

The Environmental Architect. Teacher's Guidelines.
From the shelter to the skyscraper.
An introduction to architecture for students of English language.
Anselm Pagès Muñoz

Introduction.

This is a cross curriculum course to be offered to students of English language in 4th of E.S.O.. It has the objective to introduce architecture and urban geography. At its centre there are environmental issues, construction solutions and historical processes in aesthetic and cultural terms. It has seven units:

- 1- Shelters.**
- 2- Materials and Construction.**
- 3- Structures.**
- 4- Home in Diverse Natural Environments.**
- 5- Architecture and Civilization.**
- 6- Cities: Large, Complex and Evolving Works.**
- 7- Approaches to a History of Architecture and Urbanism.**

It is a practical course edited with 2003 Microsoft Power-Point. It includes texts, pictures, drawings, audio-slide shows as well as listening and writing activities. (The movie of New Lanark is edited with Windows Movie Maker). The materials are mainly student and class centered presentations that place understanding and discussion at their centre.

There is a special interest in providing visual material and interactivity to enhance the comprehension of reading and listening texts. Every unit offers the possibility to develop new practical activities with a PBL approach. The quality and accuracy of the students' projects, presentations and contributions will provide consistency and coherence to these introductory materials.

Note. The general slide presentation of The Environmental Architect includes the solutions to all questions and problems. The teacher's Guidelines provides simple templates for the students and new exercises and ideas that will enhance the subjects of each presentation.

Before the use of these materials it is more than advisable to see and practice the interactivity that offers each one of the slides.

UNIT 1 Shelters. Teacher's guidelines.

Subject areas: Geography, Technology, Anthropology.

Created by: Anselm Pagès

For students: 4th ESO

Time needed: 10 Class periods.

Objectives: Students will learn about shelters, their natural environments, their structures and materials.

Students will increase and develop their knowledge of subject and content related lexis.

Students will develop all four language skills within a content-based context and will develop writing tasks and handcrafts skills.

Students will also do research and presentations using the internet and ICT.

Materials: Carpentry tools, scissors, paper, pen, pencil, projector, DVD, computer with internet access, maps and books.

Contents: - Nomad and regular homes. - Shelters and natural environment. - Which is which? And which is the easiest to build? - Caves. The underground cities of Cappadocia. – The tepee. – The yurt. - The Bedouin black tents. - The Igloo and the arctic regions. - Mud and adobe houses. - Research paper: Mud and adobe dwellings. - Thatched huts. - Timber and thatched houses. – Timber frames. - Hut on poles. - Stone constructions. – Evaluation: Good and bad shelters.

Procedure: A. Lead in: Dersu Uzala: Scene of the construction of a hut.

- What is the landscape in Siberia like?
- What is the vegetation like? Tundra, frozen land, etc.
- Talk about the whether conditions in Siberia.
- Why do they work so hard? (Use conditional sentences)
- What do they do to build the shelter? Grab and cut the tall grass.

B. Brainstorm about shelters. Types of construction, materials and locations.

Introduce vocabulary and ideas for possible shelters.

Concepts and procedures:

SLIDE 1: Nomad and Regular Homes. See the differences. Introduce basic concepts of materials, structures, durability.

