

Webinar on "How to use" the educational material 02/09/2021 12.00 - 13.30 Athens time

Iro Alampei & Vicky Malotidi, info@medies.net

Orientation

- Housekeeping notes
- Welcome
- Ice break
- Selected activities (interactive presentation & tips on each)
- Evaluation

Students' Material

RECORD-KEEPER FOR A WEEK ... 6-7 HOW DOES PLASTIC WASTE END UP IN THE SEA AND ON OUR COASTS?...10-11 HOW LONG DOES IT LAST UNDERWATER?...12-13 HOW IS IT A THREAT TO ANIMALS?...14-15 IMPACTS OF PLASTIC WASTE ON HUMANS...16-17 THE PROPERTIES OF PLASTICS...18-19 HOW ADVANTAGES TURN INTO THREATS ... 20-21 NOT ALL PLASTICS ARE THE SAME ... 22-23 MAKING SENSE OF MARKS AND LABELS ON PACKAGING...26-27 12 PRIORITIZING ACTIONS 28-29 13 SORTING AND RECYCLING...30-31 MISTAKES IN THE WAY WE SORT OUR WASTE...32-33 FROM A LINEAR TO A CIRCULAR APPROACH...34-35 16 THE EUROPEAN UNION AND SINGLE-USE PLASTICS ... 36-37 A PERSONAL ACTION PLAN...38-39 18 AN ACTION PLAN FOR MY SCHOOL .. 40-41 THE SUSTAINABLE DEVELOPMENT GOALS...42-43 WHAT GOES INTO THE RECYCLING BIN...44

OM THE BLUE SEA

Housekeeping notes







Housekeeping notes

• Please remove potential distractions

- Get comfortable
- The PPT & video will be shared. Keep your questions for the end.
 - Have a plastic packaging or object at hand. We will use it!













Welcome note



Prof. Michael Scoullos

MIO-ECSDE Chair MEdIES Coordinator UNESCO Chair and Network on

Sustainable Development Management and Education in the Mediterranean at the University of Athens





What is the most disturbing marine litter item for you personally???

Write it in the CHAT



START!

In sensitizing someone about Marine Litter where would you start from? Why???

1 min reflections on chat



18+1 approach

- Start from what learners know
- Start from their everyday life
- Create a unexpected / shocking experience to attract their interest



Over a period of one week, sort your home waste into categories and use a scale to record their weight. Each category should correspond to a different type of bin: **START!**



- Categorise waste items according to the recycling system of your region.
- Before starting the 'recording week' discuss how you will do the sorting, so that you all measure items in the same way.
- Inform parents and ask their cooperation since the recording will be made at the household level.

START!

18+1 approach

- Start from what learners know
- Start from their everyday life
- Create a unexpected / shocking experience to attract their interest



With your class, friends or family organize a litter survey or clean up activity at a nearby beach, wetland, park, stream or river.

Tips on Act 2 (top-10)

- To realize the extent of the problem of marine litter, nothing is more enlightening than a walk on a beach.
- Choose how "scientific" your survey will be depending on your learners and time.
- Clean-ups require some organization: Create BEFORE-DURING-AFTER tips.
- Connecting your observations to sth bigger is motivating for learners and useful for Scientists and Policy Makers.
- Compare your findings with your country's or the EUs top-10.

Citizen Science Approach

A game of TOP-3 based on eye observation

A one page form, i.e. <u>ICC</u> <u>campaign</u>

A monitoring activity, based on the <u>Marine Litter</u> <u>Watch</u> – 190+ categories of items



Think of a) an object that may end up in the sea b) the practice that led it there

1 min reflections on chat





18+1 approach

- Start from learners' environment and go broader
- Think of items but also practices / habits
- For every wrong practice, think of an alternative good practice

For each of the below sources, list 2 possible plastic items that might end up in the sea due to a wrong practice.

Point/ Source	Waste	Wrong Practice
Home/household	1. 2.	
Family bathroom/WC		
Factory		
Swimmer or beachgoer		
Greenhouse or other agricultural activity		
My school yard		

SOURCES

Tips on Act 3 on ML sources

- 75-80% of ML comes from land: Stress the importance of keeping rivers clean.
- Around ¾ of ML are single use plastics (SUPs).
- The root causes relate to inadequate management, consumers indifference, but mostly, the prevailing production & consumption patterns.
- Discuss the 'single use mindset'

Global plastics production, 1950 to 2015

Annual global polymer resin and fiber production (plastic production), measured in metric tonnes per year.



Our World in Data



DEGRADATION

If a water bottle takes hundreds of years to degrade in the sea, how many times will it threaten a dolphin passing by it?

Tips on Act 4

- Degradation times are rough estimates, as they are affected by the prevailing conditions (depth, light, etc.), and the object's original size, thickness and shape.
- For as long as they "live", waste items are a constant threat to organisms.

THREATS TO MARINE LIFE

Do you know the term "ghost fishing"?

