Education For Sustainable Development Lesson Plan Booklet

Comenius Project 2012-2014
Index
Lesson Plans:

- **Emission and Waste**
  - Reduce, Reuse Recycle.

- **Habitat’s and Food**
  - Promoting healthy food and reducing food waste.

- **Materials and Energy**
  - Conserving Energy

- **Place and Space**
  - Preserve and Promote our landscape.

- **Water and Air**
  - Conserving Water and Air.
Sample Lesson Plans:

- **Material and Energy** - Recycling and Sustainable Development.
- **Water and Air** - Quality air in our home.
- **Habitats and Food** - Promoting Health Food and Preserving Local Recipes.
- **Materials and Energy** - Consumption and waste.
- **Place and Space** - Preserve and Promoting our Landscape.
- **Water and Air** - Conserving Air and Water
- **Water and Air** - Consumption and Water
- **Habitats and Food** - Promoting healthy eating.
Sustainable development refers to a mode of human development in which resource use aims to meet human needs while ensuring the sustainability of natural systems and the environment, so that these needs can be met not only in the present, but also for generations to come.

A group of 13 countries took part in a survey. This survey was intended to become aware of whether sustainable development is being given due importance in schools.

The age group of the participants ranged from 3 to 18 years. When participants were asked whether sustainable development was integrated into their curriculum, the majority i.e. 69.23% responded that sustainable development is mentioned throughout the students' coursework.
From this survey one can outline that sustainable development can be easily integrated through various subjects. Through this survey it was seen that most countries teach sustainable development through sciences, art, languages and technology.

From the information gathered one can conclude that the topics mostly taught are materials and energy, water and air, habitat and food and consumption and use. Such lessons are taught through excursions and outings, actions and campaigns in schools, lessons and school projects. Every country taking part in this Comenius project worked on 5 lesson plans. These were intended to explain the term sustainable development, and promote further education on the topic at hand.

This was done through a number of activities presented in this booklet.
Emission and Waste
Reducing, reusing and recycling waste.
<table>
<thead>
<tr>
<th>Age: 8-9</th>
<th>Duration: 10 hours</th>
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</thead>
<tbody>
<tr>
<td>Theme: Emission and Waste - reducing, reusing and recycling waste.</td>
<td>Lesson Outcome: Being aware of the importance of recycling.</td>
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### Activities/Tasks:

1. Presentation of stories about the central theme (vision of the cartoon "Peppa Pig - Recycling")
2. Create a digital booklet about recycling presenting all the curricular and extra curricular activities carried out throughout the school year.
3. Visit to the schoolyard to detect the presence of waste and description of what is observed.
4. Study of materials and waste management through recycling.
5. Creative workshops about recycling.
6. Children work in small groups to make products to be sold at the school charity fair.

**Additional task:**
- Analysing public service advertisements.
- Installation of 3 bins for recycling in the classroom.
- Visit to the community depot for recyclable and non-recyclable waste.

### Adjustments for different abilities:
Teachers support children with specific learning difficulties.

### Key questions:

<table>
<thead>
<tr>
<th>Why is it important to respect the environment?</th>
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<tbody>
<tr>
<td>How can we reuse materials?</td>
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### Assessment:
Children will use observation, creativity and ICT skills to produce a booklet that underlines the importance of recycling.

### Links to other subjects:
Literacy, Science, Music, Social studies, Art.

### Resources/Organization:
- Video ([http://www.youtube.com/watch?v=pKHbc_8OZq4](http://www.youtube.com/watch?v=pKHbc_8OZq4))
- Recycled materials
- Leaflets and brochures.
- Mixed ability pairs/groups.
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<thead>
<tr>
<th><strong>Age:</strong> 8-9</th>
<th><strong>Duration:</strong> 6 hours</th>
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<tbody>
<tr>
<td><strong>Theme:</strong> Emission and Waste - reducing, reusing and recycling waste</td>
<td><strong>Lesson Outcome:</strong> To classify waste materials.</td>
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</table>

**Activities/Tasks:**
1. Watch Peppa Pig cartoon “Recycling”.
2. Work in groups drawing some pictures concerning the video and try to tell what’s in each picture.
3. Classify objects into paper, plastic, organic and undiversified garbage.
4. Divide the garbage and put it in the correct bin.
5. Play the recycling game: put at least 5 objects in the correct bin
6. Complete a chart classifying the garbage into paper, plastic, organic and undiversified.
7. Create posters concerning classifying garbage and share them with other students.

**Additional task (on going):**
Create some animals by using recycled objects.

**Adjustments for different abilities:**
Tutoring between able and less able students.
Teacher support children with specific learning difficulties.
Use pictures and symbols.

**Key questions:**
- How can we classify garbage?
- What can we do to recycle some objects?

**Assessment:**
Children create posters concerning classifying the garbage and divide it into different bins.

**Links to other subjects:** Science, Languages, Art

**Resources/Organisation:**
- Video: [http://www.youtube.com/watch?v=pKHBc_8OZq4](http://www.youtube.com/watch?v=pKHBc_8OZq4)
- Pictures
- Group works
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<tr>
<th><strong>Age:</strong> 9 year old</th>
<th><strong>Duration:</strong> 4 hours</th>
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<tbody>
<tr>
<td><strong>Theme:</strong> Emission and Waste - reducing, reusing and recycling waste.</td>
<td><strong>Lesson Outcome:</strong> To design a desk tidy out of recycled plastic pots.</td>
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</table>

**Activities/Tasks:**

1. Sketch their design for their own desk tidy based on ideas gained from images off the internet. Plan to incorporate a range of sizes and widths in their design, and annotate their drawing in their Art/DT book.
2. Over several sessions, bind their pots together with masking tape/cellotape. Use papier mache layers to cover the pots inside and out - at least 4 layers.
3. When fully dry, paint in the colours of the Romanian flag.

**Adjustments for different abilities:**

**Low:** support given by teacher with regards to binding of pots.

**Middle:** choose their range and size of pots independently.

**High:** give reasons for their chosen pots and say why their choices will be the most suitable for desk tidies.

**Key questions:**

- Why do you need to cover the pots EVENLY with papier mache?
- How will you know if you have achieved the LO?
- Regarding your desk tidy, what could you improve next time you make one?

**Assessment:**

- Does the finished product look like a desk tidy? Will it hold a range of equipment?
- Have they used recycled items effectively?

**Links to other subjects:** Science, Literacy, Maths.

**Resources/Organisation:** range of recycled plastic pots, newspapers, pva glue, desk covers, paint.

To be done over a series of lessons, morning and afternoon slots.
**Class/age:** Year 7/ 12-13  
**Date/Duration:** 11.12.13/2 hours  

**Theme/Lesson Outcome:** Emission and Waste - reducing, reusing and recycling waste  

**RecycledArt**

**Activities/Tasks:**

**Introduction:**
- Short presentation of the paper producing process.
- Why is important to reuse the already used paper?
- Shared/paired talk to collect children’s ideas.
- Children record ideas on post-it notes for sharing with class.
- Discuss importance of recycling the paper and the others materials (plastic, CD-s/DVD-s, disk, cassettes) as a class.

**Main:**
- Children work in mixed ability pairs/small groups to create artefacts from formerly collected paper waste (old prints, papers, package papers, paper bags, boxes, plastic, CD-s/DVD-s, disk, cassettes)

**Plenary:**
- Gallery to share examples of craftsmanship products – children to walk around and evaluate effectiveness.

**Additional task (on going):**
- Measure at the end of each day, the amount of paper thrown in the paper basket. Create a class graph to represent the information.

**Adjustments for different abilities:**
- More able to support less able.
- Teacher/ TA to support children with specific learning difficulties.

**Key questions:**
- Why is conservation so important?
- How can we make a difference to our planet?

**Assessment:**
- Children will have used artistic skills to create artefacts using waste paper and others materials and increased awareness showing understanding of recycling.

**Links to other subjects:** visual arts, maths, science.

**Resources/Organisation:**
- Power Point presentation
- Post-it notes
- Paper to be recycled, CD-s/DVD-s, scissors, glue
- Mixed ability pairs/groups.

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<th><strong>Age:</strong> 9</th>
<th><strong>Duration:</strong> 45 minutes</th>
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<tr>
<td><strong>Theme:</strong> Emission and Waste</td>
<td><strong>Lesson Outcome:</strong> How to recycle cardboard and carton.</td>
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**Activities/Tasks:**
1. Shared talk about recycling/food packages.
2. Children are taught to pack as many milk cartons as possible into one carton.

**Adjustments for different abilities:**
The teacher and other pupils help with the task if necessary.

**Key questions:**
Why is it important to recycle?
Why is it worth sorting carton and cardboard?

**Assessment:**
Learning by doing

**Links to other subjects:**
Maths, crafts

**Resources/Organisation:**
Teacher demonstrates. Small groups.
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<th><strong>Age:</strong> 8 years old</th>
<th><strong>Duration:</strong> 1 hour</th>
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| **Theme:** Emissions and Waste, Quality of air in our homes | **Lesson Outcome:**  
- That the children will understand that different parts of a house can have different levels of pollution  
- That children will understand that there is air pollution all around us  
- That the children will develop their experimentation skills by assessing which air sample was dirtiest |

**Activities/Tasks:**

1) Find three covered glass jars. Place objects in two of the jars, and don't put anything into the third jar. Show the students the jars and ask them how many jars have something in them. The answer is that all three jars contain something. The seemingly empty jar actually contains air.

2) Explain that they are going to investigate to find the best place with the cleanest air for this creature to sleep. Each student will have four Air Catching Creatures. Pass out the Creature printouts and ask students to colour them. Demonstrate to students how they will stick tape onto the cut-out space on the creature’s mouth. Show students how the sticky side of the tape will face the coloured side of the creature.

3) Tell students that they will place the four creatures in and around their house to measure how clean the air is and find the place with the cleanest air for the creature to sleep, and the area with the dirtiest air so that the creature can avoid going there. Tell students that when they get home, they are going to hang the creatures in four different places: One outside of the house, one in a place they think will be clean, two which are dirty. Ask the children to predict which creatures will come back dirtiest.