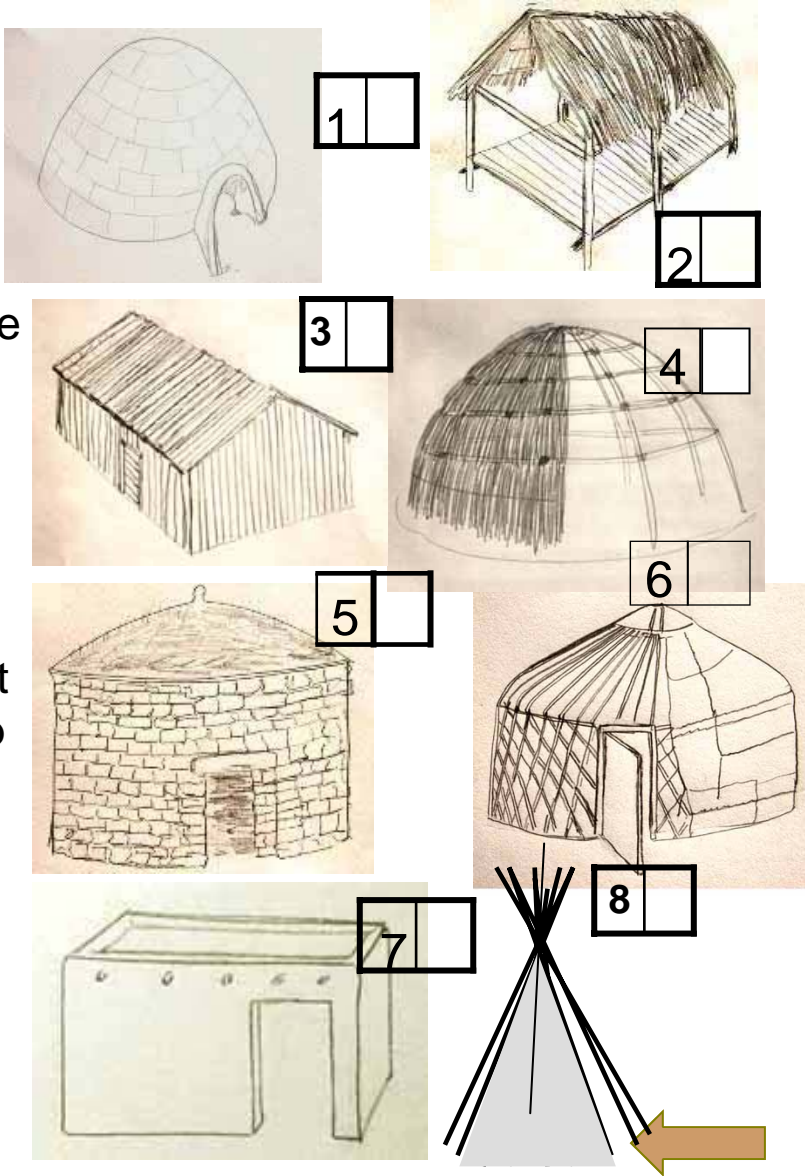
SLIDE 2: Shelters and Natural Environment. Introduce basic concepts of climate.

- a- See the names. Start introducing the correct vocabulary referring to the materials. (There are other slides focused on this issue.)
- b- Discuss about the climatic environments that make them suitable.
- c- Guess where these shelters could belong. See the world map and distinguish the continents and climates. See the shelters that correspond to each world region and match them.

cave	tepee	yurt	timber hut	hut on poles	igloo	desert tent	thatched huts	stone huts	adobe huts
Temperate climates	Movable and suitable in different climates.	Cold, windy. It is movable.	Woods, rainy	Rainy, Humid, Hot, places	Freezing temperatures	Hot, dry windy	Suitable in diverse environmental areas.	Suitable in diverse environmental areas.	Dry and hot regions

Which is which? And which is the easiest to build?

- A** - Tepees were made from animal skins and were constructed by the Native Americans.
- B** - The Eskimo or Inuit lived in igloos during the winter months.
- C** - In rocky areas, with scarce vegetation, stone constructions are very common.
- D** - Plank wooden houses are usual in cold regions with forests.
- E** - In the driest areas, homes were made from bundles of dried grass.
- F** - Regions with heavy rains have shelters built on poles and thatched roofs. The poles keep the dwelling away from the flood.
- G** - In hot and dry areas homes could be built from, earth, dung, branches and sometimes with baked clay. Roofs tended to be flat.
- H** - Like tepees, these shelters are movable constructions and were introduced by Mongolian shepherds.



SLIDE 4: **Caves. The First Human Dwellings.**

Find caves in the area where we live. Ask the students if they have been to any caves. What were they like. What uses have been identified to caves? What are their origins? Etc.

SLIDE 5 : **The Underground Cities of Cappadocia.**

The underground cities of Cappadocia. Location, origin, functions, etc..

SLIDE 6 : **Making an Underground City.**

Introduce and practice the vocabulary and the present continuous tense.

