

# HYDROELECTRICITY

<http://www.youtube.com/watch?v=wvxUZF4lvGw>

C:\Users\patricia\Documents\traditional energy productions\Hydroelectric\_Documentary.mp4

- Objectifs:
  - Je connais le vocabulaire adapté à la production d'hydroélectricité
  - Je sais expliquer le fonctionnement d'une centrale hydroélectrique
  - Je prépare une sortie pédagogique à la centrale de Tuilière
- Tâche finale: création d'un schéma explicatif et d'une production écrite individuelle expliquant la production d'hydroélectricité

# sommaire

- Diapo n°4: tableau d'inférence
- Diapo n°5: correction
- Diapo n°6: act n°1: technical words
- Diapo n°7: act n°2: scheme of a plant
- Diapo n°8: act n°3: linking words to definition
- Diapo n°9: correction act n°3
- Diapo n°10: crossword
- Diapo n°11: final task: writing production explaining the functioning of an hydroelectric plant and its detailed scheme

Act n°1 I find some clues to understand the video and I fill in the grid

Title

Origin

Author

Nature

Aim

Composition

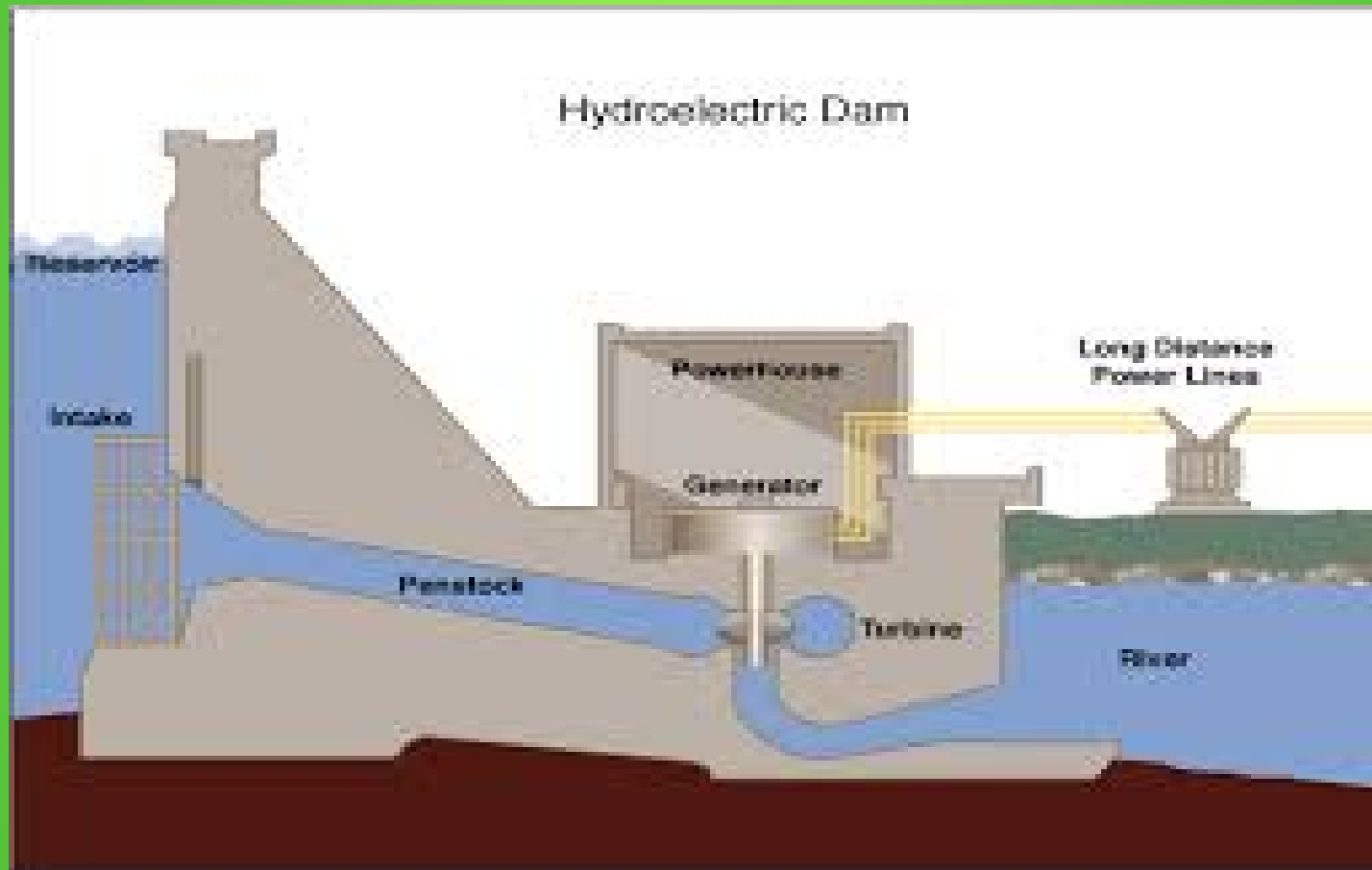
# Act n°1 correction

Title	Hydroelectricity documentary
Origin	Internet, youtube site
Author	Samson Loftin; kelly Scanlon
Nature	Cartoon, animated movie
Aim	Depiction of hydroelectric plant work
Composition	Two parts: <ul style="list-style-type: none"><li>- hydroelectric functioning</li><li>- comparison with other electricity productions</li></ul>

# Act n°2 I find some technical words

- Hydroelectric plant
- Power lines
- Dam
- Reservoir
- Intake
- Penstock
- Turbine
- Propeller
- Generator
- Shaft
- Power house

Act n°3 I look at the technical words on the following scheme



## Act n°3 I link technical words to their definition

- Hydroelectric plant
  - Dam
  - Reservoir
  - Intake
  - Penstock
  - Turbine
  - Propeller
  - Generator
