Bruised not Broken
Advanced

GRETA

Challenge-based Learning in Primary Schools for Climate Change Awareness

Co-funded by the
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TITLE OF THE WEBQUEST:	Bruised not Broken
LEVEL OF THE WEBQUEST	Advanced Level

INTRODUCTION

Waste is the items that are thrown away after they have been used. Food waste, paper and plastic packaging, toys, furniture, clothes, glass, newspapers, magazines and brochures, disposable products, but also electrical and electronic equipment end up in the dustbins when we no longer need them.

Nature does not produce garbage by itself. Everything that exists in the environment is transformed into useful materials at the end of its life. Unfortunately, this is not the case with humans. In the past, people lived in harmony with the environment, used everything they needed for their daily lives, and behaved just like nature. In recent years, people's lives have changed radically. The population concentrated in big cities, people's needs increased, and consuming goods became a fad. With technological development, new products were created. All this has led to a constant increase in the amount of waste, but also to the use of natural resources and thus to the pollution of the environment.

Every day we throw away vast quantities of materials that end up in landfills. But it is time to change our attitude and adopt new perceptions and actions, starting from our homes, schools or workplaces. More and more we hear the words: reduce, reuse, recycle. It's up to us to buy only what we really need. It's up to us to give away items we no longer need to someone who needs them. It's up to us to use the recycling bins and give seemingly useless items the opportunity to come back to life. It's up to us to strive for a "circular economy" so that products can be repaired, upgraded and have a chance of life sustainment.

In this way, we can reduce the waste we produce and, at the same time, help to reduce pollution of the soil, water and air.

TASKS

Like every year, your school is participating in the student festival organized in your city. The theme of this year's event is "Protecting the Environment". Your class decides to deal with the issue of waste. Your task is to design and organize an information and display area at your school's stand with your chosen thematic unit in order to inform, raise awareness and mobilize visitors to the festival to change their attitude towards this important problem.

Photo by Theblowup on Unsplash   Photo by John cameron on Unsplash

PROCESS

In this WebQuest, you will learn more about waste and its impact on the environment. You will also discover ways to reduce this problem. You are determined to reach your goal and help as many people as possible through raising their awareness and changing their attitude.
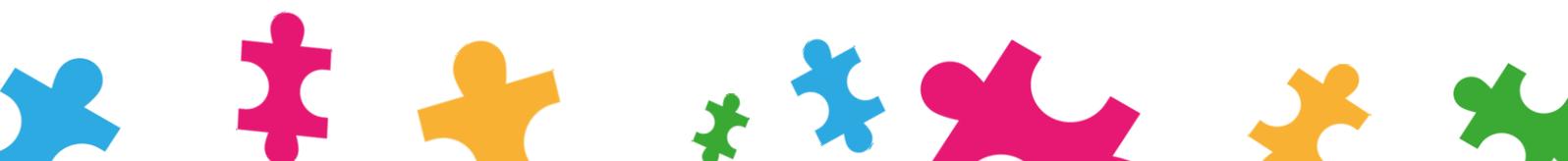
STEP 1. What is waste.

They act full of excitement!!! You immediately begin searching your school's computer lab to find out what is waste.

a.   Waste: http://skoupidokatastaseis.e-taxi.mysch.gr/skoupidia5.htm
b.   What is garbage: https://www.youtube.com/watch?v=-D5zxRsjTRM
c.   A simple illustrated guide to types of waste: https://www.rts.com/blog/a-simple-illustrated-guide-to-types-of-waste/

You discover that one category of waste that has been increasing in recent years is electronic waste. Study the following websites to learn more.

a.   What is e-waste: https://www.youtube.com/watch?v=hT8QxsgquCs
b.   The problem with e-waste: https://www.youtube.com/watch?v=FmJFVmtWf-I
c.   What is e-waste pollution: https://www.youtube.com/watch?v=MQLadfsvfLo

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STEP 2. How serious is the problem?

Everything you have studied in the online sources above is of particular importance to you. You want to find out how serious the waste problem is.

  a. [The waste drawns the Earth](#)
  b. Europe's waste streams: https://www.eea.europa.eu/el/pressroom/grafikes-plirofories/oi-roes-apobliton-tis-eyropis/view
  c. [Plastic waste](#)
  d. [The seabed of the Mediterranean Sea is turning into a vast dump](#)

The problem of waste is not just global. You discover that Greece faces the same problems.

  a. Tons of water on the Greek coast: https://gr.euronews.com/2020/01/31/helmepa-tonoi-skoupidia-stis-ellinikes-aktes-protathlites-ta-apotsigara
  b. We have accumulated electronic waste: https://www.youtube.com/watch?v=eKvhi0jF8Wg
  c. [Electronic waste: how dangerous it is – how much Greece produces](#)

STEP 3. Time for research and... experiment

You decide to take a survey starting at home. How much trash does your family produce each week? You distribute the diary to your classmates, and when the recording is finished, you compile the data in a table. Which garbage is thrown away the most?