SLIDE 7: **Research Activity. Find Your Favourite Cave.** The use of this web-page www.showcaves.com will give the possibility to find information about caves all over the world, Students get information, pictures and descriptions so they can prepare their own power point presentations of a single cave.

Practical activity: The Construction of a Shelter. Students will decide the model of shelter they will build. There are specific slides for each type of shelter that can be worked out according to the students' interests.

SLIDES 8-9-10. **The Tipi or tepee.**

Some parts of the film **A man named Horse** can give some ideas of how Native American lived. Students who decide to build a tepee will have copies of these slides and work them out. The film - **A Man Named Horse** shows beautiful scenes with tepees.

<http://www.nativeamericans.com>

<http://www.greatdreams.com/native/nativehsg.htm>

SLIDE 11-12-13. **The Yurt.**

Some parts of the film **The Cave and the Yellow Dog** can give some ideas of how shepherds live in Mongolia. Students who decide to build a yurt will have copies of these slides and work them out.

<http://www.yurtinfo.org>

<http://www.yurtpeople.com>

<http://www.chaingang.org/yurtquest/links.html>

SLIDE 14-15. **The Bedouin Black tents.**

- Some parts of the film **Laurence of Arabia** can give some ideas of how people in the desert live.
- Listening activity on the text **The Bedouin Black Tents.**

<http://www.geographia.com/egypt/sinai/bedouin02.htm>

SLIDE 16. **The Igloo and the Arctic Regions.**

Introductory questions about the climate conditions in the Arctic.

<http://www.kstrom.net/isk/maps/houses/igloo.html>

SLIDE 17. **The Arctic Environment.** Reading comprehension.

SLIDE 18. **The Igloo.** Reading comprehension

SLIDE 19. Check the answers.

SLIDE 20. **Mud and Adobe Houses. Pictures** Discuss about the appropriate climate for this sort of construction.

SLIDE 21. Reading comprehension. Questions and answers.

SLIDE 22. **Make an Adobe Hut.**

SLIDE 23. **Research activity: Mud and Adobe Constructions.**

SLIDE 24. **Timber Huts.**

See the pictures, the materials, the type of structures being used and the names of the parts.

SLIDE 25 **The Frame.** The film **Witness** has an excellent scene where a wooden frame structure is built.

SLIDE 26 **Thatched Huts.**

SLIDE 27. **The House on Poles.** Name the parts. Introduce the subject with climate considerations.

SLIDE 28. **A House on Marshlands.** Reading comprehension with questions.

SLIDE 29- **Make a model of a timber and thatched hut.**

SLIDE 30. **Stone constructions.** Introduction.

SLIDE 32. **Stone constructions.** Reading comprehension. Questions and answers

SLIDE 33-35. **Research Activity: Good and Bad Shelters.**

Map of the world.

OTHER RESOURCES: www.geocities.com/continents_2000

www.enchantedlearning.com/geography/continents/

www.uen.org/curriculum/html/ourworld/index.html

www.ri.net/schools/Central_Falls/v/218/t7con.html

www.childrensatlas.com/intro.html

General evaluation.

- The paper copies of class activities should be completed and returned.
- Amount of research input and oral presentations carried out after the slides.
- Construction of a model of one of the shelters.

UNIT 2- Materials and construction. Teacher's guidelines.

Subject areas: Geography, technology, natural sciences,.

Created by: Anselm Pagès

For students: 4th ESO

Time needed: 6 class periods.

Objectives: Students will be familiarized with the most common construction materials, their properties, uses and environmental characteristics.

Materials: Paper, pen, pencil, projector, computer with internet access, samples of the materials mentioned throughout the unit.

Contents: - Natural materials. - Artificial materials. Properties of materials. - Materials and uses. - Environmentally friendly materials. – Construction and environmentally friendly materials.

Suggested Procedure: The use of pictures certainly helps to introduce the contents of this unit, however, it is highly advisable to use samples of materials. By touching and holding the materials students can have a much more realistic approach that will help to understand and identify the different characteristics of each one of the materials. Every slide can be extended when using these samples before, during and after their presentation. The samples can be either brought by the teacher or by the students.