  - Shaft
- A barrier of concrete, earth, etc., built across a river
  - the opening through which fluid enters a duct
  - A conduct that supplies water to a hydroelectric power plant
  - the land, buildings, and equipment used in carrying on the generation of electricity by water pressure
  - A device having blades rotating around a central hub to produce force
  - A building where electricity is produced
  - A large amount of water
  - A device where a moving fluid is converted into mechanical energy
  - any device for converting mechanical energy into electrical energy



## Act n°3 Link the technical words to their definitions (answers)

- Hydroelectric plant
  - Dam
  - Reservoir
  - Intake
  - Penstock
  - Turbine
  - Propeller
  - Generator
  - Shaft
  - Power house
- A barrier of concrete, earth, etc., built across a rive
  - the opening through which fluid enters a duct
  - A conduct that supplies water to a hydroelectric power plant
  - the land, buildings, and equipment used in carrying on the generation of electricity by water pressure
  - A device having blades rotating around a central hub to produce force
  - A building where electricity is produced
  - A large amount of water
  - Transmits motion or power: usually used of axial rotation
  - A device where a moving fluid is converted into mechanical energy
  - any device for converting mechanical energy into electrical energy
-

# Act n°4: INTERMEDIATE TASK: crossword

**hydroelectric power**

The crossword puzzle grid consists of 11 numbered starting points for words:

- 1: Down, 4 letters
- 2: Down, 5 letters
- 3: Down, 5 letters
- 4: Down, 5 letters
- 5: Down, 5 letters
- 6: Down, 5 letters
- 7: Down, 5 letters
- 8: Across, 5 letters
- 9: Across, 5 letters
- 10: Across, 15 letters
- 11: Across, 2 letters