4) After the students have brought the creatures back to school, have the class break into small groups. Pass out the Creature Worksheets. If possible, have a magnifying glass for each group. Have students look at their "data" with the magnifying glass and determine where the dirtiest and the cleanest air is in their house. Complete worksheet.

**Adjustments for different abilities:**
For weaker pupils I would encourage them to give me their findings orally rather than writing them down. For stronger pupils I would expect them to predict why air was cleaner dirtier in one area then another.

**Key questions:**
- Which place do you think will have the cleanest air?  
- Which place do you think will have the dirtiest air?  
  Why?

**Assessment:**
- Creature worksheets  
- Answering of group questions

**Links to other subjects:**
Health Education, Language-Writing, Oral Language

**Resources/Organisation:**
Paper animals, tape, question sheets
Creature Worksheet

Name_____________________

Write or draw a picture of the place where you will hang each creature.

Write Cleanest Air under the box that you think will have the cleanest air.

Write Dirtiest Air under the box that you think will have the dirtiest air.

1. The best place for the creature to sleep is ____________________.
2. The worst place for the creature to sleep is ____________________.
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<tr>
<th>Age: 7/8 years old</th>
<th>Duration: In stages over 3 months</th>
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<tbody>
<tr>
<td><strong>Theme:</strong> Conserving Emission and waste.</td>
<td><strong>Lesson Outcome:</strong> Reducing our carbon footprint: our daily impact on the environment with a focus on recycling.</td>
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### Activities/Tasks:
1. Understanding what our carbon footprint is with the use of a classroom presentation that shows the recycling services offered by our local civic amenity sites and Wasteserve.
2. Discussion on what impact each child can have on family recycling habits.
3. Visit to a civic amenity site.
4. Craft repurposing items to extend their lifespan. Creative writing to sum up what we learnt.

### Adjustments for different abilities:
Individual explanation of the presentation, direct questioning during classroom discussion and different mediums of presentation instead of creative writing to sum up what has been learnt.

### Key questions:
Which unusual items can be recycled and what harmful effects would they have if dispersed in the environment?

### Assessment:
Creative writing presentation activity to describe what they have seen and learnt. Illustration using different mediums to describe what they have seen.

### Links to other subjects: Language (Writing) and Craft

### Resources/Organisation:
- Powerpoint presentation, [http://www.slideshare.net/diamantia/reducing-our-carbon-footprint-34511076](http://www.slideshare.net/diamantia/reducing-our-carbon-footprint-34511076)
- Empty toilet paper rolls and empty cereal boxes, contact with Wasteserve to organise a site visit.
**AGE:** 12  
**DATE/DURATION:** 2 weeks/4 h

**THEME:** Emission and Waste - reducing, reusing and recycling waste.  
**LESSON OUTCOME:** How can we recycle waste?

**ACTIVITIES/TASKS:**

**Introduction**
a. Brainstorming to collect children's ideas  
b. Children record ideas on the White board  
c. Watching movies at home on the way followed by the waste before it is recycled (aluminum, plastic, paper, glass)  
d. At school kids explain what they have learned from watching the movies at home.  
e. Children view some cards on simple objects obtained by recycling various materials and choose the objects to achieve.  
f. Children create objects with recycled aluminum, plastic, paper or glass and realize a maps with the phases of construction  
g. Share examples of recycled objects - children to walk around and see the various objects and evaluate their originality

**Additional task**
Research on the collection of waste in the municipality of residence

**ADJUSTEMENT FOR DIFFERENT ABILITIES:**
Divide goals into sub-goals

**KEY QUESTIONS:**
Why energy conservation is so important?  
How can we make a difference in our school?

**ASSESSMENT:**
Children will have used mathematical literacy to record and create the table showing the consumption of energy and to calculate the percentage reduction in the consumption of electric energy

**LINKS TO OTHER SUBJECTS:** science, art, technology

**RESOURCES/ORGANISATION:**
Video on youtube  
White board  
Work sheets  
Mixed ability pairs / groups
**Class/age:**
12 years old

**Date/Duration:**
4 periods

**Theme/Lesson Outcome:**
Emission and waste

**Activities/Tasks:**
1. To pick up waste or old but not used objects inside the school or outside the school.
2. Draw something with the waste that have been chosen: a sculpture, a mask, jewels... Each pupil will give a title to the making.
3. - An exhibition with the different makings in the hall of the school.
4. Suggest a preview with the pupils, the parents and the teachers.

**Adjustments for different abilities:**
- The art teacher makes suggestions for the makings
- The librarian suggests books on the topic.

**Key questions:**
- How to recover the waste?
- How to encourage the pupils to consume differently?

**Assessment:**
- Suggest an exhibition with the rubbish collected around the school.

**Links to other subjects:**
- Art.

**Resources/Organisation:**
- Rubbish
- Some material for the making: glue, string, paint, a stapler, some elastic...
Habitats and Food

Promoting Healthy Food
And
Reducing Food Waste
<table>
<thead>
<tr>
<th><strong>Class/age:</strong> KS1/2</th>
<th><strong>Duration:</strong> 2 hours</th>
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<tbody>
<tr>
<td><strong>Theme:</strong> Habitats and Food – promoting health food/reducing food waste.</td>
<td><strong>Lesson Outcome:</strong> How can we reduce food waste?</td>
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### Activities/Tasks:

1. **Show children food waste assembly ppt (WRAP)** Discuss issues of food waste in School. Ask children how as a school we can monitor and manage this.
2. **In groups focus on main areas:** Why is there so much waste? Where does it go? What are the effects on the environment? What do we do now? How can we reduce waste? What do other countries do? Children to make posters to show the effects of food waste and solutions. Lap tops to be available for research links provided.
3. **Recap on learning objective.** What have we learned? What is the action plan for our school?

### Additional task (on going):
Eco team and school council will be monitoring waste daily and will feedback to individual classes in the next lesson. Collect information from Comenius schools and share. (Skype and interview children or Teachers)

### Adjustments for different abilities: KS1:
Talk about the food they eat at home and at School. What happens with the leftovers at home and school? What choices do they have? Smaller portions? Making healthy choices? Discuss composting.

### Key questions:
- How will we conduct a waste audit?
- Who will be responsible?
- How will we record the data?

### Assessment:
Children can explain how to reduce food waste.

### Links to other subjects:
- **Maths:** Record and data analysis
- **Science:** environmental issues
- **Citizenship:** Taking responsibility for our world

### Resources/Organisation:
- ICT, resources to make posters and links to websites
  - [http://www.recyclenow.com/schools/recycle](http://www.recyclenow.com/schools/recycle)
  - [http://www.sustainableschoolsaward.co.uk/](http://www.sustainableschoolsaward.co.uk/)
<table>
<thead>
<tr>
<th><strong>Age:</strong> 11-12 years old</th>
<th><strong>Duration:</strong> 2 hour</th>
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<thead>
<tr>
<th><strong>Theme:</strong> Habitats and Food - Promoting health food.</th>
<th><strong>Lesson Outcome:</strong> To understand the importance of having a balanced diet.</th>
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<table>
<thead>
<tr>
<th><strong>Activities/Tasks:</strong></th>
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<tbody>
<tr>
<td>1. In groups of 5, students solve a crossword on food.</td>
</tr>
<tr>
<td>2. Discuss the importance of a healthy diet as a class and name the risks of an unbalanced diet.</td>
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<tr>
<td>3. The teacher presents some information on nourishing food and also shows students a poster with the food pyramid. Students bring into class materials and posters about fruit and vegetables that are rich in vitamins.</td>
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<td>4. Students play a game called “The magic sack.”</td>
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<tr>
<td>5. Draw a riddle about fruit and vegetables from a sack and if they give the right answer (solve the riddle) they get fruit and vegetables as prizes.</td>
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<tr>
<td>6. Exhibition with the drawing made by students.</td>
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<table>
<thead>
<tr>
<th><strong>Key questions:</strong></th>
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</thead>
<tbody>
<tr>
<td>Which is your daily diet?</td>
</tr>
<tr>
<td>Do you know what aliments we need to eat daily to be healthy?</td>
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<tr>
<td>Do you know the pyramid of aliments?</td>
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<tr>
<th><strong>Assessment:</strong></th>
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<tbody>
<tr>
<td>Students will have practiced:</td>
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<tr>
<td>- literacy</td>
</tr>
<tr>
<td>- creative skills</td>
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<tr>
<td>- work group skills</td>
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<td>- organizing skills</td>
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<table>
<thead>
<tr>
<th><strong>Links to other subjects:</strong> Literacy, Science, Art and Technology</th>
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<tr>
<th><strong>Organization</strong></th>
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<tbody>
<tr>
<td>The class is divided into 3 groups. The students will have to write a healthy menu for breakfast, lunch and dinner. Then they present their work in front of the class.</td>
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<table>
<thead>
<tr>
<th><strong>Material:</strong> Posters and coloured pencils can be used, glue, scissors, stamps, paper and cardboard in various colours and type.</th>
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<tr>
<th><strong>Resources:</strong> Power point presentations</th>
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<tr>
<td>Fruit and vegetables</td>
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Boanca Doina
### Age: 11 years  
### Date/Duration: 1 hour  

| Theme: Habitat and food; Food waste | Lesson Outcome:  
|-----------------------------------|-------------------------------------------------|  
|                                   | • To understand the consequences of putting food waste in the bin.  
|                                   | • To discuss ways to reduce food waste and the impact on the environment.  

### Activities/Tasks:

1. Discuss what types of food gets thrown away. Ask children to share a few examples of food they may have thrown away recently. Explain what happens to food when it’s thrown away and explain the problems associated with this. Show photographs of landfill to illustrate.