Activities with samples:

- a- Bring a bag with different samples and let the students touch them so they can describe them by referring to their texture, weight, elasticity, etc.. This can help to practice their names and characteristics.
- b- Guess what it is. One of the students will pick out one of the samples and the rest of the group will have to guess it by making questions that require yes or no answers. This practice will reinforce the use of nouns, adjectives, adverbs and verbs?
Examples. - Is it marble? - Is it heavy? - Is it in the school?
Can you find it the bathroom of a house? Etc.

Concepts and procedures:

SLIDE 1. Identify the different materials.

Listening: Bamboo

Follow the steps of the power point presentation. Before proceeding to the third slide, the students can write an approximate story by using the pictures. The third gives the solutions.

1	2	3	4	5	6

SLIDE 2. Describe the characteristics of each one of these materials. Make a list of natural materials.

SLIDE 4. Match the descriptions with the names of rocks.

1	2	3	4

SLIDE 5-7. The Artificial Materials:

- Make a list of artificial materials, describe them and prepare quizzes. Compare your descriptions with the ones provided on these slides.

SLIDE 8. Practice the terminology of nouns and adjectives.

	Heavy	Hard	Flexible	Shiny	Translucent	Smooth	Waterproof	Heat-resistant
Stone								
Adobe								
Clay tile								
Brick								
Timber								
Concrete								
Steel								
Alumini								
Iron								
Fibres								
Plastic								
Glass								

SLIDE 9. Write comparative sentences and practice the different types of comparison. The samples of materials will provide a real context to the activity.

SLIDE 10-11. Fill in this table and describe other materials.

Dark				Light
Light				Heavy
Hard				Soft
Flexible				Rigid
Rough				Smooth
Transparent				Opaque
Synthetic				Organic

SLIDE 13. **Properties of Materials.** By showing each one of the materials we can define their properties.

SLIDE 14. **Materials and Uses.** Match the pictures, the names of the materials and the uses.

A	B	C	D	E	F	G	H	I	J	K

SLIDE 15. **The Environmentally Friendly Materials.** This slide gives us the possibility to do some research in the origin and characteristics of materials. Each one of the materials can be accurately described.

SLIDE 16. **Construction and Environmentally Friendly Materials.**

Ask the students to bring pictures of a favorite house.

a) The warming up activity comes from discussing the two first questions.

What are the advantages of recycling?

Is recycling an economical solution in all the circumstances?

b) Read the text and ask the students to complete the chart so they identify the materials used in their chosen house.

When the charts are finished compare the houses and select the most environmentally friendly houses.

SLIDE 17. Compare a thatched and tin roof. Produce new superlative sentences .

SLIDE 18. **Construction and Environmentally Friendly Materials.**

SLIDE 19. **Listening.** Listen and guess the material.

SLIDE 20. **Evaluation.** Build a model of a shelter with recycled materials.

Research and practical activity: Describe its parts and decide its suitable location by making a description of the environment.

Resources:

<http://www.naturalbuildingnetwork.org>

<http://earthship.org>

www.greenhomebuilding.com/emergencysHELTER.htm

www.livingsHELTER.com/ecofaq.html (Straw constructions)

General evaluation:

- Class participation and production of quizzes.
- The completion of writing, listening activities and craftworks.
- The adequate use of adjectives.
- The extension activities should meet the stated requirements on the subject area
 - They should include an overview of the subject.
 - Visual aid.
 - Variety and use of sources.
 - Evidence of all team members' contributions.
 - Efficiency and clarity of presentation.

UNIT 3. Structures. Teacher's guidelines.

Subject areas: Technology, Natural sciences, History.

Created by: Anselm Pagès

For students: 4th ESO

Time needed: 10 class periods.

Objectives: Students will learn about the principles of structures; Systems, forces, etc

Materials: Paper, pen, pencil, ruler, stapler, clips, tape, DVD, projector, computer with internet connection.

Contents. Nature and Man Made Structures - Basic structural principals and systems. Trabeated system. - Arcaded systems. – Triangular, cable and membrane systems. - Materials and structures. Frame structures. - Forces and requirements of materials and structures.

