	
lesson	"The Black Sea"	notebooks.	solving,	
(1 min.)			explanation	
V. Optimal	- presents PPT material to	-note the lesson	-learning by	oral
content	pupils with the vegetal and	schedule;	discovery;	systematic
presentation and	animal species characteristic	- ask questions if they do	-conversation;	onservation of
management of	of the Black Sea and with	not understand;	-questioning;	students
learning	the relationships established	- exemplifies certain	-explanation	
(24 min.)	between the creatures of this	defense, feeding and		
	marine ecosystem;	reproduction		
	- guides students' activity;	relationships based on		
	- completes the information	received tokens;		
	where appropriate;			
	- the students are presented			
	the tokens with the Black			
	Sea creatures;	- listen to the		
	- recognizes endangered	explanations		
	species in the Black Sea due			
	to pollution and illegal			
	fishing;	- Participate in		
	- discusses pollution -	discussions		
	causes, effects and ways to	- draw conclusions		
	improve this phenomenon;			
	- draws the lesson plan on			
	the board.			
VI. Provide	-ask students questions	- answer questions,	- frontal	- oral
inverse	about the content taught.	- go through the steps	activity,	-systematic
connection and	- shares feed-back sheets to	specified by the teacher	conversation,	observation of
fix your	students.	to solve the items in the	learning by	the students -
knowledge	- notes active students at the	sheets.	discovery,	feed-back
(17 min.)	hour.		Venn diagram,	shets;
			explanation	
VII. Homework	-exercise 7, page 50, from	The students write down	-explanation,	- systematic
(1 min.)	the textbook	their homework in their	conversation	observation of
		notebooks.		the students

THE LESSON SCHEME

Black Sea

The Black Sea - a large natural aquatic ecosystem (biomass).

<u>1.</u> <u>**Biotope**</u> - it has certain characteristics determined by geographic location within the dry land:

a) Surface layer (150-200 m) (- salinity is reduced due to the fresh water which

it flows into the sea;

- the presence of light;

- temperature is influenced by season.

b) Deep layer (less than 200 m) \checkmark - sandy substrate;

- lack of light;
- the temperature is low;
- salinity is higher;
- lack of oxygen;
- the presence of a toxic gas hydrogen sulphide (H₂S);
- the presence of sulphurous bacteria.

<u>2.</u> <u>Biota</u>:

a) Coastal area: algae, actins, crabs, mullet, shells;

b) Pelagic area: jellyfish, sturgeon (blueberry, sturgeon, pike), blue poppies, horse mackerel, dolphins, gulls, cormorants, sea trout, sea cat, turbot, etc.

c) Abyssal area: Sulfuric bacteria.

Low salinity makes the number of Black Sea species four times smaller than in the Mediterranean Sea.



Annex 1

DOCUMENTATION SHEET - CLASS V B The Black Sea

The Black Sea is highlighted by a number of unique hydrological aspects in the world, being a remnant of the Sarmatic Sea, which millions of years ago stretched from the center of Asia to central Europe. These peculiarities relate to salty waters with a very low salinity, 16-18 grams of salt per liter compared to the other seas and oceans that have 34-37 grams per liter, and to stratification of water, surface are oxygenated with deep ones that are anoxic. Salinity in the Romanian seaside area is even lower.

• It is the largest anoxic aquatic structure on the planet, that is, with the lowest oxygen content in some layers, and in others even without. Over 90% of the Black Sea water is devoid of oxygen because of the large amount of sediment and increased density that prevents the surface layers from transferring oxygen from the atmosphere to the deep ones. Thus, at depths of over 200 meters, there is no longer oxygen, and the water temperature has a constant value of 9 degrees Celsius, so the only existing species are anaerobic bacteria. These sulphurous bacteria play an essential role in ensuring life in this sea, by oxidizing the entire amount of hydrogen sulfide in the deep layers, leaving it to turn the Black Sea into a dead sea.

• It has a stretch of 423,488 square kilometers, and the maximum depth is 2,211 meters and is reached near the seashore in the part of Turkey. The marshes that are produced are of small amplitude generally, and the largest amount of water that feeds it comes from the freshwater flowing into it, hence the reduced salinity, then the atmospheric precipitation.

• Because its very low salinity makes it unique. Because it is not as salty as it should be, biodiversity suffers. Here many marine animals do not live, they need a certain percentage of salt to survive, at least 20%. In it live 149 species of fish and only three species of marine mammals, the best known of them are dolphins. Here lives a fish called Squalus acantius, which is part of the dreamy family of sharks. He lives at about 20 km from the shore, at depths of 20-80 m and does not attack man.

• It is considered the youngest in the world, her training being estimated by specialists somewhere in the period of the Mesozoic. It is assumed that there have been land hoards that led to the disappearance of the Tethys Ocean and several smaller aquatic basins such as the Caspian Sea, the Mediterranean Sea and the Black Sea.

• It was named by the ancient Greeks who settled and founded fortresses on its shore "Pontos Euxeinos", and by the Romans "Pontus Euxinus", which means Hospice Sea. Because it is darker, and in the storm it becomes dark, later it was called the Black Sea. On its coasts, in part of Turkey, some of the last speakers of an ancient Pontic Greek dialect still live, because most of the Greeks settled there have gone to Greece after the First World War.

• Due to the non-oxygenated water layer on the bottom of the aquatic basin, it is the only sea in the world where a sinking pot has been preserved in perfect condition for a very long time, namely, from the Byzantine Empire to the present.

• At 45 kilometers northwest of Sulina, near the Serpent Island, it is said that there is a mysterious Bermuda Triangle, also called "death," which few know. The first accounts of this mysterious area, which they call the Death Wind, made them the Turks, signaling surprising disappearances in relatively quiet waters in the daylight. Other strange stories are the Russians from the 13th and 14th centuries, who are talking about a "white whirlwind" that dragged deep birds, ships and even small islands. NASA confirms the existence of magnetic anomalies in the Black Sea, following a study conducted with Harvard researchers. There are also reports of pathogenic radiation, known since antiquity.

Bibliography: http://www.almanahonline.ro

Name and surname:

Date:

WORKING DOCUMENT - CLASS V-B

Updating knowledge

1. Place the following factors in the table below: bear, slime, lake frog, reed, fish, fir, fox, rush, wolf, deer, water lilies, knockers, cliffs, ferns, light, temperature, crocodile, squirrel, carp, sturgeon, oak, crab, sand, salinity.

BIOTOPE		BIOTA												
	Aquatic plants	Terrestrila plants	Aquatic animals	Terrestrial animals										

2. Circle the right answers with connection to fish adaptations to the aquatic environment:

- a. have an interdigital membrane;
- b. body covered with mucus;
- c. pulmonary respiration;
- d. breathing through the gills;
- e. breathing through the lungs and skin.

