The Eiffel Tower

1- The real construction

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a. What is it ?

b. Stage of a product life cycle

c. How to measure it ?

d. Ecological footprint of our model

The Real Construction

- The Eiffel Tower is a tower made of iron and it's set in Paris. It's 324m high. The design of this Tower was started in 1884 and finished in 1887, the construction started in 1887 and finished in 1889 that is to say 2 years, 2 months and 5 days. The inauguration took place on 31 March 1889 during the Universal Exhibition.
  It has received more than 200 million visitors since the inauguration.

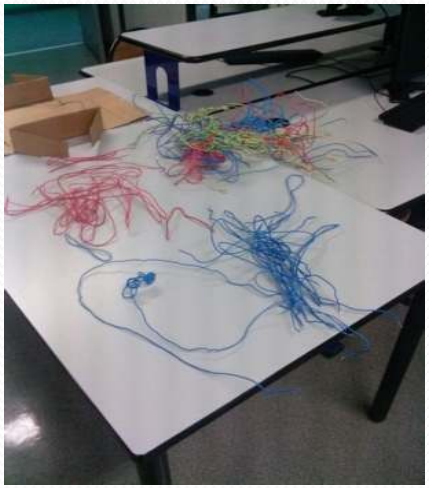
Building the model

- First stage: We went to the dump to find some electrical wire.

- Second stage : we took the electrical wire into the class room to begin the construction of our Eiffel tower.

Building the model

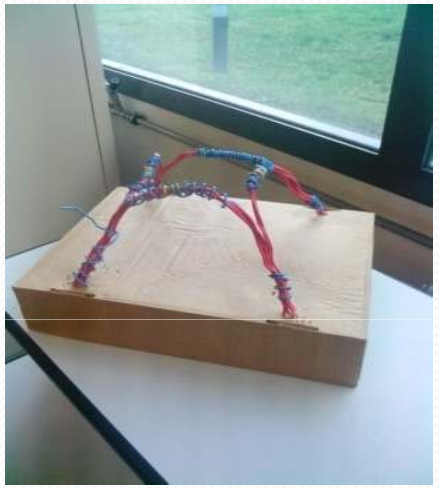
- For our construction we used cardboard for the ground, a cutter to cut the wire, then we twisted the wire to assembly the Eiffel tower.



Building the model

- Third stage: To begin the construction we made the first level, the pedestal.

- Then to build our construction we twisted the electrical wire.



Building the model

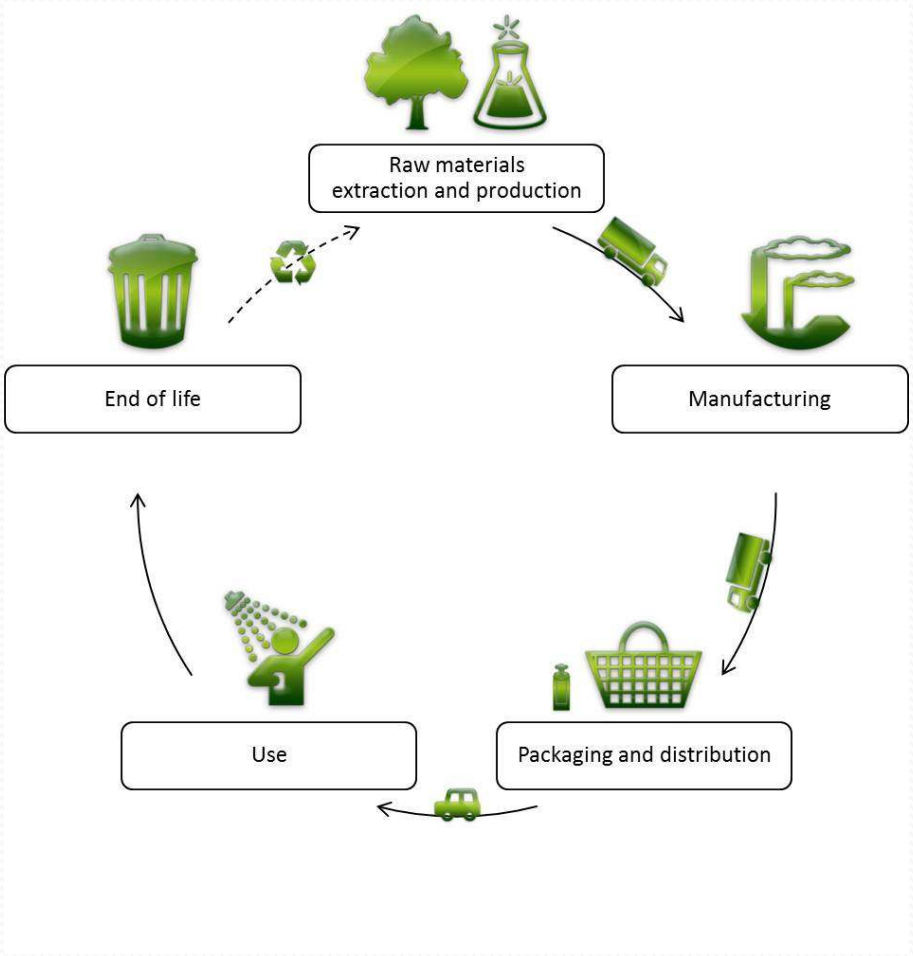
- Last stage: Finally we completed the top of the tower.

Ecological footprint of our model

- Ecological footprint: What is it ?

The ecological footprint is an indicator and Environmental Assessment mode which records the pressure exerted by human beings on natural resources provided by nature.

Stages of a product life cycle.



To measure this footprint we consider six major environmental issues:

- Green house gas emissions (CO_2)
- Impact on the quality of water
- human health
- emissions of toxic substances
- Impact on biodiversity
- Pollutants in the environment

Ecological footprint of our model

- **We used :**

- 100 g of cardboard
- 200 g of copper (electrical wire)

- **Emission coefficient for each material (French data):**

- Cardboard : 280 kg Carbon a Ton= 1025 kg CO_2 a Ton
- Copper : 1690 kg Carbon a Ton = 6200 kg CO_2 a Ton

- **Calculation :**

- For cardboard : 0.0001 x 1025 = 102.5 g CO_2 emission in the atmosphere
- For Electrical wire : 0.0002 x 6200 = 1.22 kg CO_2 emission in the atmosphere

Total : 1.325 kg CO_2 emission in the atmosphere

Conclusion

- **Our model rejected 1,325 kg CO_2 in the atmosphere.**
- **That's very awesome for so little a model !!!**
- **To reduce this emission, we should use materials with less ecological impact and we can recycle them.**

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