2. Talk about food waste in Ireland. Each year in Ireland, each person is throwing out about 80kg of food waste each year. Talk about the impacts of food waste. Ask children to consider the time and energy involved in making food. Give examples cheese, bread etc. Introduce the waste of money aspect. Every year each household throws away €700 worth of food. Finally talk about the negative environment aspect. If it then gets thrown away it will most likely end up in a landfill site, releasing methane which is a powerful greenhouse gas.

3. Ask the children to identify the reasons why they threw their food away. Can they think of any more reasons? (We don’t eat it in time and it goes bad, we buy too much or cook too much).

4. Ask children to come up with some solutions:
   - Encourage adults to think about meals they will prepare and make shopping lists.
   - Check dates when buying food.
   - Store food carefully (put fruit (not bananas) and vegetables in the fridge) so that they lasts longer.
   - Calculate portions (use scales, cups, spaghetti measures etc) to ensure you cook the right amount.
   - Use up leftovers in new dishes.
   
   Record these on the blackboard.

1. Make an eye-catching front cover for a shopping list booklet (made of recycled/reused paper). Include a slogan or a fact about food waste e.g. ‘Love food hate waste’ ‘Don’t be a squishy tomato – finish your food!’ Stick a magnet on the back so that the cover can be kept on the fridge/freezer.

2. Some food waste is inevitable e.g. tea bags, banana skins, apple cores. How can we reduce the amount of these items we put to landfill? Show children examples of composting and wormeries as a way of getting rid of unwanted food waste.

### Adjustments for different abilities:

Suggest slogans for the weaker children to use with their slogans. For the stronger children should be encouraged to think up of catchy, rhyming slogans for their booklets.

### Key questions:

Why do we waste food?  
What are the environmental and economic conditions of wasting food?

### Assessment:

Teacher observation  
Craft Booklet

### Links to other subjects:

Visual Art

### Resources/Organisation:

Landfill images  
Shopping list booklets and materials for decorating.  
Cups, scales, spaghetti measures etc. Images of wormeries and composters
**Age:** 8-9 years  
**Duration:** 40 minutes

**Theme:** Habitats and Food - Promoting health food.

**Lesson Outcome:**
- A good diet has a mixture of different foods.
- Plan a balanced and healthy meal
- Identify foods that should be avoided in excess.

**Activities:**

1. **Ask How do you try to keep healthy?** Discuss briefly as a class. List some of the ideas and draw attention to those about food. Tell the children that this will be the focus for this lesson.

2. The students will build their knowledge of the importance of having a balanced meal. This is a quick and informative activity for students to understand the portions they need from protein, grains, vegetables, fruits, and dairy. Students will be able to understand the portions they need from every meal after they have interacted with “My Plate” online game. As you put the cursor on each word, Chef Solus gives you facts for each section of your plate.

3. Review the **food pyramid** and colors for each section with your students to implement previous knowledge. For a hands on activity, the teacher creates at least 12 to 14 bags with different kinds of grains, proteins, vegetables, fruits, and dairies in each bag. The students work in pairs and group their items into 5 groups.

4. The students create an art project using a used cereal box cut out as a plate (prepared in advance at home) and crayons. They will be able to create their own plate of what they think needs to be on their plate (this is before the teacher shows them “My Plate”). This should be individual work and it will allow the students to have ownership of what they believe needs to be on their plates. Have the students divide one paper plate into 5 sections.

5. The teacher explains the importance of each food group. The students draw what they think needs to be in each section of their plate. This will allow students and teacher to understand their background knowledge of what is expected on their plate.

6. **Guide the students to “Talking My Plate”**.

**Additional task.**
Show this short video on youtube about **Too much junk food**.  
(link: [http://www.youtube.com/watch?v=h61O9D_5pSw](http://www.youtube.com/watch?v=h61O9D_5pSw))

**Adjustments for different abilities:**
Teacher or Learning Support Assistant to support children with specific learning difficulties. These students can also do this activity with a partner.

**Key questions:**
- How do you try to keep healthy?  
- Why is it so important to eat healthy food?  
- What happens to our body if we are not healthy?

**Assessment:** Have your students create a second plate by having them draw what needs to be in each section (protein, fruit, vegetables, dairy, and grain). Discuss their plates to a partner or in front of class. This will allow the student to have inquiry during your assessment.

**Links to other subjects:** Science, Languages (Reading and Comprehension) and ICT.

**Resources:**
- Bags with different food, Computer - the use of internet, Used cereal box and crayons
**GET YOUR PLATE IN SHAPE!**

**GRAINS FOOD GROUP SECRET MESSAGE PUZZLE**
Use the key below to decode the secret message.

| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
| 14| 12| 23| 21| 20| 11| 18| 4 | 1 | 7 | 17| 15| 9 | 8 | 16| 2 | 13|

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**BE ACTIVE WORD SCRAMBLE**
Keep your body moving - be active every day! Can you unscramble the physical activities below?

| NUR | PISK | NADEC | POSTSR | KIBE | PUJM EROP |

**FRUIT AND VEGETABLE WORD SEARCH**

| YKAWBRQYIHNPUQT | HREYBIWXLSLPYDO | CQRTPBWLOOESLKM | AVSEADIKCGBPSIA | EGKNBOASCWNVANTAQ | PXAXQWDOOTAHBRO | UNUXFRARRELJVGXG | AOOQAABCIAKIZL | GKLSSWMTPNGLTV | PSLPEPPERSMGIIX | SOMTNWINIXOXHELEXE | CPSTIKXMAQLMN SY | KGWLNFEBCJDDEAYO | OTATOPTEEWSPBMM | TORRACOKAGFRSCH |

BANANA
BEANS
BROCCOLI
CARROT
COLLARDS
GRAPE
ORANGES
PEACH
PEPPERS
STRAWBERRY
SWEET POTATO
TOMATO

Can you remember all the food groups to include? Look at the other side of the placemat for help!
<table>
<thead>
<tr>
<th>Class/age:</th>
<th>12 years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date/Duration:</td>
<td>6 periods</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Theme/Lesson Outcome:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat and food „Let’s watch the food we are eating : some species of fish are endangered“</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activities/Tasks:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Shared/paired talk to collect children's ideas (about the subject)</td>
</tr>
<tr>
<td>2. Documentary researches (in books and on the Internet) about intensive fishing and the dying out of some fish species. The childrens will be in groups and will make advertizing posters.</td>
</tr>
<tr>
<td>3. The pupils will prepare advertizing posters to make theirs friends of the dangers of intensive fishing. These posters will be displayed in the hall of the school.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adjustments for different abilities:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The pupils who are finished with their work will help those who are slower.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key questions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which are the dangers of intensive fishing ?</td>
</tr>
<tr>
<td>How can we preserve the aquatic biodiversity ?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assessment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The impact of the posters to the pupils through surveys.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Links to other subjects:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geography, biology.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resources/Organisation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Mixed ability groups</td>
</tr>
<tr>
<td>- Posters : 80x60 cm</td>
</tr>
<tr>
<td>- Felt pens, colouring pens</td>
</tr>
</tbody>
</table>
**AGE:** 12  
**DURATION:** 2 weeks/4 h

**THEME:** Habitats and Food - promoting health food/reducing food waste  
**LESSON OUTCOME:** How can we avoid food waste?

**ACTIVITIES/TASKS:**

1. Brainstorming to collect children's ideas
2. Children record ideas on the Interactive White Board
3. Study of some issues related to consumer education, savings, wastage, sharing and reuse
4. Children analyze food waste that occurs not only in their classroom and / or home and propose a plan to reduce waste and reuse and / or sharing
5. They compose their own recipe against waste (with grandma or mom, write or do the traditional recipe or a dish with only leftovers from the night before) and write a cookbook
6. Children make a movie about food waste and over-cooked dishes
7. Watching the movie made

**Additional task**
Compose and comment, along with a multimedia story, the week of an Ethiopian child of the same age to the students involved, particularly in relation to the moments associated with access to food and water, nutrition, health

**ADJUSTEMENT FOR DIFFERENT ABILITIES:**
Give priority to the learning experience and teaching laboratory

**KEY QUESTIONS:**
What does it mean to spend and consume?  
What does it mean to save?

**ASSESSMENT:**
Children will have used creativity to create a movie showing understanding of food waste.

**LINKS TO OTHER SUBJECTS:** science, art, technology

**RESOURCES/ORGANISATION:**
Movie maker software  
Mixed ability pairs / groups
**Class/age:** Year 2 Secondary/12-13  
**Date/Duration:** 5 class periods

**Theme/Lesson Outcome:**
Habitats and Food - Promoting health food.

Preserve local recipes. How to return to a healthy diet with the help of the recipes of the past?

**Activities/Tasks:**

**Introduction**
Reading texts about the characteristics of the traditional cuisine of Lonate Pozzolo
Class discussion about the importance of the recovery of culinary traditions

**Main activity**
Designing pop-up books containing traditional recipes
Gathering materials and realizing decorations (i.e. clipped hearts in various sizes and colors) using different types of paper (new or recycled)
Search of recipes to be published. Editing recipes. Designing covers.
Assembling pages and covers to create pop-up books

**Outcome / plenary**
Exhibition and sale of hand made recipe books.
Children are invited to comment on their product, to increase the effectiveness of the sales of their books.

**Additional task**
Survey at school about food habits at break time. Create a class graph to represent the information. Use the funds raised by the sales of the recipe books to buy health food. Organizing a health food day at school. Distribute health snacks at break time.

**Adjustments for different abilities**
More able to support less able (creative and manual skills).
Teacher to support children with specific physical (visual/manual) disabilities.

**Key questions:**
What are the differences between today food and the one of our grandparents?
How can we preserve and promote traditional recipes?

**Assessment:**
Students will have practiced:
- literacy
- research skills
- creative skills
- organizing skills

**Links to other subjects:** Literacy, Science, Art and Technology

**Organization**
Working individually and in mixed ability pairs. **Material:** hot glue, special glue for modeling, cutters, scissors, stamps, die cutters, paper and cardboard in various colours and type.