FEEDBACK SHEET – Class V B The Black Sea

1. Write with A (True) or F (False):

a) The dolphins make out the sounds they communicate.

b) Oysters and mussels live on the surface of the water.

- c) The turkey is edible.
- d) The dolphin is a fish that lives in the Black Sea.
- e) The sturgeons migrate to multiply.

2. Associate the notions in the two columns:

А

a) Shells;
b) Turbot;
c) Mackerel;
d) Red algae;
e) Seagulls.

В

3. Complete the Venn diagram with biotic and abiotic factors characteristic of the Black Sea:



WORKING SHEET - CLASS V-B Updating knowledge

STANDARD OF SOLVING

1. Place the following factors in the table below: bear, slime, lake frog, reed, fish, fir, fox, rush, wolf, deer, water lilies, knockers, cliffs, ferns, light, temperature, crocodile, squirrel, carp, sturgeon, oak, crab, sand, salinity.

BIOTOPE	ВІОТА				
	Aquatic plants	Terrestrial plants	Aquatic animals	Terrestrial animals	
mud cliffs the light temperature sand salinity	reed rush waterlilies	fir ferns oak tree	the lake frog over crocodile carp sturgeon crab	bear fox wolf, deer woodpecker squirrel	

1. Read the right answers to fish adaptations to the aquatic environment:

- a. have an interdigital membrane;
- b. body covered with mucus correct answer
- c. pulmonary respiration;
- d. breathing through the gills correct answer
- e. breathing through the lungs and skin.

FEED-BACK SHEET - V-Class B Black Sea

STANDARD OF SOLVING

1. Write with A (True) or F (False):

- a) The dolphins make out the sounds they communicate. A
- b) Oysters and mussels live on the surface of the water. F
- c) The turkey is edible. A
- d) The dolphin is a fish that lives in the Black Sea. F
- e) The sturgeons migrate to multiply. A

2. Associate the notions in the two columns:

А

1.Form of hydrodynamic body;a) Shell;2. They are light and worn by waves;b) Turbot;3. Fingers joined by a membrane;c) Mackerel;4.Filter water, are edible;d) Red algae;5. Flat, eyes on the same side of the body.e) Seagulls.

Solution: 1-c, 2-d, 3-e, 4-a, 5-b

4. Complete the Venn diagram with biotic and abiotic factors characteristic of the Black Sea:

BIOTOPE

Surface layer (150-200m) - salinity is reduced, the presence of light, the temperature influenced by the season, O₂ present.
Deep layer (less than 200m) - sandy substrate, lack of light, low temperature, lack of O₂, the presence of toxic gas H₂S, sulfurous bacteria,

BIOTA

algae, actins, crabs, guvids, shells;
jellyfish, sturgeons (blueberry, sturgeon, stingray), blue poppies, horse mackerel, dolphins, gulls, cormorants, sea bass, sea cat, turbot.
sulphurous bacteria В

LESSON PLAN

Teacher: Ionel Nedelcu

Class: $8^{th} B$

Type: vocabulary class

Time: 50 minutes

Objective: Practice of English language

STRUCTURES:

• Vocabulary related to environment

FUNCTIONS/COMMUNICATION:

- Ask for and make suggestions, agree and disagree
- SKILLS: reading, comprehension of a text, speaking

AIMS:

- students practice vocabulary related to environment;
- students understand the life of the sea turtles
- students become familiar with expressing opinions on environment and tourism

OBJECTIVES

Cognitive: by the end of the lesson students will be able to:

- to generate their own oral messages (at least two) using the new vocabulary
- understand and react adequately to questions and statements;
- express information explicitly;
- understand, produce and use the stated information;

Affective:

- making students confident in their ability to use the language;
- creating interest in the topic of the lesson;
- creating a relaxed atmosphere, proper for studying;
- foster learner independence and cooperative learning;
- stimulating students' imagination and creativity;
- having fun.

Operational:

- to learn how to use the vocabulary related to environment;
- to produce ideas for debating on the tourist behavior regarding protected species or areas on their own;
- to identify and use the elements related to environment.
- **TEACHING AIDS:**
- Whiteboard
- Film
- Images

TEACHING METHODS AND TECHNIQUES:

- Communicative approach
- Exercise; questions and answers; fact file filling exercise; sentence writing; conversation; debates; film and image presentation

ORGANIZATION AND TIME:

- Whole class
- Individual and pair work
- 50'

ASSUMPTIONS:

I assume that part of the vocabulary to be taught is already known to my students.

ANTICIPATED PROBLEMS:

Students may have problems using the new vocabulary and the specific terms related to the environment.

Teaching scenario

Step	Time
1. Class Warm-up: greeting, situational conversation	2 minutes
2. Class Development	
➤ The teacher plays a short film about sea turtles and asks the students a few	10 minutes
questions about their life and habits. The teacher invites the students to find	
out more information about the topic by reading the text "Sea turtles in	
danger" from page 92.	
\blacktriangleright The teacher asks the students to identify the new and unknown words from	5 minutes
the text and explains them.	
\succ The teacher asks the students to identify the words with similar meaning to	15 minutes
the words from exercise 1a from page 93.	
> The teacher verifies if the students understood the main facts of the text by	
asking them to complete the fact file about turtles (exercise 1b page 93) and	
by asking them the questions from exercise 1c page 93.	
> The teacher asks the students about some protected species or protected	5 minutes
areas in Romania and later he gives examples with bison, sturgeon,	
edelweiss and bustard (as endangered species) and Danube Delta, Retezat	
Mountains, Cerna Valley (protected areas), all presented in images.	
\succ The teacher asks the students to think about the "dos" and "don'ts" for	10 minutes
every tourist visiting a protected area or encountering any protected species	
which they are to present	
3. Evaluation: The teacher asks the students what they liked about the topic	2 minutes
and the ideas they consider useful.	
4. Conclusion:	1 minute
The teacher asks the students to write down the 10 commandments of a good	
tourist.	

LESSON PLAN

Teacher: LENUȚA ȘTEFAN

Grade: 5th grade Time of lesson: 50 minutes Lesson: *Optional course – The sea – from legend to art* Type of lesson: mixt Subject: *Closer to our sea – The Marine Ecosystem* GENERAL SKILLS:

1. Understanding the problems of marine ecosystems through interdisciplinary lessons;

2. Stimulate motivation to explore the natural values of the sea from the cultural and artistic perspective.

SPECIFIC SKILLS:

- Involving students in research activities for knowledge and understanding the natural and social environment, stimulating interest in its investigation;

Related Content: documentation on Marine Ecosystems; creating a mini-journal with information on marine flora and fauna; developing ICT skills

Related Content: producing informative materials; developing sensitivity, imagination and artistic creativity.