Concepts and procedures:

SLIDE 1. Natural and Artificial Structures. Think of other natural structures and get new pictures.

SLIDE 2. Nature and Man Made Structures. See the main types of structures: Frame, shell and a mixture. Find the correct words corresponding to the pictures. Identify the different types of structures in the surrounding landscape and city.

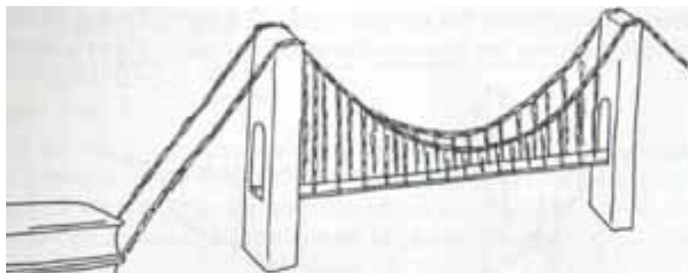
SLIDES 3-4-5. Basic Structural Principles: Apply them to class objects such as tables, chairs or shelves.

SLIDES 6. Which of these materials are good at responding to compression and tension forces? Use real samples of materials to describe their characteristic response to these forces.

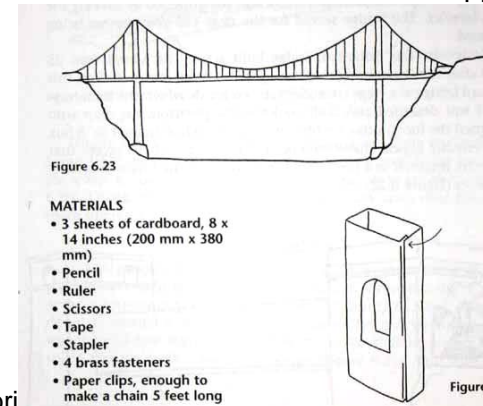
SLIDE 7-10. Basic Structural Systems. The trabeated and the arcaded systems.

SLIDES 11-13. The Triangular, Cable and Membrane systems. The **documental report of the The Bridge on the River Kuai**, can introduce these slides. Find new examples of different structural systems.