**Resources**
Books and brochures about traditional recipes.
<table>
<thead>
<tr>
<th>Age: 11</th>
<th>Duration: 4 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme: Food waste at school</td>
<td>Lesson Outcome: Reducing food waste</td>
</tr>
</tbody>
</table>

**Activities/Tasks:**
1. Discussion about school food and about good manners in the school canteen.
2. Amount of food waste is to be weighed for two weeks.
3. The results to be presented by bar graph.
4. The pupils make a bulletin for the whole school about reducing food waste.
5. Amount of food waste to be weighed for the period of two weeks.
6. Does this activity have any affect on the amount of food waste?

**Adjustments for different abilities:**
The pupils weigh the waste daily. They also make diagrams and plan the bulletin.

**Key questions:**
Why is it important not to waste food?
What can you yourself do in order to reduce food waste?

**Assessment:**
Is food waste reduced?

**Links to other subjects:**
Maths, science, language.

**Resources/Organisation:**
The activity to be carried out together with pupils, kitchen staff and teachers.
Materials and Energy

Conserving Energy
**Class/age:** Year 3 Secondary /13-14  

**Date/Duration:** 15 class periods

**Theme:** Materials and Energy  
**Lesson Outcome:** How can we conserve energy?

### Activities/Tasks:

#### Introduction:

1. Discuss importance of Energy conservation as a class.
2. Presenting data, fact files, videos and scientific publications related to the theme. Analysis and comparison of data. Discussion and recognition of possible ways to save energy and natural resources.

#### Main:

Children work in mixed ability pairs/small groups set on the bases of their favorite theme.

Children share ideas and write a storyboard to create a video that:

- Denounces social costs (economy, health, environment) related to non sustainable energy choices
- Promotes good practices and proper behavior about energy conservation.

Children practice video editing software (i.e. Windows Movie Maker)

Children realize a video 1-3 minutes long about the theme they have chosen. They translate slogans and texts in English.

#### Plenary:

Final event at school with children, parents and local associations to present videos. Final debate.

#### Additional task (on going):

Children measure the amount of energy wasted at home and at school. They create a class graph to represent the information.

### Adjustments for different abilities:

More able to support less able in ICT skills.

Teacher to support children with specific learning difficulties.

### Key questions:

- Can we endlessly develop if we keep to our current model of development?
- How can we guarantee resources to everyone without destroying nature?
- How can we save natural resources?

### Assessment:

Children will be aware of personal responsibilities and problems related to Energy production and consumption from the point of view of environment, economy and health.

They will also improve organizing and researching competence.

They will practice ICT skills to realize digital messages.

### Links to other subjects:

Technology, Science, Geography, English

### Resources:

**Videos:**

- "HOME" - Film director: Yann Arthus-Bertrand, 2009 (FR) 120' [http://www.youtube.com/watch?v=jqxENMKaeCU](http://www.youtube.com/watch?v=jqxENMKaeCU)
- "TRASHED" - Film director: Candida Brady - 2012 (BBC) - 98’ [http://www.trashedfilm.com](http://www.trashedfilm.com)
- “AN INCONVENIENT TRUTH” - Film director: Davis Guggenheim - 2006 (USA) - 93’ [http://www.youtube.com/watch?v=wnjx6KETmi4](http://www.youtube.com/watch?v=wnjx6KETmi4)

Text book, Internet, scientific publications

Software: Windows Movie Maker

**Organisation:** Mixed ability pairs/groups.
Age: 13-14
Theme: Materials and Energy - conserving energy

Lesson Outcome: To be aware how we can conserve energy?

Duration: 15 hours

Activities/Tasks:
1. Discuss importance of Energy conservation as a class.
2. Presenting data, fact files, videos and scientific publications related to the theme. Analysis and comparision of data. Discussion and recognition of possible ways to save energy and natural resources.
3. Children work in mixed ability pairs/small groups set on the bases of their favorite theme.
4. Children share ideas and write a storyboard to create a video that:
   - Denounces social costs (economy, health, environment) related to non sustainable energy choices
   - Promotes good practices and proper behavior about energy conservation.
1. Children practice video editing software (i.e. Windows Movie Maker)
2. Children create a video 1-3 minutes long about the theme they have chosen. They translate slogans and texts in English.
3. Final event at school with children, parents and local associations to present videos. Final debate.

Additional task (on going):
Children measure the amount of energy wasted at home and at school. They create a class graph to represent the information.

Adjustments for different abilities:
More able to support less able in ICT skills.
Teacher to support children with specific learning difficulties.

Key questions:
- Can we endlessly develop if we keep to our current model of development?
- How can we guarantee resources to everyone without destroying nature?
- How can we save natural resources?

Assessment:
Children will be aware of personal responsibilities and problems related to Energy production and consumption from the point of view of environment, economy and health.
They will also improve organizing and researching competence.
They will practice ICT skills to realize digital messages.

Links to other subjects: Technology, Science, Geography, Languages

Resources: Videos:
"HOME" - Film director: Yann Arthus-Bertrand, 2009 (FR) 120' [http://www.youtube.com/watch?v=jgxENMKaeCU](http://www.youtube.com/watch?v=jgxENMKaeCU)
"TRASHED" - Film director: Candida Brady - 2012 (BBC) - 98' [http://www.trashedfilm.com](http://www.trashedfilm.com)
"AN INCONVENIENT TRUTH" - Film director: Davis Guggenheim - 2006 (USA) - 93' [http://www.youtube.com/watch?v=wnjx6KETmi4](http://www.youtube.com/watch?v=wnjx6KETmi4)

Text book, Internet, scientific publications , Software: Windows Movie Maker

Organisation: Mixed ability pairs/groups.
<table>
<thead>
<tr>
<th>Age: 13-14</th>
<th>Duration: 1 hour</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Theme:</strong> Materials and Energy - conserving energy</td>
<td><strong>Lesson Outcome:</strong> To know about different energy sources including renewable energy. Children understand how they can protect our planet.</td>
</tr>
</tbody>
</table>

**Activities/Tasks:**
1. Children discuss about what they know about renewable energy, and about the classification of renewable energy.
2. Children record ideas on post-it notes for sharing with class.
3. Children work, using internet, in mixed ability pairs/small, groups to create PPT about the solar energy.
4. A child from each group shows the PPT to the entire class.
5. Children select the best information from PPT watched and make the final class power point.

**Key questions:**
- What is solar energy?
- How can we use the solar energy to protect the environment?

**Assessment:**
- Children are given questions about solar energy and they will access a site with scientific games, to solve the games
  - Research skills
  - ICT skills
  - Creative skills
  - Work team skills

**Links to other subjects:** literacy, ICT, maths, geography

**Resources/Organisation:**
- Internet
- Power point presentations
- Post-it notes
- Mixed ability pairs/groups.

Rusu Claudia
Age: 9 years  
Duration: 1 hour

**Theme:** Materials and Energy; Conserving energy  
**Lesson Outcome:** For the children to understand how they can consume electricity in their daily life

**Activities/Tasks:**
1. Tell students they will be learning about the power of saving energy. Ask students to name some items that run on electricity. Then write the words "energy conservation" on the board.
2. Discuss with students how electricity is helpful, but it’s important to use only as much as we need. Conserving energy, or reducing the amount of energy we use, can help make our power plants work more smoothly, reduce costs, and most importantly, use less of our planet's resources.
3. Explain that everyone can do something to reduce the amount of electricity they use. Often, these are simple things that can be done at school or at home.
4. Tell students: Two of the easiest things to do are to use dishwashers, washing machines, and dryers only when full, and unplug items that are not being used. Ask students to explain why those two energy tips are important. Some appliances, like refrigerators, need to be plugged in all the time in order to work. Other items, like laptops or cell phone chargers, don’t always need to be plugged in since when they are plugged in, they use electricity even when they are turned off or not charging. These types of devices are called Vampire Electronics because they suck up energy!
5. Separate the class into teams of four. Tell students that they will be playing Energy Trivia! Have each group come up with a team name and choose one student to be the recorder. This person will write down answers for the team.
6. Read each question aloud and then read the answer choices. Give students two or three minutes to think about the question and write down their answer. Have students bring their answers up to you when they are done with each round.
7. Once all groups have turned in their answers for the round, tell the class the correct answer. Tally all the scores to see who won. If there is a tie, give the winning teams two minutes to list as many "good" energy habits as they can on the board. Whichever team writes down the most answers wins.

**Adjustments for different abilities:**
Tailor the quiz questions for children of different abilities

**Key questions:**
What is the importance of conserving energy?
Name some ways we can conserve energy in the home?

**Assessment:**
Teacher observation
Table quiz results

**Links to other subjects:**
Oral Language

**Resources/Organisation:**
Trivia questions
Trivia Questions:

What is the most energy-efficient way to dry your clothes?
A. Use a clothes dryer
B. Use a hair dryer
C. Dry them on a clothesline
D. Put them in the microwave

Which of these is NOT a Vampire Electronic when plugged in?
A. A phone charger that is not being used
B. A refrigerator
C. A laptop computer that is turned off
D. A DVD player that is not being used

Which of these forms of transportation uses the least amount of energy:
A. Cars
B. Buses
C. Bicycles
D. Trains

What is the most energy-efficient way to keep cool in the summer?
A. Stand in front of an open refrigerator
B. Use fans to circulate cool air
C. Crank up the air conditioner
D. Open windows while the A/C is on

If you are the last person to leave a room, be sure to:
A. Check for dirty dishes
B. Turn off the lights
C. Leave the lights on for the next person
D. Make sure no one's hiding

When is the most energy-efficient time to run your dishwasher?
A. Right after dinner
B. Before 6 a.m. or after 8 p.m.
C. While you're eating dinner
D. Whenever your dishes are dirty
<table>
<thead>
<tr>
<th><strong>Age:</strong> 9 - 10 years</th>
<th><strong>Duration:</strong> 40 mins</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Theme:</strong> Materials and Energy: Conserving Energy</td>
<td><strong>Lesson Outcome:</strong> How can we conserve energy? Children are made conscious of what is energy waste and how we can avoid it.</td>
</tr>
</tbody>
</table>

### Activities/Tasks:

1. **What is energy?** Brainstorming activity in small, mixed ability groups. Children list their ideas and then share them with the class.
2. Discuss with the children their ideas and bring out the importance of saving energy. Present students with key question: *How can we achieve this?*
3. Students are shown a short video called *Energy, Let’s Save it.*

**Related task:** The students are set into small, mixed ability groups as before. While watching the video some of the groups, must observe and list down all the energy wasting factors being shown. These are recognized by a squiggly, red line around them. On the other hand, the remaining groups must observe and list down the solutions given for such waste.