Associated content: writing, individually and / or in a team, of artistic creations: acrostics, quintet.

OPERATIONAL OBJECTIVES:

At the end of the teaching activity, students will be able to:

I. COGNITIVE:

- 1: provide information about the marine ecosystem;
- 2: to make an electronic journalist with information about marine flora and fauna;
- 3: create acrostics and quintets with the theme Deep World;

II. AFFECTIVE:

1: to show curiosity and interest in documentary work;

2: to participate with interest in the act of communication.

TEACHING STRATEGIES:

METHODS: heuristic conversation, frontal activity, alternating with independent, individual activity; activity on groups.

COMMUNICATION TECHNIQUES: didactic play, rebus.

MEANS: worksheets, marker, video projector.

RESOURCES:

1. content - according to the program;

2. student learning capacity - homogeneous class, with sufficient learning resources;

- 3. venue CORAL Hall;
- 4. time one course hour (50 minutes).

TYPES OF EVALUATION: systematic observation, frontal questionnaire, self-

evaluation. THE TEACHING SCENARIO

LESSON EVENTS	CONTENT	METHODS	DIDACTIC	FORMS OF
			MATERIALS	ASSESSMENT
I. EVOCATION 1. Organizational moment	Preparing the necessary things needed for the lesson, providing the right climate for the class.	Conversation		
2. Checking the homework and updating the knowledge previously learned	The knowledge about the marine ecosystem is updated through a ppt presentation.	Conversation		
3. Capturing attention	A rebus is completed, based on the previously acquired knowledge - the Marine Universe	Didactic game Reflection (critical thinking)		Observation
II. REALIZING SENSE 1. Announcement of the topic and stating the objectives	The teacher tells the students that they will develop a mini-journal with information on marine flora and fauna. Also at this stage the competences that will be achieved in the didactic approach will be stated.	Exposure		Observation
2. Driving learning and acquiring new knowledge	The didactic approach will be done by groups. On each table there will be notebooks, portfolios, sheets, marker. On the interactive whiteboard, the minidictionary with information about marine flora and fauna, in PowerPoint format, will gradually be created in images and words. The students will also use the Vocaroo Tutorial to record the results. In the end, each group will create acrostics and quintets with the theme "The World in the Deep," which will be displayed on the whiteboard	Group activity Explanation Quintet Acrostics	Worksheets, portfolios, sheets of paper, marker.	Observation Oral questionning
III. REFLECTION 1.Maintaining performance and ensurring feedback.	Feedback takes place permanently during the didactic process and takes place through verbal appreciations made by the teacher.			
2. Ensure retention and transfer	The homework is directed, giving the necessary explanations. The students have to write narrative compositions, in which the characters must be marine animals.		Written exercises Individual	
3. General Appreciations	General and / or individual, positive and / or negative appreciations are made both during the lesson and at the end of it.			Proffesor's appreciation Final questionning

LESSON PLAN

Teacher: FLORENTINA MIHAELA DELI-IORGA

Grade: 4th STEP BY STEP

Time of lesson: 45 minutes

Textbook: Fairyland 4, Express Publishing

Lesson: Sea animals

Type of lesson: vocabulary acquisition

Description of the class:

Level: Starter

Students between the ages of 10-11

The students are generally enthusiastic and they have good results.

Aims: By the end of the lesson students will be able to identify and talk about sea animals.

Objectives:

- 1. To encourage communication;
- 2. To enrich knowledge of words related to sea animals
- 3. To develop Ss' reading and speaking skills
- 4. To allow students to practice speaking spontaneously and fluently about something that may provoke the use of words and phrases they have been learning recently
- 5. To provide practice of the words studied before.
- 6. To allow students to practice listening abilities

Materials:

Textbooks

Whiteboard

Worksheets

Video player

Activity 1: Warm-up (5 min)

Objective: To encourage communication.

Context: Students' own experience

Procedure: The teacher checks the homework. Then she provides a situational context to introduce the topic of the lesson by asking the students if they know anything about the ocean, its inhabitants and the dangers affecting it.

Aids: notebooks, whiteboard, textbook

Language: all and any

Possible problems: Students may have some problems in expressing themselves correctly.

Activity 2: (Estimated time: 10 minutes)

Objective: To enrich knowledge of words related to sea animals

Context: students' own knowledge

Procedure: The teacher shows the students a ppt presentation on marine animals. The student write down the new words in their notebooks.

Aids: textbook, computer, video player.

Language: all and any

Possible problems: Because of some students' low level of knowledge some words may not be understood properly.

Activity 3: (Estimated time: 5 minutes)

Objective: To develop Ss' reading and speaking skills

Context: students' own knowledge

Procedure: The teacher asks the students to take a look at exercise 1 on page 21 from the textbook. They should read, translate and match the descriptions with the names of the animals on their right.

Aids: textbook, computer, video player.

Language: all and any

Possible problems: Because of some students' low level of knowledge some words cannot be translated properly.

Activity 4: (Estimated time: 5 minutes)

Objective: To allow students to practice speaking spontaneously and fluently about something that may provoke the use of words and phrases they have been learning recently

Context: students' own experience

Procedure: The teacher asks the students to look carefully at exercise 2 page 21 from the textbook. The pupils are asked to take out all the things that mustn't be in the ocean together with the sea animals.

Aids: whiteboard, textbooks

Language: all and any

Possible problems: Students may have some problems in expressing themselves correctly.

Activity 5: (Estimated time: 15 minutes)

Objective: To provide practice of the words studied before.

Context: students' own experience

Procedure: The students are given some worksheets. They have to solve the exercises, like unscrambling words, guessing the word, directed gap filling, etc.

Aids: worksheet

Language: all and any

Possible problems: Students may make some mistakes or may not manage to provide a correct answer.

Activity 6: (Estimated time: 5 minutes)

Objective: To allow students to practice listening abilities

Context: students' own experience

Procedure: Students are going to listen again to a song about animals and their actions (*The animals down in the ocean*), and they will sing it together with their teacher.

Aids: textbook

Language: all and any

Possible problems: The students may not understand all the words.

Homework: exercise 1, page 22

Bibliography:

• <u>www.busyteacher.org</u>



SEA ANIMALS - WORKSHEET

Our planet is covered by many seas and oceans. Many animals and plants live in these waters. Some of these animals are: the fish, the shark, the dolphin, the crab, the turtle, the octopus, the lobster, the whale, the jellyfish, the squid, the starfish, the clam, etc. Some of these animals are dangerous, some are not.

I. Arrange these letters to make a word:



II. Which are these animals?



III. Complete the sentences with one of these words:

whale, shark, octopus, fish, starfish

- 1. The is like a star.
- 2. The has many arms.
- 3. The is a really big sea animal.
- 4. There are many in the aquarium.
- 5. The is a dangerous animal.



