**Subject 4: Heating network**

**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 **heating network**. This is a system for distributing heat generated in a centralized location through a system of insulated pipes for residential and commercial heating requirements, such as space heating and water heating. The heat is often obtained from a cogeneration plant burning fossil fuels or biomass, but heat-only boiler stations, geothermal heating, heat pumps and central solar heating are also used, as well as nuclear power. District heating plants can provide higher efficiencies and better pollution control than localized boilers. Dordrecht is busy realizing such a heating network. The heat from HVC is used as the source.

**Some points of notice:**

You are going to interview Christine Desmet from Warmtenet Dordrecht, who knows all about heating networks in Dordrecht.

* Phone number: 06-433 68 757
	+ Time: Wednesday 10.00 (call her on Monday to make arrangements)
	+ Place: HVC, Baanhoekweg 30
* Show the pupils during your pitch where a heating network stand for and what benefits it can have for a sustainable future.
* Invent a captivating activity for the pupils to do during your pitch!

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

* <https://www.hvcgroep.nl/over-hvc/interactieve-locatiekaart/warmtenet-dordrecht>
* <https://warmopweg.nl/times-are-changing-for-district-heating/>
* <https://energytransition.org/2017/03/the-dutch-go-district-heat/>
* <https://www.euroheat.org/knowledge-hub/district-energy-netherlands/>
* <https://www.youtube.com/watch?v=40nC_OB5s3E>
* <https://www.youtube.com/watch?v=nmKFd92ZZD4>
* <https://www.youtube.com/watch?v=JRTbzCCvBZ4>

**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** |
| 4 | - | X |  |  | 10.30-11.20 | H2A | KLA | H009 |
|  | X |  | 11.20-12.10 | A2C | DKH | HK23 |
| G2D | TOU | H205 |

**Workshops:**

* Monday 9.30-10.30 Solar cell (Science Truck)
* Tuesday 10.30-11.20 Interviewing (H211)
* Tuesday 11.20-12.10 Bioluminescence (Science Truck)

**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 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:
	+ Interview with Christine Desmet (10.00)
	+ Working on the pitch (presentation + activity) of 8 minutes

**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