**Follow up discussion:** Children are encouraged to speak about the main factors responsible for energy waste, that are also an integral part of our daily life and what we can do to lessen or avoid such waste! Other kinds of energy waste can also be pointed such as running a dishwasher cycle when it is full and opening up blinds and curtains to let in natural light instead of switching on the light. The solutions given, also in the video, are discussed and to which extent can we adopt such measures in our own homes.

1. The lesson will be continued at the students’ respective homes where they are to complete a checklist to find out how many energy saving measures they use. When this is completed and returned the students will all be awarded a certificate.
2. Round up the lesson with a song: *Power for Tomorrow*

**Additional task:** Further related activities: Students can play the *Lights Out* energy game at [www.touchstoneenergykids.com/fun.php](http://www.touchstoneenergykids.com/fun.php)

### Adjustments for different abilities:
- Small mixed ability groups so that students can help one another.
- Video is all visual so no printed information can hinder understanding.
- Activities set so that each student can perform to his utmost.

### Key questions:
- What is energy?
- How can we save it?
- What can each one of us do in our own household?

### Assessment:
- Self assessment through checklist.

### Links to other subjects:
- Science

### Resources/Organisation:
- Small, mixed ability groups and whole class during discussions.
- **Video:** *Energy, Let’s Save it.* [www.youtube.com/watch?v=1-g73ty9v04](http://www.youtube.com/watch?v=1-g73ty9v04)
- Super Energy Saver Checklist
- Super Energy Saver Certificate
- **Online Song:** *Power for Tomorrow.* [www.youtube.com/watch?v=WnUdO7wHimM](http://www.youtube.com/watch?v=WnUdO7wHimM)
- **Online Game:** *Lights Out.* [www.touchstoneenergykids.com/fun.php](http://www.touchstoneenergykids.com/fun.php)
SUPER ENERGY SAVER

CHECKLIST

Complete this checklist and return it to your teacher and you'll be awarded the official SUPER ENERGY SAVER certificate! GOOD LUCK!!

1. TURN OFF ALL THE LIGHTS every time you leave the room.
2. SHUT DOWN THE COMPUTER when you are done using it.
3. UNPLUG ELECTRONICS like mobile phones, video games and televisions when not in use.
4. OPEN UP CURTAINS OR BLINDS TO LET IN LIGHT instead of switching on the light bulb.
5. CLOSE DOORS AND WINDOWS AND SEAL AIR LEAKS to make sure that cool air conditioning or heat remains in.
6. DON'T HOLD THE REFRIGERATOR DOOR OPEN for long periods of time.
7. TAKE A SHOWER INSTEAD OF A BATH
8. USE ENERGY SAVING LIGHT BULBS AT HOME
CONGRATULATIONS!!

YOU'RE A SUPER ENERGY SAVER

THIS HEREBY CERTIFIES THAT

____________________________

COMPLETED THE SUPER ENERGY SAVER PROGRAM

____________________________

WELL DONE!!
| Class/age: | 15 years old |
| Theme/Lesson Outcome: | Material and energy |
| Date/Duration: | 5 periods (classes) |

### Activities/Tasks:

**Introduction**
Discuss importance of energy conservation in the school.

**Main**
Children work in mixed ability pairs / small groups. They share ideas about good practices and behaviours. First, they identify the consumption of energy which can be reduced in their school like water, heating or electricity. Then, they make posters to encourage the pupils to better watch their consumption.

**Plenary**

**Plenary**
Exhibition in the school and posters in the classrooms with slogans to encourage the pupils to switch off the lights when leaving a room, reduce their water consumption, close the door when the heating is on...

### Adjustments for different abilities:
- Peer tutoring
- Mixed ability groups

### Key questions:
How to consume less energy at school?

### Assessment:
The pupils estimate the consumption of energy before and after the awareness campaign.

### Links to other subjects:
Biology, physics, art.

### Resources/Organization:
- Posters, paint, glue...
<table>
<thead>
<tr>
<th>AGE: 13</th>
<th>DURATION: 4 weeks/8 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>THEME: Materials and Energy - conserving energy</td>
<td>LESSON OUTCOME: How can we conserve energy at school?</td>
</tr>
</tbody>
</table>

**ACTIVITIES/TASKS:**
1. Brainstorming to collect children’s ideas
2. Discuss importance of conservation as a class
3. Children read the consumption of electrical energy in the school for 2 weeks, record the consumption and make a graphical representation of it on the table.
4. After they identify objectives and new rules (protocols) to apply to the school for a more sustainable use of electricity.
5. Children record the consumption of electricity during the next two weeks and calculate the percentage reduction in the consumption of electric energy since the introduction of the new protocols.
6. Finally they report the new values on the same table and create a poster, to be displayed inside the school building.

Additional task
Write an article for the newspaper of the city to let know outside of school the project.

**ADJUSTEMENT FOR DIFFERENT ABILITIES:**
Peer tutoring
Differentiated tasks for different skill levels

**KEY QUESTIONS:**
What is the location of the waste after we have put into the bins?

**ASSESSMENT:**
Children will have used the ability of understanding, choice and implementation phases of a recycled object

**LINKS TO OTHER SUBJECTS:** literacy, science

**RESOURCES/ORGANISATION:**
Images on power point
Mixed ability pairs / groups
<table>
<thead>
<tr>
<th>Age: 12</th>
<th>Duration: 4 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme: Place and Space</td>
<td>Lesson Outcome: Recycling, sustainable development.</td>
</tr>
</tbody>
</table>

**Activities/Tasks:**
1. A representative of a local waste station to be invited to tell pupils about about sustainable development and how to start recycling waste.
2. Afterwards a discussion about what kind of waste is sorted in the homes.
3. A survey to be done about the subject.
4. The pupils plan a questionnaire which is send to the parents.
5. The results of the survey to be calculated in percentages.
6. A summary to be made based on the findings.

**Adjustments for different abilities:**
Tasks are distributed according the pupils’ abilities.

**Key questions:**
- How to recycle in general?
- How is it realized at home?

**Assessment:**
The results of the survey to be discussed with pupils.

**Links to other subjects:**
Computer studies, maths, language, art.

**Resources/Organisation:**
Computer and data projector.
Place and Space
Preserve and Promote our
Landscape
<table>
<thead>
<tr>
<th>Age: 11-12</th>
<th>Duration: 2 hours per week for 3 months.</th>
</tr>
</thead>
</table>
| **Theme**  
Place and Space - Preserve and promote our landscape. | **Lesson Outcome:**  
Awareness about conservation and promotion of children's local environment. |

**Activities/Tasks:**
1. Shared/paired talk to collect children’s ideas.
2. Discuss the importance of preserving and promoting our landmarks as a class.
4. Visit to local library to seek for information.
5. Children work in mixed ability pairs/small groups to create a photo album and PPT about a monument or relevant site in town.
6. Exhibition at school to share photo album. Final event with parents to present PPT and exhibition. Children to walk and guide parents around.

**Additional task (on going):**
- Children create leaflets/advertisements/videos to promote Lonate.
- Children select information about the main monuments and aspects of their territory. They design permanent signs/information plaques in mother tongue and English to be installed in town.

**Adjustments for different abilities:**
More able to support less able.  
Teacher to support children with specific learning difficulties.

**Key questions:**
- Do we know our town/territory?  
- Why is conservation/promotion so important?  
- How can we make a difference to our town?

**Assessment:**
Children will have used literacy and ICT skills to create photo albums, PPTs, advertisements/spots showing understanding of conservation and promotion of their territory.

**Links to other subjects:** literacy, geography, history, art, ICT, music.

**Resources/Organization:**
Mixed ability pairs/groups.
<table>
<thead>
<tr>
<th><strong>Age:</strong> 8 Year Olds</th>
<th><strong>Duration:</strong> 2 hours minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Theme:</strong> Place and Space - preserve and promote our landscape</td>
<td><strong>Lesson Outcome:</strong> To investigate visual and tactile qualities in materials and processes, communicates his ideas and meanings, and designs and makes images and artefacts for different purposes.</td>
</tr>
</tbody>
</table>

### Activities/Tasks:
- Look at Environmental art by Andy Goldsworthy, Anthony Gormly, Banksy.
- Collect ideas in an art sketch book.
- Children collect natural materials such as leaves and pine cones.
- Children use these things to create art.
- Talk about how using these material helps reduce waste etc.

### Adjustments for different abilities:
**Differentiation by outcome**

### Key questions:
- How does the artist create the images?
- Why do you think they use these materials to create art?
- What different effects can you create?
- How will this art help save our environment?

### Assessment:
- To have used a variety of natural materials
- I can explain my design using key vocabulary
- I have evaluated my work and made decisions on how to improve it

### Links to other subjects:
- Science - caring for our environment

### Resources/Organisation:
- Artwork by Andy Goldsworthy, Anthony Gormly
- Natural materials such as leaves, twigs,
<table>
<thead>
<tr>
<th>Age: 17-18 years old</th>
<th>Duration: 50 minutes</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Theme: Place and Space - preserve and promote our landscape</th>
<th>Lesson Outcome: To know about Sustainable architecture and how we can apply it in Romania?</th>
</tr>
</thead>
</table>

**Activities/Tasks:**
1. Teacher announces the subject,
2. Students present short definitions of sustainable architecture, architects and sustainable buildings in the world,
3. Teacher presents a ppt called „Sustainable architecture“,
4. Students discuss the information received, make groups to solve the classwork—the world today—sustainable world tomorrow and put the opinions on two big posters,
5. Arguments about the two on paper for next time, from each student,
6. 5 students create groups to create a sustainable project that could be applied locally (town or surroundings) - this homework is to be solved together with the architecture teacher in a month’s time,
7. Exhibition on the corridor walls in front of the Geography Class.