LESSON PLAN

Subject:	Technology
Teacher:	Viorica Mihaela Ene
Class:	6 th
Lesson Environm	ient: Classroom
Unit:	Designing and Improving Home and School Space
Lesson Name:	Decorations
Lesson Type:	Acquisition of Skills
Lesson Purpose:	Acquisition of Practical Skills in Production based on
Technological She	et.

Specific Skills:

1.2 Identification of data, size, relations, processes and phenomena specific to maths and science for a product;

1.3 Product Analysis based on set criteria.

Operational Objectives:

- 1. Choice of materials and tools necessary to produce a decorative product;
- 2. Development of skills necessary to produce an object based on a technical sheet;
- 3. Compliance with work quality, safety and health norms, before, during and after work completion.

Teaching Methods:

Conversation; Problematization; Practical Exercise; Gallery tour.

Teaching Materials:

- Safety Sheet;
- technical Sheet;
- board (25/18 cm);
- synthetic material;
- shells
- ruler;
- pencil;
- soldering gun;
- glue.

Organization:

- collective;
- group.

Lesson	Time	Operational	Activities		Teaching Teaching		Assessment	Lesson	Comment
Sequence	Time	Objectives	Teacher	Student	Methods	Materials	Assessment	Organization	S
I Organization	3'		- students' presence check;	- preparation for	Conversation			Collective	
1. Organization	5		- materials and tools check;	class					
			- captatio benevolentiae;	- answers to	Conversations			Collective	
II Application			- discussion on the	questions					
A Update of			importance of a						
nrevious	5'		comfortable environment,		Problematization				
knowledge.			and how to make						
kilowieuge.			decorations to improve the						
			aspect of the environment.						
			- organization in groups of			- technical	systematic		
			4 students;		Exposition	sheet;	observation	Collective	
			- model display;	- model watch	Conversation	- board (25/18	of students		
в		1	- announcement of	- receipt of	Demonstration	cm);			
D. Announcement		2	objectives;	technical sheet	Practical	- shells;			
of the prestical		3	- reminder of work quality,	- follow the	Exercises	- synthetic			
work	22'		safety and health norms;	explanations		material;		Group	
"How to make a			- sharing the product	- performance of		- glue;			
decoration"			technical sheets;	technical		- pencil;			
uccoration			- reading and explaining the	operations as per		- scissors;			
			sheet;	norms.		- ruler;			
			- surveillance and guidance			- soldering			
			of student work.			gun.			
			- requires the groups to	- get their work			worksheets		
C. Product	10'	4	exhibit their decorations:	sheet;	Practical Exercise	Work sheets		Group	
Exhibition	10	-	- share the work sheet	- exhibit their	I factical Excicise	WOIK Sheets		Gloup	
			- share the work sheet.	decorations.					
			- requires a group	- present the					
			representative to assess the	decoration;	Conversation				
III. Completion	7,		decoration of other group	- grade the other	Conversation	Decoration		Group	
Sequence	,		and grade it from 8 to 10;	decorations;	Gallery Tour	Decoration		Croup	
			- announces the ranking	- aggregates the	Gundry 1001				
			- assess the activity.	points.					

TECHNICAL SHEET

Product:	"Shell Picture"
Product Type:	Decoration

Materials and Tools:

Materials	Tools
- board (25/18 cm)	- pencil
- shells	- scissors
- synthetic material	- ruler
- glue	- soldering gun

Product Plan: "Shell Picture", with the product and its production.







Technical Operations and Steps:

1. Preparation	2. Processing	3. Finishing
 choosing the model and materials; tracing the sizes; drawing transposition on board. 	 sticking material on board; soldering assembly of shells. 	 removing excess glue; lacquering the board; fixing the hook.

Quality Control: observance of execution and general product aspect. Dysfunctionality: material removal. Product Price: 20 lei. Presentation: exhibition.

WORK SHEET

Name: "Shell Picture"

Materials - board (25/18 cm), shells, synthetic materials, glue, pencil, scissors, soldering gun, ruler

Work Sequence

- 1. Measurement and cutting of synthetic material (22/15);
- 2. Soldering the material on the board with glue;
- 3. Drawing with a pencil a model on the synthetic material;
- 4. Soldering shells on the model;
- 5. Removal of excess material;
- 6. Fixing the hook with double sticky tape.

Quality, safety and health Regulations (NSSM)

1. It is prohibited to play with the materials and tools during work, before and after the arrival of the teacher;

- 2. Scissors will be used only for cutting synthetic material;
- 3. The soldering gun will be used so that there is no accident hazard;
- 4. Materials to be used will be arranged on desks.
- 5. Student will work in sitting position only.



LESSON PLAN

Name: ELENA DODIȘ

Grade: 6th Time of lesson: 50 minutes Branch of knowledge: Art Lesson: *The quantity contrast* Type of lesson: skills acquisition Subject: *Marine life* GENERAL SKILLS:

1. Developing the ability of plastic expression using various materials, instruments and techniques

SPECIFIC SKILLS:

* Observing and obtaining chromatic contrasts in different compositions

OPERATIONAL OBJECTIVES:

- 1 Recognition of art contrast reproduction of quantity;
- 2 Identifying the complementary effect of colors
- 3 Achieve quantity contrast by applying orange color as a color accent

4 - to express valuable judgments about both their own work and the works of others.

TEACHING STRATEGIES

METHODS: conversation, explanation, demonstration, individual activity. **DIDACTIC MATERIALS**:

PPT presentation



THE TEACHING SCENARIO

SKILLS	TIME	LESSON EVENTS	SCIENTIFIC CONTENT	DIDACTICAL	FORMS OF
				STRATEGIES	ASSESSMENT
		Organizational moment	Preparing the required teaching material;		
	2 min		Ensuring discipline;	Conversation	
		~	Appointment of absences;		
1	2 min	Capturing attention	Do you remember what work you made last time?	~ .	Frontal and
			What was our theme?	Conversation	individual
1	3 min	Checking the homework	Brief presentation of the requirements of the theme:	Explanation	
				Observation	Frontal and
2		Announcement of the	Today we will talk about the contrast of quantity and we will make a		individual
2	15 min	topic and teaching it	work with the subject "Underwater Life"	Conversation	
			Then, yje teacher explains to the students the processes to reach that	Demostration	
			The idea of contract is year, well illustrated by the alternation of day and		
			right winter summer cold het Contract is defined on a strong		
			ingit, whiter summer, cold not. Contrast is defined as a strong		
			The contract of the quantity represents the encoding between a lot		
			little big small. It is the contrast of 2 or more spots different in size		
			The quantity contrast cave; which is loss is more obvious than what is		
			more. You can use this to create the center of interest in your drawing		
			that climax that any story needs and without which it would be totally		
			uninteresting		
			You can use it together with the complementary contrast.		
			So we will do today a work with the subject "Underwater Life".		
			- PPT material is presented;		
			The teacher explains the misunderstood terms and the pursuit of a good		
			work. Each student is trained and given individual or general		
			instructions.		
3	25 min	The practical work of	Students are asked to work, explaining any possible concerns.	Independent	Individual
4		students		work	