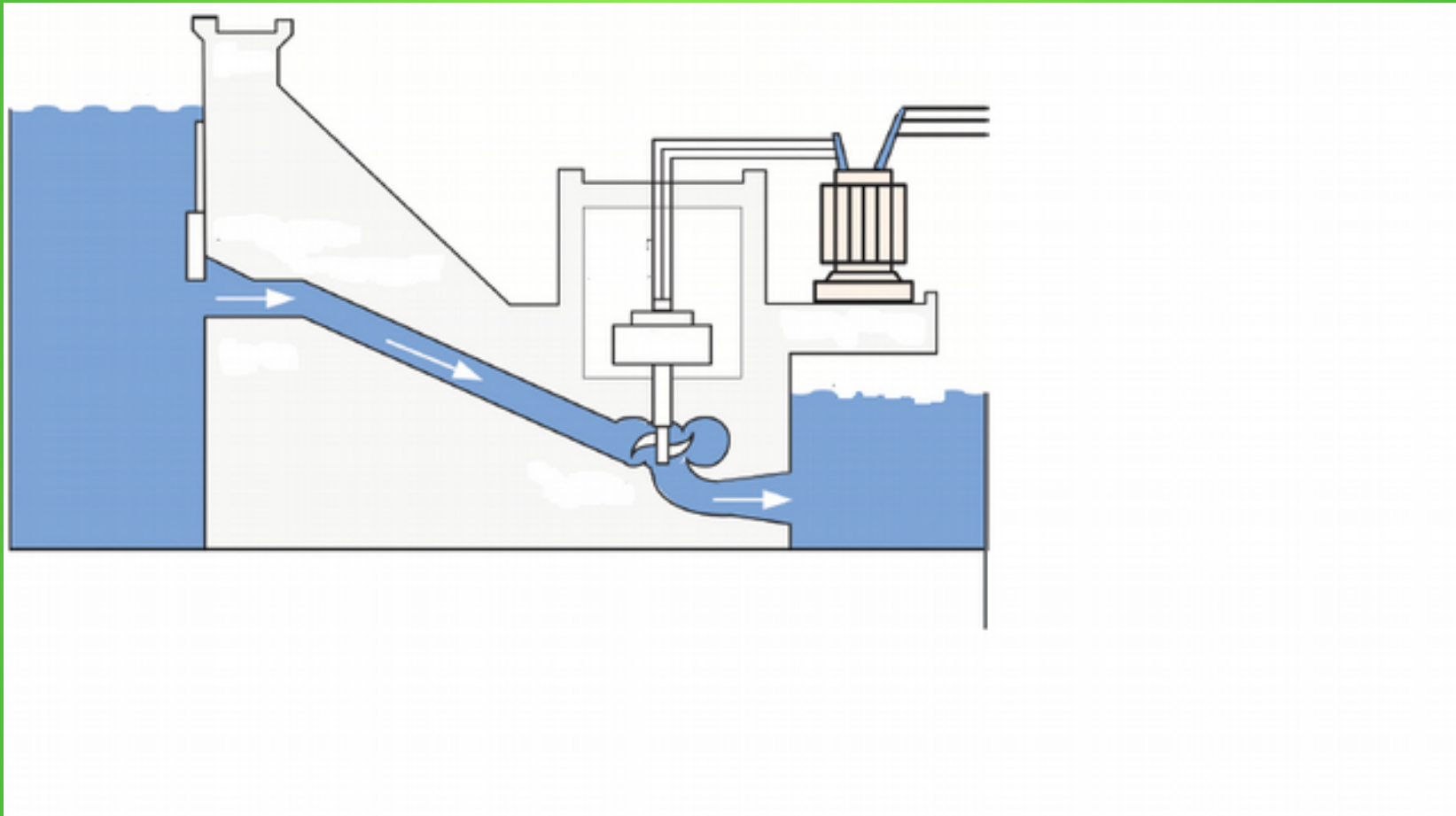
**ACROSS**

- 8 Conduite
- 9 Turbine
- 10 Corps de centrale
- 11 Entrée de l'eau
- 10 Centrale hydroélectrique

**DOWN**

- 1 Zola
- 2 Réservoir
- 3 Génératrice
- 5 Lignes électriques
- 7 Propulseur
- 11 Barrage

FINAL TASK : I write the technical words on the scheme and in a short production I explain how hydroelectricity works



# How hydroelectricity works: summary

At the beginning of the process, there is the reservoir which is the place where the water is stocked.

Firstly the water flows through the intake which is a structure which assure to get clear water without wastages or fish. Furthermore it starts to flow down through the penstock. Losing elevation, gravity gives water more strength in order to get more power.

At the end of the penstock, you find a turbine. At its bottom, there are propellers. When the water runs through the propeller , it begins to spin. When the propeller are spinning, the water above the propeller is spinning too.

This produces power to the generator which is located above the turbine and moved by a shaft. It converts mechanical power into electrical power. The generator is located in the powerhouse above. Power lines are connected to the generator in order to drive electricity to homes and businesses after having being transformed by an inverter.

After the water leaves the turbine, it flows back to the river. That's why this process is called a renewable resource.