**Adjustments for different abilities:**
Students work in groups to understand the information received and explain their opinion on the subject. Teacher to explain concepts that were not understood.

**Key questions:**
Why is sustainability so important? How do you think our Planet will look like in 10 years if everything remains the same? What if we turn sustainable? Give examples!

**Assessment:**
Students use literacy and computer skills to create a power point presentation and a poster to show the importance of sustainability and the results obtained where this concept has already been applied.

**Links to other subjects:**
Biology, Literature, Architecture, Computer Skills

**Resources/Organisation:**
1. Power point presentation- [http://www.slideshare.net/Dingus009/sustainable-architecture-ppt](http://www.slideshare.net/Dingus009/sustainable-architecture-ppt)
2. Posters made by students in class
3. Exhibition with the final projects.

Marza Cristina
<table>
<thead>
<tr>
<th><strong>Age:</strong> 8 years</th>
<th><strong>Duration:</strong> 1 hour</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Theme:</strong> Habitats Around Us (Place and Space)</td>
<td><strong>Lesson Outcome:</strong> To understand the names of different habitats To identify the different animals and plants in the different habitats</td>
</tr>
</tbody>
</table>

**Activities/Tasks:**

1. Talk about different natural environments with the class. Record some on the blackboard. What is a forest? What does it look like? How is a forest different from a desert? Explain the term "habitat" and talk about the many kinds of animals that live in different habitats. Use pictures to illustrate the unique features and animals of the forest, garden, field etc. Once students have a solid understanding, tell them to draw a picture of the one they would most likely to visit.

2. Talk about the kinds of things you would expect to see in each picture, such as the animals and plants that live and grow there. Check for comprehension by asking questions like these: Should a drawing of a forest have loads of cows? Have a lot of trees? What kinds of animals might you draw if you were making a picture of a dessert habitat?

3. Once the drawings are complete, ask students to share them with the rest of the class. Which habitat did most of the students want to visit? Ask them to explain why. What kinds of plants and animals appear in the different drawings?

4. At the close of the lesson, take the students outside to observe animals that live in your school environment. What do they see? How would they describe the habitat these animals live in?

5. Finally, display the habitat drawings in the classroom so students have a visual reminder of the unique features of the forest, desert, wetlands, and grasslands.

**Adjustments for different abilities:**
Children who are weaker will be provided extra support by teacher and will be scaffolded in all group work by the teacher. For the stronger pupils I will encourage them to produce extra work on this topic. They will design an advertisement for each habitat in order to promote its importance.

**Key questions:**
What is a forest? What does it look like? How is a forest different from a desert?

**Assessment:**
Children will be assessed by the contributions to make to the group discussion.

**Links to other subjects:**
Oral Language
Art - Drawing

**Resources/Organization:**
Pictures of animals from different habitats
White construction paper, 1 sheet per student, crayons
Age: 9 years  |  Date/Duration: 40 minutes
---|---
Theme: Place and Space - preserve and promote our landscape.  |  Lesson Outcome:

- acquainted with the different habitats found in Malta
- more conscious of the different living things we are losing when a wild area is destroyed

### Activities/Tasks:

1. Download the *Habitats* slideshow and show it to your students. The slideshow deals with six habitats, some of which are common (like cliffs and rocky land) and some of which are rare (like woodland). Each habitat also features a number of animals or plants that live in it.

2. Use the slideshow to start a discussion on habitats. Introduce the word HABITAT. Ask the children if they know of such places or whether they have been there with their family.

3. Discuss how each habitat is home to many plants and animals. Explain how, when a wild area is destroyed, it is not only the land or water that is lost but also an entire network of living things.

4. Play the *Vanishing Homes* game. Through fun in itself, the game is teaching us that habitat loss is one of the biggest threats to wildlife in the Maltese islands and globally too. (See the *Vanishing Homes Game* worksheet to better understand how to play this game.

5. Conclude your lesson by inviting pupils to create an A3 poster against destroying wild areas.

### Adjustments for different abilities:
This lesson deals with a variety of activities in order to reach out to different pupils with different learning patterns and abilities.

### Key questions:

- What is this videoclip about?
- What does the word *habitat* mean?
- Can you mention a habitat that was found in this slideshow?
- Which animals do you think live in such a habitat?
- What will happen if wild areas are destroyed?

### Assessment:

- After showing the videoclip to the pupils, the teacher will ask them a set of questions about what happens when wild areas are destroyed.
- During the *Vanishing Game*, pupils will automatically learn the different habitats found in Malta and the different animals that live in them.

### Links to other subjects:
Science and Social Studies

### Resources/Organisation:

- *Stop killing tress in Malta* videoclip - You Tube  
- HABITATS.pps
- WILDLIFEFAC FILE.pdf (www.birdlifemalta.com)  
- Vanishing Homes Game worksheet
- 26 flashcards, each flashcard representing an animal
The VANISHING HOMES Game

Game Rules

This game is based on 25 players – adjust members according to class size but try to keep the same proportions. You need space for this game (ground, hall, gym, etc.). Choose the language of your preference.

You need

25 cards:
- 5 labelled LIZARD
- 4 labelled BUTTERFLY
- 3 labelled ROBIN
- 3 labelled FROG
- 2 labelled RABBIT
- 2 labelled WEASEL
- 2 labelled BEE
- 1 labelled OWL
- 1 labelled HEDGEHOG
- 1 labelled FRESHWATER CRAB
- 1 labelled THE DESTROYER

12 PE hoops:
- 7 labelled ROCKY LAND
- 3 labelled GROVE
- 2 labelled STREAM

Whistle

Playing the game

- Place the habitat hoops randomly in a large circle
- Give the DESTROYER card to one of your students and place him/her in the middle.
- Give the rest an animal card (best worn on the string round the neck).
- Direct the ‘animals’ to their habitat as shown in the diagram.
- The game is played like Musical Chairs:
  - Teacher makes an announcement, e.g. “They want to build a hotel, so bulldozers smash up rocky land.”
  - Making loud mechanical noises, the DESTROYER grabs a ROCKY LAND hoop, dispersing the animals inside it, who ‘panic’ and cause all the animals in the other hoops to step out of their hoop and start running round the circle of hoops. The DESTROYER, making destructive noises, takes the hoop to his/her spot in the middle and stands in it, pretending to destroy it. That piece of ‘habitat’ has been destroyed and the hoop cannot be used anymore.
  - Teacher whistles and all the animals rush to find a suitable habitat. Animals are not allowed to change habitat, and a hoop can only take two animals. So with every hoop that is removed, two animals must lose their home and are out of the game.
  - Repeat procedure, (with the DESTROYER accumulating hoops in the middle!) using different announcements (more examples below) until just one of each habitat remains, ie three hoops.

Announcements for destruction!

- They want to build a new hotel, so bulldozers smash up ROCKY LAND.
- They want to dig a quarry, so a big patch of ROCKY LAND is dug up.
- They want to build a golf course, so bulldozers flatten ROCKY LAND to make way.
- They want to build a block of flats, so they cut down a GROVE to make way.
- They want to build a new road so a GROVE is cut down to make way.
- They build a factory to bottle valley water so a STREAM dries up.
- A truck dumps oil in a valley and a STREAM gets polluted.
  (Repeat and vary as needed; if you use current events, the better!)
<table>
<thead>
<tr>
<th>AGE: Year 2/12</th>
<th>DURATION: 2 weeks/4 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>THEME: Place and Space - preserve and promote our landscape.</td>
<td>LESSON OUTCOME: How can we preserve and promote our landscape?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACTIVITIES/TASKS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Group discussion to bring out the knowledge of the children about promotion of landscape</td>
</tr>
<tr>
<td>2. Children recognize the traces of history in the landscape around us</td>
</tr>
<tr>
<td>3. Children chose a site to study (for example a green area near the school)</td>
</tr>
<tr>
<td>4. Collect old images of the chosen site and interviews on the site as it was in the past</td>
</tr>
<tr>
<td>5. Exploration for more than 2 hours in the area close to the school and speculate how it might change and what should not be changed.</td>
</tr>
<tr>
<td>6. Make an e-book with images of the past, the present, and how they see in the future this area.</td>
</tr>
<tr>
<td>7. Watch and evaluate the e-book made</td>
</tr>
</tbody>
</table>

**Additional task**
Write poems inspired by the chosen area and slogans to invite the public to visit it

<table>
<thead>
<tr>
<th>ADJUSTEMENT FOR DIFFERENT ABILITIES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promote cooperative activities in small groups with constant adult supervision</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KEY QUESTIONS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>What does it mean to promote our landscape?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ASSESSMENT:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children will have used creativity to create an e-book showing understanding of landscape promotion.</td>
</tr>
</tbody>
</table>

| LINKS TO OTHER SUBJECTS: science, art, technology |

<table>
<thead>
<tr>
<th>RESOURCES/ORGANISATION:</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-book maker</td>
</tr>
<tr>
<td>Mixed ability pairs / groups</td>
</tr>
<tr>
<td>Age: From 7 to 13</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>Theme: Place and Space</td>
</tr>
</tbody>
</table>

**Activities/Tasks:**
1. Every class gets its own area to be cleaned.
2. Beforehand following issues are discussed in class and written on the board: Why is it worth while to clean the surroundings?
   - Where does the rubbish come from?
   - What can be done in order to reduce littering?
   - What kind of equipment is needed?
   - Where is the rubbish taken to be destroyed afterwards?