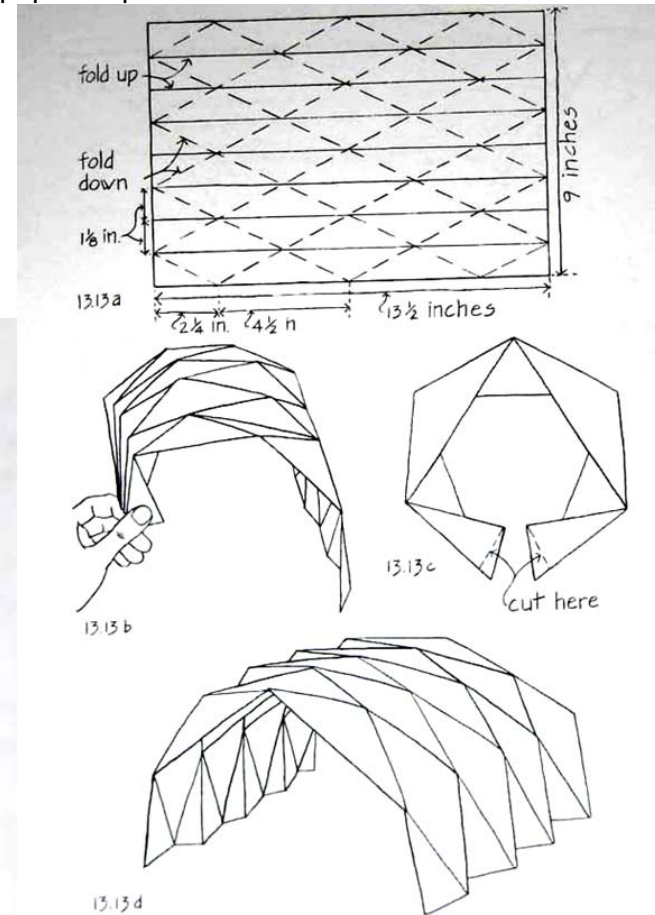
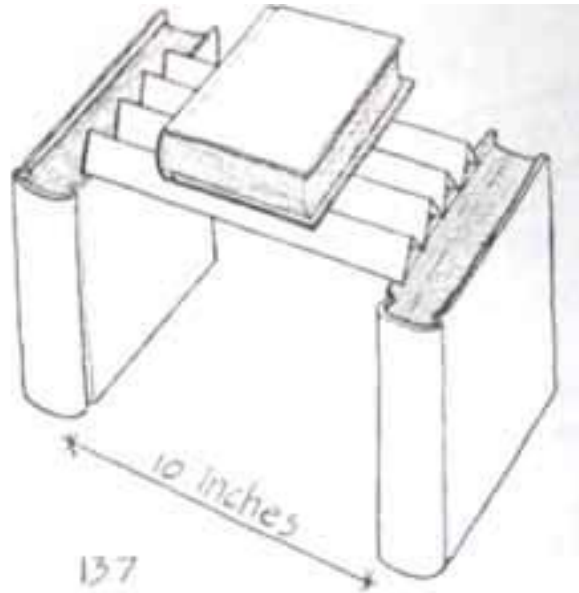
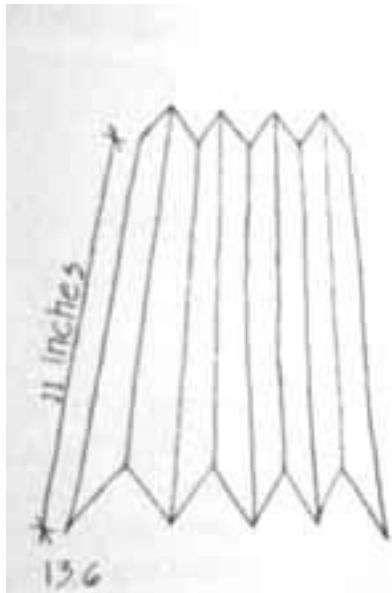
SLIDES 14-15. The construction of a bridge using clips can provide the first steps to understand the forces that have to be supported.



Drawings : Mario Salvatori



SLIDES 16. Membrane Systems. The production of simple models with paper helps to understand these structures.



Drawings : Mario Salvatori

www.intents.be (membrane constructions.)