OPTIONAL COURSE

The Sea – from legend to art



Туре:	Integrated Optional Course on Multiple Curricula
Curricula:	Language and Communication, Science, Social Science, Art,
	Technology
Class:	1 class/week
Teacher:	LENUȚA ȘTEFAN

One schoolyear

Optional Class Curriculum

"The Sea – from legend to art"

5th Grade

INTEGRATED CURRICULUM FOR ROMANIAN, BIOLOGY, GEOGRAPHY, HISTORY, ART AND TECHNOLOGY

ARGUMENT

In order to enjoy the priceless feature of childhood – *the spirit of observation and investigation, ingenuity, fantasy, imagination* – I have opted for a multicurricular optional course, to formulate objectives which are common to multiple disciplines.

The optional course *The Sea – From Legend to Art* was designed to integrate into the school curriculum the topic of the Erasmus+ Project, *Once upon a time ... the SEA*, and it addresses to 5th graders who will have the opportunity to involve in inter-discipline documenting activities, which will lead to producing auxiliary teaching materials necessary to increase the attractivity of classes. The activities will include innovative methods and techniques specific to student education and adapted to their particulars, interactive methods to stimulate motivation, creativity and involvement in class (discovery, role play, projects, individual and group activity).

Originality, creativity, free expression of students' feelings and impressions will be means to solve the mystery and beauty of marine universe, illustrated in a mini-dictionary with information on marine flora and fauna or posters, pictures, photos, brochures with food recipes and literary creations as legends, stories, poems, educational games and multimedia presentations.

Activities such as *Sea – Source of inspiration in art* (music, painting, photo, cinema), *Marine Life Carnival*, and literary creations published as *Sea Poetry, The Sea in Stories and Legends*, will stimulate motivation to explore natural features of the sea in culture and art. A poster gallery on marine environment protection, *Together for the Sea!*, and the creation of slogans with an awareness campaign on the importance of an healthy marine environment, as well as cleaning campaigns will provide the formation of a responsible ecological, social and civic behaviour.

GENERAL SKILLS

Understanding the marine ecosystem issues via inter-disciplinary lessons; Stimulation of learning motivation via cultural – artistic exploration of the sea natural features.

SPECIFIC SKILLS AND LEARNING ACTIVITIES

1. Understanding the marine ecosystem issues via inter-disciplinary lessons

SPECIFIC SKILLS	LEARNING ACTIVITIES
1.1. Involving students in research	- documentation on the sea genesis,
activities to know and understand the	marine ecosystem, ports and tourist
natural and social environment and	destination on the Mediterranean and
stimulate interest in investigating it;	Black Sea, respectively Ovid's exile,
	the sea as source of artistic inspiration;
	- Creating a mini-dictionary with
	information of the marine flora and
	fauna.
1.2. Forming marine protection skills;	- creation of slogans, awareness
	campaign on the importance of a
	healthy marine environment;
	- cleaning campaigns;
1.3. IT&C Skill Development	Workshops (information materials;
	presentation of outputs).

2. Stimulation of motivation to explore sea natural values from cultural – artistic perspective

SPECIFIC SKILLS	LEARNING ACTIVITIES
2.1. Presentation of personal creative	- Selective, explanatory reading;
and critical opinions based on given	- Expression of viewpoints on a given
texts or art creations	topic.
2.2. Development of artistic	- Cartoons with legend scenes;
imagination and creativity;	- Roleplay;
	- individual or group creation of fiction
	/ short plays about the sea;

	- Collection of food recipes in a food
	brochure.
2.3. Creation of simple / scaled works	- Interdisciplinary approach – art
	representation of the sea world as
	collage, pastel, graphic representations;
	- Scaled work;
	- Costumes made of recycled materials.

CONTENTS

Unit	Contents		
	Presentation of the optional subject		
	🖊 Sea Genesis		
	Investigative documents on sea genesis.		
	4 The Sea in Stories and Legends – Legends of		
	Olympus by Alexandru Mitru		
	Legend of Tomis;		
I The Sea _ A Wonder	 Significance of the name; 		
1. The Seu – A Wohuer	 Tomis as Greek colony. 		
	Legend of Poseidon, the sea god;		
	 Gods and People; 		
	• The Temple as a sacred space.		
	Free composition. Unity of composition (narrative		
	literary creations, cartoons, scaled models with legend		
	scenes)		
	<i>Closer to our sea</i>		
	Marine Ecosystem;		
	Mini-dictionary with information on marine fauna		
	and flora;		
II. The World Within	➢ Free composition. Unity of composition (art		
	creations on marine universe, costumes made of recycled		
	materials, food recipe brochure);		
	> The importance of a healthy marine environment.		
	Publius Ovidius Naso – Latin poet exiled in		
	Tomis		
	Investigative documents on the poet's exile in		
	Tomis;		

	First poet of our land.	
III. Ovid – Poet of the Sea		
	creations in verse);	
	The Sea Through the Eyes of Romanian Writers –	
	collection of Romanian literature on the sea.	
IV. Travelers on Sea Shores	 Coastal Countries and Ports Main ports and tourist destination on the Mediterranean and Black Sea; Educational Game ("Countries, Cities, Seas"); Diary. 	
V. Sea – Gate to Art	4 Sea – Source of Artistic Inspiration (music,	
	film, painting, photo)	
VI. Children at Sea	Outdoor activities.	

VALUES AND ATTITUDES

 \Box Stimulation of autonomous, reflexive and critical thinking towards the input message;

- □ Spirit of observation and receptivity;
- □ Motivation to inform and document;
- \Box critical interpretation;
- □ Willingness to share personal experience and facilitate teaching others;
- □ Flexibility in applying acquired knowledge in daily life;

 \Box Cultivation of a positive attitude towards nature and recognition of its role in personal development;

 $\hfill\square$ Interest in exploring various channels of communication, IT&C included.

ASSESSMENT

- Application of questionnaires;
- Systematic observation of student activity;
- Investigation;
- Student portfolio (art and literary creations);
- Individual and group project;
- Themed boards and exhibitions;
- Self assessment and inter assessment.

