**Subject 3: Bio energy**

**Introduction**

During this project you are going to make a “pitch” (short and interactive presentation) for younger pupils (age 10-12).

The pupils will visit your pitch, in total 10 groups of each 10 pupils. So you have to do the pitch a total of 10 times! In the end each pupil will decide which pitch was the best/interesting/most informative, by putting a fiche in the box of the concerning Unit. The Unit with the most fiches in the end is the winner!

**Instruction**

Your topic is **Bio energy**. **Bioenergy** is renewable energy made available from materials derived from biological sources. Biomass is any organic material, which has stored sunlight in the form of chemical energy. As a fuel it may include wood, wood waste, straw, and other crop residues, manure, sugarcane, and many other by-products from a variety of agricultural processes.

**Some points of notice:**

* You are going to visit HVC where you will attend a guided tour. Afterwards you will have the opportunity to interview someone from HVC.
	+ Phone number: 078-6219061 (contact: Elly Schenau)
	+ Time: Wednesday 10.30 (call Elly on Monday to make arrangements)
	+ Place: HVC Dordrecht, Baanhoekweg 38 (report at the reception)
* Show the pupils during your pitch why bio energy is renewable energy and a sustainable way to provide us with energy
* Invent a captivating activity for the pupils to do during your pitch!

**Some sources you can use for this topic:**

* interview HVC
* <https://bioenergynetherlands.nl/en/>
* <http://www.ejbioenergy.eu/en/>
* <https://www.renewableenergyworld.com/baseload/bioenergy.html>
* <https://www.youtube.com/watch?v=nVl17JLn_u0>
* <https://www.youtube.com/watch?v=rhRc7PHt2NE>
* <https://www.youtube.com/watch?v=GU0Cu45cLT4>

**Some sources with ideas for learning activities:**

* <https://globaldigitalcitizen.org/21-formative-assessment-tools>
* <http://www.queensu.ca/teachingandlearning/modules/active/12_exmples_of_active_learning_activities.html>
* <https://www.edutopia.org/blog/5-fast-formative-assessment-tools-vicki-davis>

**Schedule:**

**Quizizz in classrooms on Monday:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Group | Hour | Time | Class | Teacher | Classroom |
| **2e** | **3e** | **4e** | **5e** |
| 3 | - |  | X |  | 11.20-12.10 | HV1E | VDM | H209 |
| V1H | DAM | H102 |

**Workshops:**

* Monday 9.30-10.30 Solar cell (Science Truck)
* Tuesday 9.20-10.10 Bioluminescence (Science Truck)
* Tuesday 10.30-11.20 Interviewing (H211)

**Monday** (H027, between 11.20 and 13.00 in HK24)

* 13.30-15.30: working on the science project:
	+ Discuss with your unit what you want to show to the pupils
	+ Make a start with the pitch (presentation + activity) of 8 minutes
	+ Arrange an interview with company/organisation
	+ Make a list of materials you need for the activity and make sure you have this materials in time!

**Tuesday** (Start in H101, from 11.00 in H027)

* 9.00-16.00:
	+ Working on the pitch (presentation + activity) of 8 minutes

**Wednesday** (H027)

* 9.00-12.30:
	+ Working on the pitch (presentation + activity) of 8 minutes
	+ Visit and interview HVC (10.30)

**Thursday** (H027)

* 9.00-14.30:
	+ Working on the pitch (presentation + activity) of 8 minutes
	+ 9.20-11.20: Rehearsal of pitch (lower class students)
	+ Use the feedback to make adjustments to your presentations

**Friday** (H027)

* 9.00-9.30:
	+ Last preparations
* 9.30-12.00:
	+ Presentations for primary school pupils