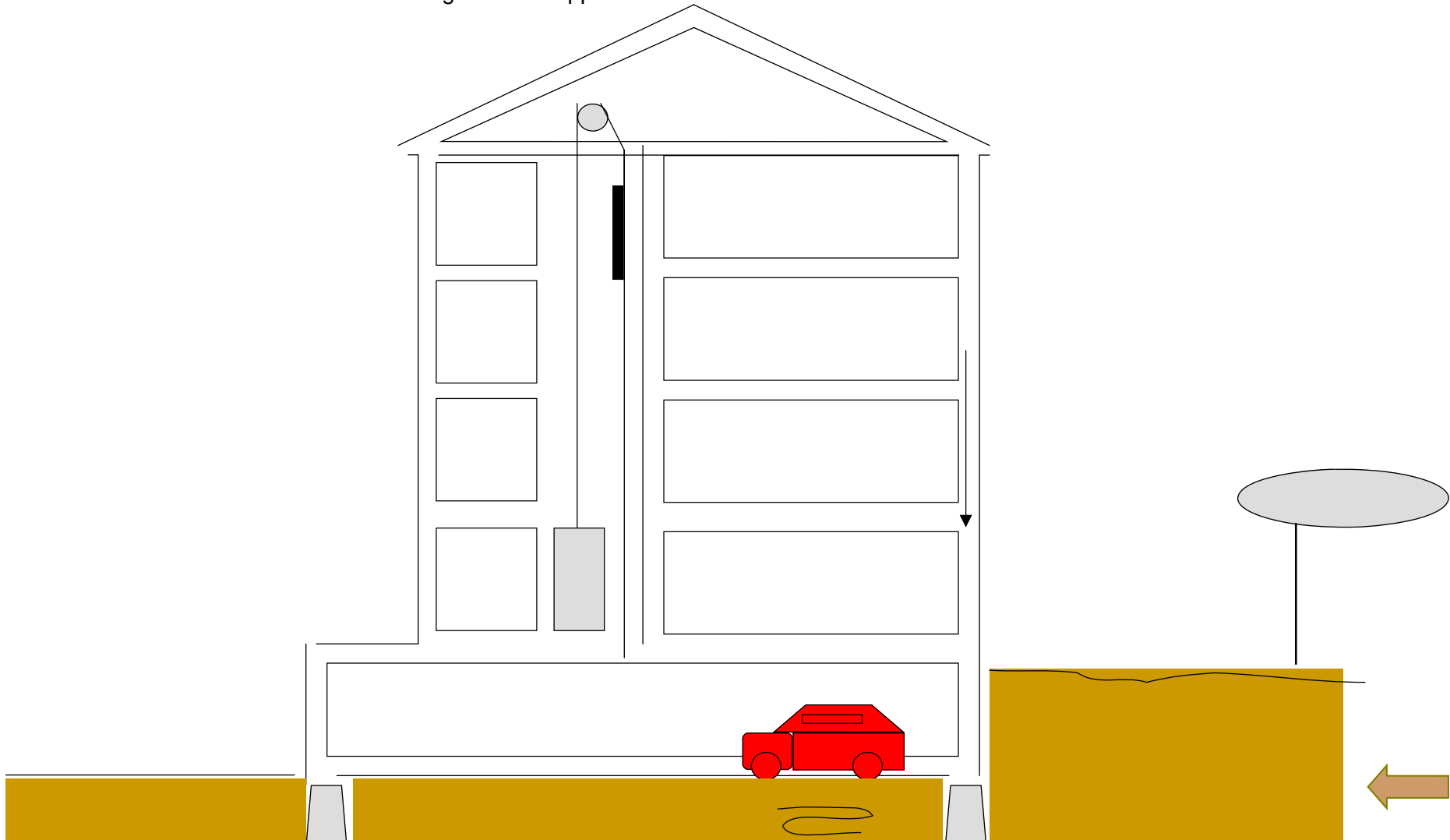
SLIDES 17-18: Evaluation. These slides include examples of structures. A) They can be described and ordered in pairs. B) Find new examples of structures.

A	B	C	D	E	F	G	H	I	J	K	L

SLIDE 19: Materials and Structures. Try to understand the elements that support these two constructions and get pictures of other famous constructions.

SLIDES 20 – 27. Frame Structures. Introduce these two questions :

- 1- What are the forces that materials and structures have to support?
- 2- What does a building need to support all these forces?



- a) Split the class in groups so they write all the possible forces and requirements. Share all the information from all the groups.
- b) Continue with the power-point presentation and check if all the issues have been included.
- c) There are further extension in this unit referring to types of foundations, insulating materials and structures, types of walls, roofs, etc.

SLIDE 28: Evaluation: Millennium Bridge. Research activity: Describe a structure of a building.

General evaluation:

- Class participation and production of quizzes.
- The construction of paper models as well as any other handcrafts activity.
- The research input and oral presentations carried out during and after the slide presentations.
- The variety and use of sources and materials.
- Evidence of all team members' contributions.
- Efficiency and clarity of the power point presentation of a building or a structure.

UNIT 4- Home in diverse natural environments. Teacher's guidelines.

Subject areas: Geography, History, Social Studies, .

Created by: Anselm Pagès

For students: 4th ESO

Time needed: 10 class periods.

Objectives: Students will learn about the geographical characteristics of architecture throughout the world. The influence of the environment, the different world climates and the corresponding constructions

Materials: Paper, pen, pencil, projector, computer with internet access, maps, books and DVD.

Contents.

- Home and Nature in a diverse world. – A World Full of Architectonic Treasures. - Clues for a Comfortable House. - Constructions and cities in different environments. - A Traditional House on the Balearic Islands. - A Traditional House in Scotland. - The Climates in the Tropics. - The Rainforest. - Building in the Humid Tropics. - The Desert and the Savannah. - Building in Dry and Hot Regions. - Altitude; Another Climatic Factor. – Climate Change and Global Warming.