Please note in the CHAT:

- A. (for YES)
- B. (for NO)
- C. (I've heard it but I'm not sure what it means)







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THREATS TO MARINE LIFE

18+1 approach

- ENTANGLEMENT & DIGESTION, the two biggest threats
- All life (not just marine life) is threatened by wastes
- Big problem birds feeding their cheeks



What could he be thinking?

1 min reflection in CHAT:

Write the fisherman's thoughts using the first person E.g. "I wonder if there is any tiny fish in this mesh"



Picture from Michaniona Port, Greece, where 8 fishermen took part in a 'fishing for litter' scheme

Source: www.iefimerida.gr

IMPACTS ON PEOPLE

18+1 approach

- Present interesting photos and ask learners to imagine the thoughts of the protagonists.
- From the photos and thoughts start a discussion on the impacts of ML on humans.
- Pay attention to the kind of photos you select to present.
- Avoid patronizing the 'thoughts' proposed by learners.











PLASTICS' PROPERTIES

Why have the plastics prevailed in modern life? What are their properties?

Taking the example of a plastic skep, note down its **properties** that make it useful.

1 min reflection in chat





PLASTICS' PROPERTIES

18+1 approach

Activity 7

THE PROPERTIES

OF PLASTICS

Although invented relatively recently, plastics have within just a few decades overwhelmed the planet. They are used in countless applications and products. They weigh very little - LIGHTWEIGHT They are relatively INERT materials They cost very little to produce - CHEAP They are not permeated by water or air - IMPER MEABLE Many of them are RECYCLABLE They are long lasting - DURABLE They are long lasting - DURABLE They are poor electricity conductors - INSULATORS They are easy to bend and shape, and can be flexible or rigid - MAELABLE Many return to their original shape after pressure is relieved - ELASTIC They are RESISTANT to breaking



18+1 approach

How can advantages turn into threats once the object is found at sea?

E.g. A plastic skep is:

LIGHTWEIGHT (It can travel long distances before it eventually sinks)

DURABLE (It will take centuries to degrade in the sea. At some point it will fragment to microplastics.)

CHEAP (The owner may not value its worth, as it can be easily replaced)

PLASTICS' PROPERTIES



PLASTICS' PROPERTIES

Tips on Act 8

- Discuss about the "Polluter Pays Principle"
- Discuss about the different standards and waste management systems in the Mediterranean countries
- Discuss if the low price of plastics includes the environmental costs (Around ¾ of ML are single use plastics (SUPs)

1971-2018: Detergent container found in beach clean-up, almost intact after 47 years



18+1 approach



- Start from objects commonly found at home.
- Get accustomed with the naming of the polymers ("POLY" = many in Greek)
- Look for a plastic object or container around you. Can you find in its label what it is made of?
- Write the Polymer in the CHAT (1 min)



MICROPLASTICS

Can you name a source of microplastics?

1 min reflections on CHAT

Common sources of microplastics ($\Phi < 5 \text{ mm}$) at sea:

- Fragmentation of plastic objects
- Cosmetics with microbeads (e.g. exfoliators).
- Synthetic clothes (e.g. polyester) releasing microfibers with each wash.
- Car tyres, releasing microfibers, especially when using the brake.
- Pellets (or mermaid's tears) the raw material from which we make plastics.

MICROPLASTICS

MICROPLASTICS

18+1 approach



MICROPLASTICS AT THE BEACH

Trace a 1mX1m square on a sandy beach close to the winter shoreline (where seaweed, wood, etc. collects). Use a sieve to collect the microplastics that are in the sand of your square meter and put them in a jar.

- Experiential learning
- Microplastics (fragments and/or pellets) are found in most beaches
- Communicate your findings by uploading a photo of your collected microplastics.



MICROPLASTICS



Tips on Act 10

- It is easier to trace microplastics on a sandy beach.
- A large part of findings in clean-ups is fragmented plastic pieces that cannot be identified.
- Collect and have handy two jars to present to learners: One with pellets, and one with fragmented microplastics.



The use of this symbol in packaging means that:

- A. The producer financially contributes to the recycling of the packaging material.
- B. The packaging material can be recycled and should be placed in the proper bin.
- C. I don't know.

Write A, B, or C in the CHAT



LABELS

18+1 approach

- International coding system
- Main symbols explained
- Plastic codes (1-7) explained





Polyethylene for water bottles, soda bottles, etc. Easily recycled.

SPECIAL MARKINGS FOR PLASTIC

> Polyethylene for water bottles, soda bottles, etc. Easily recycled.

PVC for wire insulation and pipes. Harder to recycle than the others. If burned, it releases toxic substances.

Low density polyethylene for dry cleaning bags, frazen food bags, six-pack rings. Recyclable.

Polypropylene for dishware, medicine bottles, bottle caps.

Easily recycled.

Hard to recycle.

DPE 5 PP 6 PS



Multilayer plastic that falls under none of the above categories. Usually difficult to recycle.

Polystyrene in single-use plastics.

