My eco-green house

Design of an ecological house model adapted to regional constraints and available local resources

Type of pedagogical project, activity, action, accompanying	**Creative activity for creation a house model**
Key words of relevant disciplines/ Pedagogical content	Energy consumption/ renewable energy/ natural resources/ sustainable development/ water/ risk/ waste/recycling/model
Problematic	**How can I make my home more ecological and less vulnerable to major risks?**
Thematic	Adaptation, water, energy, major risk, responsible consumption
Disciplines (sciences, geography)	*Technology, Sciences, Art*
Pedagogical Objectives/New targeted skills	**The students will be able to:** - Create, imagine a project taking into account a reality - Make a plan - Follow the steps of the project - Cooperate: define and respect an organization and task sharing within the framework of a working group. - Use his own creativity - Choose, organize and mobilize gestures, tools and materials according to the effects they produce. - Choose and use different techniques to represent the surrounding world… - Describe and question, using a specific vocabulary, his/her plastic productions, those of his/her peers and the works of art studied in class. - Justify choices to account for the process that leads from intention to realization.
Public target(s) (age, requested skills…)	12-15 years old

	Requested skills: Scientific knowledge on renewable energy, recycling, responsible consumption
Description (step by step)	**Step 1) Preliminary session**: Organisation: the class is divided into 6 groups of about 5 students. Each group works on a different ecological aspect to be implemented on the model. Example: Team 1) energy solutions (renewable energies adapted to the region: solar, wind, hydro) Team 2) water saving and recovery Team 3) the protection of the habitat against major risks (mainly: Mediterranean episode of extreme rainfall, flooding) Team 4) the integration of housing into an "eco-neighbourhood" (smooth movement made easier, location of the house) Team 5) the shape of the house and location of the house, building materials and ecological insulation (natural, local) Team 6) respect for the ecosystem, biodiversity (use of plants, etc.) Each group working on the design of an ecological model that respects environmental constraints. Find one (or more) ecological solution to implement (source: knowledge in various disciplines, additional research, examples of models) **Step 2)** Study of the plan; Preparation of a plan at a scale of 1/10 of the model for each student **Step 3)** Choice of the plan in the "team", Beginning of the realization of the model Distribution of tasks for the continuation of the work at home Review the progress of the work: to do this, the students will take pictures of their work.

	Step 4) Presentation of the models, evaluation
Place (meeting room, outside space, …)	Classroom, at home
Individual and / or collective actions	Individual and collective action
Material needed	Wood, cardboard, insulating materials, various recycled materials, "ecological", local, natural if possible
Duration of pedagogical project or activity	**3 sessions (not necessarily successive, completed by individual/work at home)**
Evaluation of the new acquired skills	- knowledge about materials - creativity - technicity - cooperation - using Sketchup software
Eco-citizen adaptation, knowledge enhancement and links to other topics	**Link to:** **Project:** - **"Adaptation to global change problems by creating an ecological house model "** - **Knowledge sheets:** - **"Adaptation to Climate change** - **What does Adaptation to Climate Change mean?"** **French:** To realise the model of the eco green house : https://www.fondation-lamap.org/fr/ecohabitat/eleves How to use the free Sketchup software that allows you to draw your house and visualise it in 3D

	Tutorial on drawing your house with Sketchup chapter #1 : drawing a house: https://www.youtube.com/watch?v=MiZ57EvWAwk The three main pillars of an ecological house : http://www.guidemaisonecologique.com/quest-ce-quune-maison-ecologique/ **English**: The work of realization is ideally completed by learning how to use the free Sketchup software that allows you to draw your house and visualize it in 3D. Tutorial on drawing your house with SketchUp, chapter #1 : drawing a house https://www.youtube.com/watch?v=MiZ57EvWAwk **ENG (Spanish/French):** A foot print calculator for youth https://calc.zerofootprint.net/youth/ **Greek:** http://www.cres.gr/energy-saving/enimerosi_bioclimatikos.htm (Energy Saving in housing sector) https://ec.europa.eu/clima/citizens/tips_el (tips for energy saving) **GR/SP/ENG/D**: game online http://myenergysmarthome.eu/ **Italian:** Link to articles to reflect on houses & sustainability**:** http://www.bioecogeo.com/ambiente-arredamento-cosa-scegliere-casa-impatto-zero/; http://www.duomoimmobiliare.it/magazine/191-abitare_sostenibile_consigli_per_una_casa_che_rispetta_l%E2%80%99ambiente_e_vi_fa_risparmiare.htmlAbout Passive House

	http://blog.dida-net.it/wp-content/uploads/2012/05/Casa_Passiva.pdf http://www.aipe.biz/mondo-eps/wp-content/uploads/sites/2/2015/10/EXPOCLIMA_Speciale82-CasaPassiva-bassa_feb_2015.pdf
Observations	

Pictures

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