YEARLY PLANNING

		C	LASSES	
		SEM.	SEM.	TOTAL
		Ι	II	
1.	Presentation of the optional	1	-	1
	course			
2.	The Sea – A Wonder	7	-	7
3.	The World Within	9	-	9
4.	Ovid – Poet of the Sea	-	4	4
5.	Travelers on the seashore	-	5	5
6.	The Sea – Gateway to Art	-	6	6
7.	Final Revision	-	1	1
8.	A Different Kind of Weeks	1	-	1
	Total	18	16	34



ISTITUTO COMPRENSIVO STATALE FRANCESCO RISO



ISOLA DELL E FEMMINE (PALERMO) – ITALIA

and and

Title:	A "SEA" OF EMOTIONS
Descripion of the activities	This activity has been planned since the beginning of the year in the field of Italian, Art and Biology programming. Looking for and discovering our emotions and sensations, we are like a floating and agitated sea. The pupils exchange bribes where they write their mood and insert them like bubbles in an imaginary sea with colored fish. Our state of mind is compared to the sea in its perfect equilibrium where fish live in harmony respecting the laws of nature. With the possibility that some negligent action may disturb, pollute, destroy the marine world. Sometimes we are led to neglect the emotional aspects in the development of the child a advantage of the more cognitive ones, thus forgetting that it is a globality between action, thought and relationship and must be educated in its entirety.
Targets	class 4 primary and class 2 middle
Educational aims	 Participation and interest of students; Enhancement of pupils' language skills; Awareness of "sea problems"; Ability to explore one's own experience; Ability to connect experiences of the sensory world to real worlds; Ability to interpret their emotions in colors and shapes; Acquisition of appropriate terminology; Development of expressive skills in artistic and scientific expressive language; Development of expressive artistic skills:
Skills and competences	 Recognize their emotions and know how to describe them using real situations; Acknowledge your emotion and translate it into color; Expressing one's own experience and different moods; Develop the ability to work in a group; Communicate your thoughts and welcome those of others; Collaborate with classmates in play and in structured work; Promote positive relationships with the environment, peers and adults; Offer the ability to deal with the theme from different vantage points using different specific languages; Recognize the effects of a negative action on the marine ecosystem;

	• Reconsider the negative effects of an action on our emotional system.
Organization and descriptions of the acitivity	The activity has been included in the annual program of italian art and science in the context of the continuity project. The project sees a vertical educational process with common objectivities in primary and secondary schools. Teaching organization and activitiy:
	<u>Step 1:</u> choice of a story to read taking into account the language skills of the pupils. <u>Story:</u> Suzy Lee – "The waves." - the story of a girl's encounter with the world of the sea: first curiously observed from the
	outside, then timidly touched and finally "played" between splashes and jokes, with the company of a funny group of seagulls. Until their worlds meet with a wave that colors all of blue, and you can collect the shells like a gift of a new friend.
	 <u>Step 2</u>: choice of some parts that can be dramatized. A child is the protagonist, while other students become "seagulls", some move like the sea. Step 3: circle time with pupils: let's try to understand what
	emotions the protagonist involved- <i>Children, through dialogue, are called to give a free</i> <i>interpretation of history and were guided in a form of</i> <i>identification with the protagonist.</i>
	<u>Step 4:</u> to recognize which external situations have disturbed the emotions of the protagonist. <i>at some point in the story "a wave that colors all of blue"</i>
	Step 5: we compare the sea, the marine ecosystem, to our way of being. The students, observing the figures on the sea, told the emotions
	and the memories that this arouses in them. They then reflected on what emotions behave, in their bodies, like the waves of the sea. They identified them and, through dialogue, they gave them a name
	<u>Step 6</u> : we looked at the sea and describe what external situations can upset its delicate balance. <i>A list of situations that can alter the positive and negative</i>
	<i>marine ecosystem is proposed for example: throw a plastic</i> <i>bottle into the sea, dive into the sea, the ship that discharges</i> <i>waste into the sea, a canoe that slowly sails, a tsunami.</i> <u>Step 7:</u> cirlce time - which situations in our real life can arouse emotions

	A list of situations has been proposed that can alter our equilibrium proving positive and negative emotions in exemplum: a swim in a cold water, the death of someone, a chocolate cake The students are asked to reflect and answer the questions "when I happened to feel inside an emotion so great that I could not think? That is an emotion capable of filling me all and not leaving space for a thought? " "When did I feel inside a sea-like emotion?" "How did he behave? How do the waves rise and fall? " Step 8: we use colors to describe our emotions and we give a word to our emotion: We gave a name to the emotion (anxiety, fear, joy that have not been suggested) or, if it was impossible to give a name, teh studenwere asked to use the colours, that they associate with that emotion – red - fear, black -scared but also angry, yellow joy, orange- happiness, orange –joy educational cards are proposed that help to understand better. Students of 2 media use adjective for the description. Step 9: we build a billboard with a marine background and we entrust the emotions to colorful fish. A large "sea" billboard is built collectively where everyone inserts the greatest emotion he has felt and the cause that produced it. The emotions are entrusted to the bubbles of water produced by the breathing of the fish. The protagonist and the characters of the story are inserted into a bubble.
Materials	Pens, pencils, colors, books, billboards, notebooks, sheets, educational cards.
Methododology	Role playing, cooperative learnign, outodorr training, brain stroming,circle time, problem solving.
Aspected results	 be more aware of one's capabilities and potential; live interpersonal relationships with greater awareness awareness of one's own being; know how to associate the personal world with the real world (the sea); to recognize the problems that can distort the balance of an "ecosystem"; to interpret reality through creative aspects.
Educational contents	<i>The wave</i> - Suzy Lee, enhancement of writing skills, analysis, synthesis and personal re-elaboration through reading and dramatization.

Verification	The verification of the skills and competences achieved will be carried out in itinere through occasional and systematic observation of the behavior of children during exploration, production, relationship and communication in the group, evaluating of the drawings made by the children.
Duration	 6 hours distributed in 4 weeks: 1 - moments of socailization; reading the short story (protagonists, antagonists, situations, emotions, places, times); 2 - Dramatization of some scenes; circle time; 3 - conversation and educational games on the knowledge of our emotions 4 the sea, the ecosistem, we are like fish, play into the water, letting ourselves go and lead from the sea of our emotions; 5 - which actions disturb our balance; 6 - which actions disturb the delicate balance of the sea; we build a poster and entrust our emotions to the fish.