1. The pupils clean the area in small groups.
2. Afterwards the benefits of the activity and how littering can be reduced are discussed in classes.

**Adjustments for different abilities:**
The age is taken into the consideration when areas are divided, f.ex. the size of the area, safety. The older pupils can assess or weigh the amount of litter.

**Key questions:**
- How does your own attitude towards littering change?
- Why is it important not to burden nature by littering?

**Assessment:**
- Are the surroundings cleaner?
- Did the activity change your attitude towards littering?

**Links to other subjects:**
Science, biology, language, maths, PE

**Resources/Organisation:**
Map of school surroundings, rubbish bags, scales, notebooks.
<table>
<thead>
<tr>
<th>Age: From 7 to 13</th>
<th>Duration: 1 to 2 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme: Place and Space</td>
<td>Lesson Outcome: Reducing litter - cleaning the school surroundings</td>
</tr>
</tbody>
</table>

**Activities/Tasks:**
1. Every class gets its own area to be cleaned.
2. Beforehand following issues are discussed in class and written on the board: Why is it worth while to clean the surroundings?
   - Where does the rubbish come from?
   - What can be done in order to reduce littering?
   - What kind of equipment is needed?
   - Where is the rubbish taken to be destroyed afterwards?
1. The pupils clean the area in small groups.
2. Afterwards the benefits of the activity and how littering can be reduced are discussed in classes.

**Adjustments for different abilities:**
The age is taken into the consideration when areas are divided, e.g. the size of the area, safety.
The older pupils can assess or weigh the amount of litter.

**Key questions:**
- How does your own attitude towards littering change?
- Why is it important not to burden nature by littering?

**Assessment:**
- Are the surroundings cleaner?
- Did the activity change your attitude towards littering?

**Links to other subjects:**
Science, biology, language, maths, PE

**Resources/Organisation:**
Map of school surroundings, rubbish bags, scales, notebooks.
Water and Air
Conserving water and air
<table>
<thead>
<tr>
<th>Age: Year 11-12</th>
<th>Duration: 10 hours</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Theme/ Water and Air - Conserving water. The river Ticino: the blue river.</th>
<th><strong>Lesson Outcome:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Creation of the board game: “The Game of the Kingfisher” (A revised version of the Game of the Goose). The board will represent the map of the river Ticino region park. Players will move through the river sites, villages and landmarks.</td>
</tr>
<tr>
<td></td>
<td>• The objective of the game is to test the children’s knowledge about:</td>
</tr>
<tr>
<td></td>
<td>• Flora and Fauna of the River Ticino Park</td>
</tr>
<tr>
<td></td>
<td>• Physical and chemical characteristic of the river’s water</td>
</tr>
<tr>
<td></td>
<td>• Proper behavior to preserve the river’s water and environment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Activities/Tasks:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Shared talk to collect student’s ideas.</td>
</tr>
<tr>
<td>2. Students record ideas on post-it notes for sharing with class.</td>
</tr>
<tr>
<td>3. Discussion about the name of the game, setting (Ticino banks), design (material, drawings, pictures), kind of questions and penalties.</td>
</tr>
<tr>
<td>4. Students work in mixed ability small groups to create the board game. They realize board, pawns and dice.</td>
</tr>
<tr>
<td>5. They define rules and questions.</td>
</tr>
<tr>
<td>6. The class invites students of others classes to play.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Adjustments for different abilities:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>More able to support less able.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Key questions:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Do I know my river?</td>
</tr>
<tr>
<td>• How can I preserve the river’s water and environment?</td>
</tr>
<tr>
<td>• Do I behave as a responsible citizen?</td>
</tr>
<tr>
<td>• How can I promote the river Ticino park?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Assessment:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Children will collect, select and analyze data.</td>
</tr>
<tr>
<td>They will plan and realize a final product (board game).</td>
</tr>
<tr>
<td>They will respect the game rules.</td>
</tr>
<tr>
<td>They will prove to know the distinctive features of the river Ticino environment (map, flora, fauna, water) by answering the questions.</td>
</tr>
</tbody>
</table>

| **Links to other subjects:** Languages, Geography, Maths, Science. |

<table>
<thead>
<tr>
<th><strong>Resources/Organisation:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Material: wood panel, images, dice, pawns.</td>
</tr>
<tr>
<td><a href="http://www.parcoticino.it">http://www.parcoticino.it</a></td>
</tr>
</tbody>
</table>

<p>| Mixed ability pairs or groups |</p>
<table>
<thead>
<tr>
<th><strong>Theme:</strong> Water and Air - conserving water/air</th>
<th><strong>Lesson Outcome:</strong> To recognise how people seek to improve and sustain environments.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activities/Tasks:</strong></td>
<td></td>
</tr>
<tr>
<td>1. Create a poster of the water cycle.</td>
<td></td>
</tr>
<tr>
<td>2. Using understanding of the water cycle create a flood plain.</td>
<td></td>
</tr>
<tr>
<td>3. Use classroom equipment and recycled materials to create mountains, valleys, river system and urban environments</td>
<td></td>
</tr>
<tr>
<td>4. Poured water through the river system and observe the flood plain.</td>
<td></td>
</tr>
<tr>
<td>5. Create a dam further up the mountain to divert the water from the flood plain.</td>
<td></td>
</tr>
<tr>
<td>6. Observe improvement to the urban environment on the flood plain.</td>
<td></td>
</tr>
<tr>
<td>7. Research DEFRA and their work in the Welsh mountains as a sustainable solution.</td>
<td></td>
</tr>
<tr>
<td><strong>Adjustments for different abilities:</strong></td>
<td></td>
</tr>
<tr>
<td>Work in mixed ability groups.</td>
<td></td>
</tr>
<tr>
<td>Research done by higher ability and disseminated to lower ability.</td>
<td></td>
</tr>
<tr>
<td><strong>Key questions:</strong></td>
<td><strong>Assessment:</strong> Children begin to understand how humans can improve and sustain an urban environment.</td>
</tr>
<tr>
<td>How can we sustain an urban environment built on a flood plain?</td>
<td></td>
</tr>
<tr>
<td><strong>Links to other subjects:</strong></td>
<td><strong>Resources/Organisation:</strong> Recycled materials, Classroom equipment.</td>
</tr>
<tr>
<td>Geography, Literacy, Science</td>
<td></td>
</tr>
<tr>
<td>Age:</td>
<td>11-12 years old</td>
</tr>
<tr>
<td>------</td>
<td>----------------</td>
</tr>
<tr>
<td>Theme</td>
<td>Environmental problems - Water Conservation and Pollution</td>
</tr>
<tr>
<td>Lesson Outcome:</td>
<td>To know the importance of water to our daily lives and how we can conserve water.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activities/Tasks:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Students bring to class pictures of nearby rivers, lakes.</td>
</tr>
<tr>
<td>2. Brainstorming starting from the word “water” to collect students ideas:</td>
</tr>
<tr>
<td>• What is it?</td>
</tr>
<tr>
<td>• Where can we find it?</td>
</tr>
<tr>
<td>• What is it good for?</td>
</tr>
<tr>
<td>• How important it is for our body?</td>
</tr>
<tr>
<td>1. Students answer these questions</td>
</tr>
<tr>
<td>2. Give the students a factfile to read and fill in the gaps with the correct words from a list (Water! Here, There and Everywhere!).</td>
</tr>
<tr>
<td>3. In pairs, children ask and answer questions using the facts from the previous exercise</td>
</tr>
<tr>
<td>4. Discuss the importance of water conservation and the dangers of pollution as a class</td>
</tr>
<tr>
<td>5. In groups of 4 the students are given pictures of water cycle in nature that they have to complete — then they listen to a tape and check their answers (More able support the less able).</td>
</tr>
<tr>
<td>6. According to the skills they have (language skills, logical-maths skills, visual-art skills, behaviour skills, musical skills, communicative-social skills) in groups, the students are given different tasks:</td>
</tr>
<tr>
<td>• to write a few paragraphs about the way water is polluted and wasted</td>
</tr>
<tr>
<td>• to calculate the amount of water a child and his family are using every day and also the amount used in a year</td>
</tr>
<tr>
<td>• to draw a picture comparing a polluted river, lake etc. and a clean one</td>
</tr>
<tr>
<td>• to mime the behaviour of a bad example of a family going for a picnic near a river and leaving trash behind vs the good example when the family clean after themselves</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key questions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>What can we personally do to save water and not pollute waters?</td>
</tr>
<tr>
<td>How can we make grown-ups aware of the importance of clean waters and water conservation?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assessment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Half of the students will design a flyer informing their schoolmates about how to cut down on water use</td>
</tr>
<tr>
<td>The other half will design flyers on how to be responsible and not throw garbage into rivers and lakes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Links to other subjects:</th>
</tr>
</thead>
<tbody>
<tr>
<td>literacy, maths, science, painting, drawing, drama</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resources/Organisation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posters, drawings, DVD-player, work sheets, markers</td>
</tr>
</tbody>
</table>

Criste Aneta
<table>
<thead>
<tr>
<th>Age: 9 years</th>
<th>Duration: 1 hour</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Theme:</strong> Water and air; Stopping wasting water</td>
<td><strong>Lesson Outcome:</strong> To reinforce the concept of stopping wasting water To observe scenarios where water conserving is necessary</td>
</tr>
</tbody>
</table>

**Activities/Tasks:**

1. Discuss with students when we use water? In our cooking, washing etc. Where does this water come from? Ask children to think about their attitude to water. Do they ever consider saving water? Why do they have such an attitude? If water was scare would they have the same attitude?

2. Role Play: Dramatise various scenarios for conserving water.
   - Divide students into small groups.
   - Give each group a topic card based on the theme of water conservation e.g. turn off the tap when cleaning your teeth.
   - Each group improvises a short improv to convey the message based on their activity card.
   - Each group performs their improv for the class.

3. Poster: Students use role play activity cards then create their own poster based around the theme: "Stop wasting water."