RED Very difficult to recycle ORANGE Usually difficult GREEN Usually easy

Tips on Act 11

- Most common plastics categorized: 1-7 (7: All OTHER)
- NOT all codes can be easily recycled. Check your local recycling systems.
- Only clean plastic is recycled.
- Multi-layered containers (e.g. coffee cups) are not recycled.
- The new EU legislation will simplify labels, so that the consumer knows the proper way of disposing the item.

PRIORITOSATION

"In order to solve the problem of plastic pollution I can ..."

Complete the sentence in the CHAT (1 min). Use the 1st person and propose action verbs



PRIORITOSATION

18+1 approach

- All proposed verbs have their value, but some may be more effective than others in driving solutions. Which one do you consider as most important?
- Compare your ratings.
- Start a debate to prioritize actions.
- After the debate consider re-ordering your own prioritization.



Sort the waste and place them in the corresponding bin.

RECYCLING BIN

Tips on Act 13

- Sort and recycle wastes according to the recycling system of your region.
- Which goes where? People tend to make many sorting mistakes. This game offers you the opportunity to correct these.
- For each item discuss how it could be avoided in the first place.





This is a recycling bin in Greece (accepting all types of recyclable packaging).

Write in the chat the mistakes you see in it (1 min).





Open lid (should be closed)

Tied bag (should have been emptied)

Cigarette butt

Unfolded carton boxes (should be folded to save space)

Plastic cup with coffee! (should have been emptied & rinsed)

Activity 14 MISTAKES IN THE WAY WE RECYCLE Tips on Act 14 • This activity should be tailored to the recycling system of your region. Typical mistakes (for Greece): Mixing recyclables with organic ٠ 00. 777 εδώ, μόνο 4. 777 wastes νακύκλωση Overloaded bins due to not folding the boxes • Dirty (unrinsed) plastic containers • Not separating the materials (e.g. plastic from paper) • Open bins on a rainy day



Tips on Act 15

The life cycle of a bottle: How is it created? What are the raw materials and energy needed? How is it used? What happens after using it?

Inspired by the life cycle of a green leaf, could we design another "life" for the plastic bottle?

The circular economy is a way of thinking that designs products and services, cyclically: there is no waste, the "products" of each stage of the cycle are the source for the next stage!





EU LAW - COMMUNICATION

Using a scale from 0 (min) to 5 (max), how familiar you feel with the recent EU directive on plastics?

Write in the CHAT a number from 0 to 5



18+1 approach

- Discover the diversified targets of the EU directive (reduction, design, composition, producer responsibility, awareness).
- Compare with the laws in their country.
- Browse in other campaigns.
- Design a communication campaign at school.

SCHOOL AWARENESS CAMPAIGN

- Study other campaigns
- Find a slogan
- Design a poster
- Set up an exhibition

How often do you carry your refillable water bottle, when outdoors?

- Never (0)
- Not so often (1)
- Most of the times (2)
- Always (3)

Write 0, 1, 2 or 3 in the CHAT Be frank!

18+1 approach

- Start with a survey on your daily habits.
- Explore ideas how you can improve your score.
- Commit to changing a habit for at least a week. Note your thoughts in a diary.
- At the end of the week extend to a month.
- Gradually set more ambitious targets.



Commit to changing a habit and record your progress and thoughts in a diary for at least a week.



Suppose your class decides to advocate to become a 'plastic free school' Who will you engage?

• Write in the CHAT your target audiences in key words

18+1 approach

- Set an ambitious but realistic goal.
- Define your actions by setting the questions: What? Who? Where? How? When?
- Divide the work among groups.
- Inform the school community about your action plan.



Tips on Act 18

- Sometimes people want to be part of the solution but don't know how.
- Consider their barriers in joining your efforts.
- For each barrier think of a way to motivate them.
- ...
- Action Plans rarely go "as planned". Adjust, adapt and carry on!

WHO	WHAT CAN THEY DO?	WHY ARE THEY RESISTING OR HESITATING AND HOW CAN I MOTIVATE THEM?
Other classes		
Teachers		
Administration		
Cafeteria Staff		
Cleaning staff		
Parents, families		



18+1 approach

- Get inspired by the recommended resources on the SDGs
- Initiate in your school an action for each of the 17 SDGs
- Keep being an active citizen

That's all folks !!!

• QUESTIONS???

- Video and PPT will be uploaded in <u>www.medies.net</u>
- Don't forget to fill in the evaluation questionnaire (shared in the chat)

Credits – Contacts - Sponsors

Iro Alampei, MEdIES officer (<u>alampei@mio-ecsde.org</u>) Vicky Malotidi, MEdIES officer (<u>malotidi@mio-ecsde.org</u>)

MEdIES: <u>www.medies.net</u>, <u>info@medies.net</u> MIO-ECSDE: <u>www.mio-ecsde.org</u>, <u>info@mio-ecsde.org</u> HERRCO: <u>www.herrco.gr</u>, <u>info@herrco.gr</u>

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