Didactic cards

The protagonist: Description:		Emotion:	Colors:	

Emotions:	Color:	\frown	\frown	\frown	\frown	\frown
Happiness	Yellow	$(\overline{O}\overline{O})$	((o o)	(55)	$(\bigcirc \bigcirc)$	(00)
Sadness	Dark blue		\bigcirc		NOU	$\mathbf{\nabla}$
Angry	Red	HAPPY	SAD	ANGRY	SCARED	EMBARRASSED
Scared	Black	\frown		\frown		\frown
Embarassed	Light red	(60)	(`````)	$(\widehat{\sim} \widehat{\sim})$	(@@)	$(\mathcal{O}\mathcal{O})$
Satisfied	Orange	\checkmark	\bigcirc		\smile	S
Aggression	Dark red	WORRIED	SURPRISED	DISGUSTED	BORED	LOVED

ANGRY, PROUD, ANSIOUS, GUILTY, UNHAPPY, SATISFIED

List situations that alter your balance:

• Your brother has told your parents something that you have combined.

• You are with your companions stumble and everyone laughs.

• You had a fight with a friend and you said things that you did not think.

• Your parents ask you to commit yourself more to school.

• You have taken insufficient in Italian.





Title:	Interactive lesson at the ecomuseum of the sea
Description of the activity	The training paths are based on being active users, authors, story-tellers. The visit is very interactive and calls individuals to get involved and build individual narratives as well as the different thematic workshops are never lectures but activities that make children and teenagers
(Italian,	protagonists working on the expression of self, on the critical sense, on changes that the coast has
science,	planned activity in the field of history and citizenship education.
ITC)	In Ecomuseum you can find Palermo's relationship to its sea is very telling of the city that was,
	that is and that could be. There are stories of resistance, travel, commerce, holiday and work. There are memories faded photographs forgotten places fairy-tales and postcards. Seafarers
	dockers, writers, poets, sunbathers, ship-workers, captains and sailors. People who go out to sea,
	and people who carry the sea in them wherever they go.
Target	2 nd class middle school
Subjetcs	Italian, History, Geography, ITC, Science
Partner	Comune di Palermo – Museo memoa
Objectivies	1. Environmental education related to the theme of the sea, marine biodiversity, underwater
	2. The city and its transformations, like when and why Palermo has changed and its relationship
	with the sea.
	3. Live memories: what do we lose if we lose the link with the past? How new communication technologies can help us conserve and enhance memory and how to commit ourselves to
	transform the present.
Educational	1. Environmental education related to the theme of the sea, marine biodiversity, underwater worlds and respect for the marine accessstem
ainis	2. The city and its transformations, like when and why Palermo has changed and its
	relationship with the sea.
	3. Live memories: what do we lose if we lose the link with the past? How new communication technologies can help us conserve and enhance memory and how to commit ourselves to
	transform the present. Active citizenship: what does being a citizen mean.
	4. Know how collective actions can contribute to defend common goods.
	5. Know how engagement can transform the present.
Skills and competence	1. Develop ability to reserve marine biodiversity, submerged worlds and respect for the sea's ecosystems.
····· F · · · · · · ·	2. Understanding how some human actions such as: illegal construction, corruption, affect the
	balance of the ecosystem.
	sea, like judicial inquiries and courageous journalists in the Palermo of the 1960s and
	1980s.
Organization	Step 1 Preparation for the visit through research on the meaning of the Ecomuseum, its location
and description of	and purpose of the installation Step 2: Visit Ecomuseum
the activity	Step 3: Participation in the narrative visit.
	Step 4: The students take note on their written notes of the main topics of the visit
	Step 5 : What I saw? The students in the class rework the main steps of their experience, telling what has most affected their interast and why
	Step 6 : Discussion of which attitudes of degradation are present in one's own local community.

	 Step 7: We compare the sea, the marine ecosystem, to our way defend it. Step 8: The students discuss episodes of degradation and illegal building and abusiveness on the coast in the local community. Step 9: The students tell about which characters they know among those who have been more involved in the fight against abusiveness Step 10: Students prepare a report by critically reworking of their visit experience, and explain what the value of an installation like the ecomuseum is for them.
Materials	Pens, pencils, books, notebooks, sheets, digital camera,
Methodology	guided tour, work in little groups, free and guided conversation, circle time
Aspected results	 to recognize the problems that can distort the balance of an "ecosystem"; know how to recognize and report acts of damage of the territory; know how over time initiatives to combat degradation have been undertaken; development of the critical sense and acquisition of new digitral skills.
Educational contents	development of the civil conscience, living responsibly one's belonging to the community.
Verification	The verification of the skills and competences achieved will be carried out in itinere through occasional and systematic observation of the behavior of students during exploration, production, relationship and communication in the group.
Duration	8 hours distributed in 4 weeks: 2 hours to find notice and describe about Ecomuseum; 3 hours of visit of Ecomuseum; 2 hours first discussion in small group and then in plenary of the meaning of the visit and relationship with one's own experience; 1 hour personal report processing.
Teachers	Anna Durante, Pia Franco



Title	The marine ecosystem and its biodiversity (to discovery of marine fauna)
Educational purpose	To increase the knowledge of animal speciesbelonging to multiple taxonomic groups, such as cnidarians, echinoderms, molluscs, crustaceans and fish. We also want to increase respect for the marine ecosystem and want to deepen the students in those themes ecosustainable in coastal and marine environments.
Target	5 th class primary school
Partner	Microcosmos Associacition
Objectives	 Knowledge of the ecosystem concept; Know how to identify different species of fish and the dangers to a marine ecosystem, awareness of the problem of the sea; Knowledge of scientific language and enhancement of language skills; The interest and recognition of all those marine animal species known only from a gastronomic point of view and not known for their ecological role and for their importance for food chains and for the food webs; Develops attitudes of curiosity e ways of looking at the world that stimulate him to look explanations of what see it happen.
Skills and compentence	Students of the classes involved in the project in question will be able to expand their own to know about basic zoology, general ecology, biology marine and ethology linked to living marine organisms brought to the classroom. Plus they will have also to learn the value of biodiversity and the importance of variety of habitats for human beings and for life in general. Students will be able to to learn the meaning of alimentary chains, of animal biodiversity, of ecosustainability, environmental vulnerability, marine pollution and zoology applied to a coastal context of the Sicilian territory.
Description and organization of the activity:	Students can closely observe live animals and multiple shells tropical and native wines brought to the classroom, will touch the above species, they will be able to draw them highlighting some more characteristic traits, they will be able to learn to recognize them and can be interested in and approach the marine ecosystem. The students they will also learn how to respect and protect marine environments and the many animal creatures that are part of it. Step 1 : presentation of the Workshop - ppt Step 2 : the fish of the Mediterranean: vertebrate and invertebrate animals, body description: the fins - anal caudal dorsal - gout breathing the scales, the differences between the various endemic speciesthe length of some various types of fish and the size of the most common fish: anchovy, herring, sea bass, mullet, gurnard, cod, hake, sea bream, flounder, fish S. Pietro, swordfish, race, turbot, sardine, scorpionfish, mackerel, sole, tuna, mullet.