- [Trash-Diary](#)

Where does all the waste that is produced every day end up? Watch the video below to find out.

- Solid waste and landfills: https://www.youtube.com/watch?v=mRGNoKxT82A

Wondering how long it takes for all that waste to decompose?

- Table of waste decompose rate: https://roshipotoshi.wordpress.com/2013/02/02/hooray-for-infographics/decomposition-infogrpahic/
- How long does it take for nature to decompose waste: http://skoupidokatastaseis.e-taxi.mysch.gr/skoupidia7.htm

Make some experiments with simple materials you can find at your home!
- What happens with our waste? http://rainorshinemamma.com/science-experiment-what-happens-with-the-trash/

STEP 4. What are the environmental implications of all this?

The results of your experiments lead you to the next step. What are the effects of all this on the environment and on people's health? Study the following sources to find out.

    a.   What's plastic pollution?: https://www.youtube.com/watch?v=ODni_Bey154
    b.   How plastic hurts the world?: https://www.youtube.com/watch?v=VUUUxOl715s
    c.   How e-waste is harming our world: https://www.youtube.com/watch?v=-uyIzKIw0xY
    d.   E-waste effects the environment: https://www.youtube.com/watch?v=Sh_mwszuE2I
    e.   The trade of electronic garbage is rife: https://m.naftemporiki.gr/story/1337116/orgiazei-to-emporio-ilektronikon-skoupidion
    f.   Plastic waste make greenhouse effect worse
    g.   Waste and its contribution to climate change: https://www.colorado.edu/ecenter/2020/12/10/waste-and-its-contribution-climate-change

STEP 5. In search of solutions

You see that the waste problem is directly related to the greenhouse effect and climate change. This realisation confronts you with the question: What can we do to reduce waste and help the environment?

    a.   How can we reduce and better use waste?
    b.   The 3 R's: https://www.youtube.com/watch?v=TjnNOCbuoCA
    c.   Recycle for kids: https://www.youtube.com/watch?v=j_Z_ffoxihM
    d.   Recycling devices, not a fairy tale: https://www.youtube.com/watch?v=xIrR-2Uw4ms
    e.   Waste Electronics Recycle: https://www.youtube.com/watch?v=RaKLgovVkJQ
    f.   The example of Switzerland
    g.   Bety the compost: https://www.youtube.com/watch?v=NXSBa-MgtBw

In the above sources, reference is made to the "circular economy". What exactly is it and to what extent does it help solve the problem?
    a. Circular economy: https://www.youtube.com/watch?v=_9mHi93n2AI
    b. Explaining the circular economy: https://www.youtube.com/watch?v=zCRKvDyyHmI
    c. The circular economy in Finland

STEP 6. Act, raise awareness!!!

You have done your research. Now it is time to act with your classmates to inform your school community, your parents, and the community in which you live and raise awareness about waste problem.
To make your exhibit space better and more organized, you will be divided into groups.

GROUP 1: Participants in this group make their own recycled paper for use in their exhibition stand.

    a.   How to make recycled paper: https://www.youtube.com/watch?v=npEu7cpZ-Lk
    b.   How to make your own recycled paper: https://www.youtube.com/watch?v=YQ5ykz9OjgE
    c.   How to make handmade paper from recycled materials

GROUP 2: Participants in this group take charge of creating posters, informational brochures, and souvenirs that will be available to visitors to their stand. Here are some ideas for posters!

a. Example 1
b. Example 2
c. Example 3
d. Example 4

Here are some ideas for exhibition leaflets and souvenirs:
• 34 Genius Recycling Hacks from things you have at home

GROUP 3: Participants in this group build three-dimensional models. Check out some creative children's projects in the examples below.

a. 3D reduce reuse recycle project
b. Recycle, Reduce, Reuse Project for School
c. Save Earth Model
d. Still model of Green Earth
e. Waste craft activity

GROUP 4: Participants in this group create decorative and useful items from materials they have at home or school.

a. E- waste craft:
 https://www.youtube.com/watch?v=NwE2jgaxX64
b. Toys made from recyclable materials: https://paizoumemazi.blogspot.com/2012/02/blog-post_21.html
 c. Decorative items made from a metal box
d. Art made from trash: https://www.slideshare.net/FouliKaramatsouki/ss-35756188

EVALUATION

To test the knowledge, you have gained from this WebQuest, write a short 150-word text about everything you have learned. Your text will be published on your school's website and printed in your school newspaper.

You can also fill in the questionnaire which you can find at the link below.

https://forms.gle/eoqRyjbEhZPLRc4eA

CONCLUSION

Congratulations! You have done a great job. You and your classmates are ready to save the planet!!! Your school's exhibit stand was very well attended. You succeeded in educating visitors about waste, electronic waste and its impact on the environment and climate change. Young and old alike looked at everything you had prepared, participated with great interest and were sensitized to change their attitude towards the environment. Good job!!! You are the heroes of the environment!!!

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Istituto Comprensivo "Don Milani" di Lanciano

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