**Adjustments for different abilities:**
Differentiate the topic cards giving the weaker children more straightforward water conservation topics. Encourage stronger children to extend their performance to feature solutions to problem posed on activity cards.

**Key questions:**
Where are the main places we waste water? How can we stop wasting water in the home and at school?

**Assessment:**
Teacher observation Pupil performance in drama performance

**Links to other subjects:**
Drama Visual Art

**Resources/Organisation:**
drama activity cards art paper a variety of media eg. oil pastel crayons, water colours, paints, ink washes, coloured pencils, materials for collage
<table>
<thead>
<tr>
<th>AGE: 7-8</th>
<th>DURATION: 1 hour</th>
</tr>
</thead>
</table>

**Theme:** Air- Conserving Air.  
**Lesson Outing:** How can we conserve the air we breathe?

**Activities/Tasks:**  
1. Shared/paired talk to collect children's ideas about what they know about the quality of the air they breathe.  
2. Air Pollution Powerpoint showing ways in which air is polluted and ways in which we can reduce air pollution.  
3. Identify some of the main causes, effects and sources of air pollution  
4. Discuss importance of conservation of air as a class.  
5. Discuss ways in which we can conserve the air around us.  
6. Children work in mixed ability pairs/small groups to create booklets about ways in which we can conserve air.  
7. Children exhibit and share booklets - children walk around and discuss different ways of conserving air.

**Adjustments for different abilities:**  
Children are grouped in mixed ability groups to help each other.  
Teacher supports children with specific learning difficulties.  
Visuals will be used to aid understanding.

**Key questions:**  
What is causing air pollution?  
Why is air conservation so important?  
What can we do to reduce air pollution?  
How can we all make a difference to our planet?

**Assessment:**  
Children will use literacy skills with creating a booklet showing understanding of air conservation.

**Links to other subjects:**  
Languages, Maths, Science.

**Resources/Organisation:**  
A4 papers  
Colours/markers  
Pictures  
Powerpoint presentation [http://www.slideshare.net/diamantia/air-pollution-2-34575869](http://www.slideshare.net/diamantia/air-pollution-2-34575869)

Mixed ability groups of four/five
What are the causes of air pollution in these pictures? Discuss.
**Class/age:** 14/15 years old  
**Date/Duration:** 13 periods

<table>
<thead>
<tr>
<th>Theme/Lesson Outcome:</th>
<th>„Water and air“ How can we conserve air?</th>
</tr>
</thead>
</table>

**Activities/Tasks:**  
**Introduction**  
A group work of 2 or 3 pupils done in the library. Documentary researches, writing of a file and practising for the presentation.  
**Main**  
The pupils will write a documentary file about the pollution of air and present it to the class.

**Adjustments for different abilities:**  
The librarian will help the pupils in their researches on the Internet or in the different books of the library.

**Key questions:**  
Pollution: which dangers for man and nature?  
Which solutions?

**Assessment:**  
The files will be assessed by the biology teacher and the librarian.

**Links to other subjects:**  
Biology, geography.

**Resources/Organisation:**  
- Researches on the Internet  
- Writing of a file with word  
- Presentation with Power-point.
<table>
<thead>
<tr>
<th>AGE: 11</th>
<th>DURATION: 2 weeks/4 h</th>
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</thead>
<tbody>
<tr>
<td>THEME: Water and Air - conserving water/air.</td>
<td>LESSON OUTCOME: How can we conserve air?</td>
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**ACTIVITIES/TASKS:**
1. Brainstorming to collect children's ideas
2. Children record ideas on the Interactive White board.
3. Examine the causes, the dangers of air pollution
4. Children examine the level of air pollution by measuring the amount of dirt present on some leaves collected near the school and take pictures of lichens on tree trunks
5. Formulate possible solutions and tips for living in a cleaner environment
6. Draw up in mixed ability groups a set of guidelines to follow in everyday life
7. Make a power point presentation with the 10 most important rules to follow to conserve air
8. Watch the power point presentation made

**Additional task**
Do an experiment to test the effects of acid rain on plants

**ADJUSTEMENT FOR DIFFERENT ABILITIES:**
Peer - tutoring

**KEY QUESTIONS:**
Why is conservation so important?
How can we make a difference to our planet?

**ASSESSMENT:**
Children will have used creativity and multimedia skills to create a power point presentation

**LINKS TO OTHER SUBJECTS:** art, technology

**RESOURCES/ORGANISATION:**
Microsoft Office Power Point
Mixed ability pairs / groups
<table>
<thead>
<tr>
<th>Age: 11</th>
<th>Duration: 45 minutes</th>
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</thead>
<tbody>
<tr>
<td>Theme: Water and Air</td>
<td>Lesson Outcome: Understanding eutrophication and acification</td>
</tr>
</tbody>
</table>

**Activities/Tasks:**
1. *A think tank*. What causes the pollution of the water system?
2. Learning the concept of eutrophication and acification
   - cause, result, reduction

**Adjustments for different abilities:**
Discussion by using pictures.
The main points on the board.

**Key questions:**
- What is the difference between eutrophication and acification?
- How can it be reduced?

**Assessment:**
The children are able to discuss things concerning eutrophocation of water system.

**Links to other subjects:**
Art, geography, chemistry, physics.

**Resources/Organisation:**
Data projector and the web.
Step by Step

Lesson Plans
Materials and Energy

Lesson: Recycling and Sustainable Development
The representative of Vestia Waste Station visited classes from 5 to 6 to tell about sustainable development and how to sort and recycle waste.

Afterwards we discussed what kind of waste was sorted in the homes. Therefore, we decided to do a survey about the subject.
The pupils planned a questionnaire which was sent to the parents. The results of the survey were calculated in percentages, and a summary was made based on the findings.
Emissions and Air Quality

Lesson: Quality air in our homes
Step 1
Researching air quality and the importance of air quality in our homes.
Step 2
Preparing Air Quality Creatures to show air quality at home
Step 3

Placing air quality creatures in various corners of our homes
Step 4
Comparing quality of air quality creatures using a magnifying glass
Habitats and Food

Lesson: Promoting Health Food and Preserving Local Recipes.
Step 1

Reading a text about the features of traditional cuisine and consultation of existing publications on the most popular recipes in the territory.
Step 2

Cropping hearts of various shapes and colors, on various types of paper
Step 3

Looking for recipes to be published
Step 4

Assembling cropped hearts with decorations and recipes
Step 5

Assembling the pop-up book
Step 6

The finished product, ready for the exhibition
Materials and Waste

Lesson: Consumption and Waste
The experiment
As an everyday meal for children, the snack and the waste which result of it make us realize the link between consumption and waste. It also leads us to consume differently. For the Comenius project, the pupils involved made this little experiment.

Step 1
First, they prepared a snack for 5 people with industrialized and individual products they consume everyday: disposable plates and artlery, plastic cups, disposable towels, biscuits wrapped up individually, mini bags of candies, drinks in plastic bottles, individual chip packets, etc.
Step 2
This is what there is left to eat on the table and in the plates after removing all the wrappings.
Step 3
And this is the waste from our snack which will be thrown into the bin.
Step 4

So, in groups, the pupils are thinking about the composition of a snack producing less or no waste at all: therefore they brought home-made cakes, reusable plastic boxes, they used plates, cutlery, cups and cloth napkins and they washed them after the snack. Result: 0 waste!
Place and Space

Lesson: Preserve and Promote our Landscape
Step 1

Using a slideshow, named *Habitats*, to start a discussion on habitats situated in Malta and to explain that when a wild area is destroyed it is not only the land or water that is lost but also an entire network of living things.
Step 2

Playing the *Vanishing Homes* game to teach pupils that habitat loss is one of the biggest threats to wildlife in the Maltese islands and globally too.
Step 3

Creating an A3 poster against destroying wild areas
Water and Air

Lesson: Conserving Air and Water
Step 1

Use classroom equipment to create a framework for a river landscape - (mountain and a valley etc.).
Step 2

Cover the structure with waterproof materials.

Step 3

Add rivers and lakes going down to the flood plain.
Step 4
Add the urbanization on the flood plain.

Step 5
Pour a large amount of water into the river (simulating unusual rainfall in UK in 2013/14)
Step 6

Observe and record flood plain
Water and Air

Lesson: Consumption and Air
Step 1: Brainstorming to collect children's ideas
Step 2: Children record ideas on the Interactive White Board
Step 3: Children examine the level of air pollution by measuring the amount of dirt on some plant leaves present at school.
Step 4: Formulate possible solutions and tips for living in a cleaner environment. Draw up in mixed ability groups a set of guidelines to follow in everyday life.
Step 5: Make a power point presentation with the most important rules to follow to conserve air and environment.
Habitats and Food

Lesson: Promoting Health Food
Step 1. - Direct talk about: healthy and unhealthy food; personal habits of eating; what they do with the food waste.
Step 2.

Divide the class into three groups of children with different working abilities to make posters about healthy food and unhealthy food, good food we can have at each main meal, how can we reduce the food waste;
Step 3. Groups share their poster and explain what they wanted to illustrate.
Partner schools

**Italy – Lonate Pozzolo (Co-ordinator)**
Ist. Comprensivo C. Carminati Via Dante, 4 - 21015 Lonate Pozzolo (Varese)

**Finland**
Kyösti Kallion koulu Tarhinkuja 4, 85500 NIVALA

**France**
Collège Charles Péguy Avenue Charlemagne - 57640 VIHY

**Ireland**
Ovens National School Knockanemore, Ovens, Co. CORK

**Italy - Frosinone**
Scuola Secondaria di Primo Grado “Luigi Pietrobono” Via G. Puccini, FROSINONE

**Malta**
St Joseph junior school, Cathedral Street SLM 1526 SLIEMA

**Romania**
Liceul de arte plastic “Romulus Ladea 56, Dorobantilor street, CLUJ-NAPOCA

**United Kingdom**
Yarnfield Primary School Yarnfield Road Tyseley BIRMINGHAM B11 3PJ