	 Step 3: live observation in the classroom of some live marine invertebrates and some embalmed animal species. They will be described and closely observed made by hand presented multiple large shells either native that exotic. Step 4: behavioral analysis and the ecological role of each single animal species brought to the classroom. Step 5: the pupils will have to describe some species highlighting their knowledge-length, width, weight. Step 6: microscopic observation of relevant aspects of the body Step 7: ppt and didactical cards.
Materials	Organic material (fish shells), easy-to-use material, scale, meter, microscope.
Methodology	Pupils will be stimulated to the taste of discovery as motivation, observation, reflection and analysis. The activity also aims to develop sensory and tactile expectations.
Aspected results	 The end of the workshop the students will have learned to: use / understand appropriate terms; exchange points of view, explanations, opinions, information; problematize all the aspects considered significant, recognize some species of native fish.
Evaluations	The evaluation will be done during the didactic course, considering also the attention, the participation, the acquired skills. Students, during the practical workshop in the classroom, will be questioned both by the external expert that by their teacher on the topics covered. They will be invited to take notes on your science notebook and draw some species animals of particular ecological importance. Later, at the end of the laboratory, the teacher of the class will be produced a billboard by relating with the images and text the experience lived.
Duration	5 hours: 1 hour - presentation of the workshop; ppt The fish of the Mediterranean Sea; 2 - 3 hours - live observation of fish and molluscs; 4-5 hours - conversation - billboard, ppt.
Teacher	M. L. Bertolino



ESCOLA GABRIEL CASTELLÀ I RAICH



IGUALADA – SPAIN

Title	A SEA OF CULTURE
Descriptions of the activity	The educational class is part of the curricular activities of the art lessons. It has been completed by class 3 of primary school. It consists in make an artistic creation inspired in sea pictures that they saw previously. After that using their creativity, they did a sea with Joan Miró paitings.
Target	3rd class primary school
Objectives	 to trace a collaborative continuous line to work in small groups to decide: which section to paint and which color to use to imporve the control of a brush when tracing lines language skills.
Methods for evaluations	 <u>a. peer to peer assessment:</u> the bit of the line traced is: not continuous/partially continuous/contiuous <u>b. student self assessment:</u> I always give ideas/ I sometimes give ideas/ I prefer to follow peer's ideas. <u>c. teacher to student assessment:</u> shows high control while tracing and coloring using a brush/ shows control of the brush in almost all occasions / uses the brush in an inadequate way or shows very little control.
Results	 Some students give quality opinions to help their peers improve; Around half of students show commitment when assessing themselves; Very little students hold the brush with delicacy. Most of them are able to trace lines but they use a lot of paint.
Teachers	Aïda Elias Monell i Laia Benito Mullerat



Title	COMPARISON OF SEAS
Descriptions of the activity	The educational class is part of the curricular activities of the language and science department. It has been completed by class 5 of primary school. External experts involved from the Secondary School. The students with the information from Power Points made by Italian, Portuguese and Romanian and the one given by the expert have to prepare a oral explanation about similarities and difference between Mediterranean, Black Sea and Atlantic Ocean.
Target	5 th class primary school
Partner	Insitut Badia i Margarit
Objectives	 To know more about many aspects of the different sea To know how to select the most important information To compare Black sea and Mediterranen sea and Atlantic Ocean. To make an oral explanation about the results of the comparison To respect and be awared about the different languages that Europeans use.
Methods for evaluations	 a) participation and interest of students b) research ability c) accuracy in knowledge in the coparison d) fluency speaking
Results	a) They could have an acquisition of sea knowledge having to compare the same concept from one sea to the other.b) They had have a good organisation to expose the information clearly to the other students.
Teacher	Anna Bayà and Núria Ramon





Title	HAND SEA ANIMALS
Descriptions of the activity	The educational class is part of the curricular activities of the language and arts department. It has been completed by all the school from 3 to 11 years old. The students thought how to make sea animals only with their hands.
Target	From Nursery School 1 to 6 th class primary school
Objectives	 To know more about sea animals and their shapes; To think using hands how to represent a sea animal shape; To be creative using their hands, different colours and techniques; (Only Primary) To understand easy instructions in English.
Methods for evaluations	 participation and interest of students; creativity; accuracy in art tecniques and shape making; (only primary) good speaning understanding;
Results	 They could have an acquisition of sea animals shapes; They produced more than 200 animals that we could use to decorate the school.
Teacher	All Teachers







AGRUPAMENTO DE ESCOLAS DE VALE DE OVIL



BAIÃO – PORTUGAL

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LEARNING SCENARIO		
<i>School:</i> Agrupamento de Escolas de Vale de Ovil	<i>Duration:</i> 45 min.	
Teacher: Nuno Mota	<i>Students age:</i> 12-15 years	

Topic:	Our Sea Our Life
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Aims:

- To introduce new teaching and working methods appropriate to approach the problems and importance of the sea, develop digital skills, attitudes and competences;
- To know how to make decisions to preserve the sea as an important part of learning how to be a responsible adult;
- To train our students to make decisions when they have to use resources;
- To use ICT as a tool for learning, collaboration, creativity and innovations.

Outcomes:

- Children motivated for learning and acquiring new competences;
- Citizens more responsible and able to share values;
- Exploration of ITC in teaching and learning.

Work practices and methods:

- Interactive exercise / Teaching and Learning with smartphone;
- QR Code App exploration;
- Conversation;
- Collaborative and individual work.

ARTICULATION

Course of action (duration, minutes)

INTRODUCTION (10 minutes)

The teacher promotes a debate about the problems of the sea and tries to know how the students are conscious about it; remember some concepts spoken during the different subjects and in the news.

MAIN PART (20 minutes)

The teacher explains to the students that they will make a smart peddy using their smartphones and QR Code reader App. It is explained how to use, install and use the application, the methodology and the rules.

Then the students are invited to gather in groups. Each group is a team that need to follow the clues and make the track passing through different points. In each point there is a QR Code with a challenge.

At the end of the smart peddy the results are presented.

CONCLUSION (10 minutes)

A small report is handed out with the performance of each team. Students are then invited to reflect on their performance.

Methods	Work practices
ICT Competences	individual work
interview	pair work
dialogue	group work
demonstration	frontal work
work on the text	
role playing	
interactive exercise	
work on the text role playing interactive exercise	JIOHAU WOIN

Material/means:

- QR Code App;
- Smartphone.

PERSONAL OBSERVATIONS, COMMENTS AND NOTES

The points in the track can be in the Library, Lab, Classroom, Garden, ITC Lab, Arts Lab.

In each point, the students are challenged to do one activity that can be: making a video; exploring a book; answering a questionnaire; drawing a logo; All the activities need to be sent to the jury using the smartphone.