Concepts and procedures:

SLIDE 2- Identify the natural environment of a house by looking at its characteristics. Identify the traditional characteristics of a house in your geographical region.

SLIDE 3- Clues for a Comfortable House. Once we have put in common all the ideas, we can proceed to discuss about their role and to complete the sentences of this slide. These are the elements that appear on the slide: Roofs, orientation, walls, windows and wall openings, accessibility to water and food.

SLIDE 4- A Traditional House on the Balearic Islands.

Complete text. These are the required expressions: - poor rainfall - the dry and hot - fierce sunlight - relatively flat roofs

In the Southern Mediterranean countries, houses have _____ and white washed walls. The _____ explain the need to include water pipes that collect the water in tanks. This has proved to be essential during _____ Summer months. The inclusion of thick walls and porches preserves the house from the _____ and at the same time helps ventilation at night.

SLIDE 5 - A Traditional House in Scotland.

Practice and be familiarized with the vocabulary of houses in cold and rainy regions. Use the following expressions:

Complete the text. These are the required expressions. Warm thatched roofs cool heat thick

In this **Northern European** country, there are frequent rains and low temperatures. Irish houses used to have low ceilings with _____ and _____ walls so as to preserve the _____. Thatch is an ideal roofing material; _____ in summer and _____ in winter.

SLIDE 6- The Climates in the Tropics. Look at the world map and distinguish the different climatic regions according to Koeppen's climate classification.

SLIDE 7- The Rainforest.

Complete using these words : little storms on the Equator bamboo

The warm, humid regions and tropical rainforests, monsoon regions and humid savannas are _____. The rainforest is hot and humid with _____ yearly differences. The regions in the Southern hemisphere have _____ 120-140 days of the year. These conditions make life for people difficult to tolerate. The vegetation is impenetrable with wet ground, men need to clear the forest so as to build their settlements. The traditional materials for building in these regions are timber, _____ and grass or palm fibres.

SLIDE 8- Complete the text using these expressions: roof thin walls wood marshlands

A home in the humid tropics must be protected from heat, strong solar radiation, high levels of humidity, torrential rainfall and floods. Houses are mostly made of _____, bamboo and palm tree. These materials are collected and treated in the same location or nearby. Traditional buildings are open and have well ventilated spaces to favour dryness. They have a _____ made of leaves and fibres and _____. Their main floor is elevated so as to avoid humidity. Villages and homes can be built in any clearing of the woodland or even on _____ following a scattered pattern

SLIDE 9- The Desert and the Savannah.

Complete using these words : low thorny woods to the two tropics extreme - Clay and stone

The savannah regions have two seasons; hot/dry and warm/humid. These seasons vary from the Northern to the Southern hemisphere. Deserts, semi-deserts, steppes and dry savannahs are close _____. These regions are characterized by high pressure level, strong solar radiation, dryness, low precipitation, strong winds that cause sand storms and _____ temperature differences between night and day. The fertile ground is scarce and there is practically no vegetation; mainly high grass and _____ with individual trees. _____ are traditional building materials. They have good thermal insulating qualities. Timber is not easily available and must often be transported from other regions.

SLIDE 11- Building in Dry and Hot Regions.

CLAY AND STONE FLAT TEMPERATURES CLUSTER AND COMPLEX VILLAGES NARROW CROPS

Towns and villages in dry savannahs favour building in (1) _____ that are sometimes erected in huge open territories. High temperatures and wind storms need to be countered with thick walls and (2) _____ streets so as to avoid sun exposure and high dryness. Roofs are almost (3) _____ and often have means to collect rain water in tanks below. (4) _____ provide proper insulation in lands where (5) _____ can change dramatically from day to night. Homes tend to be located in the most fertile lands to preserve (6) _____.

SLIDE 12- Altitude. Another Climatic Factor.

A		
B		
C		

Find other examples of climatic variations due to altitude. The Death sea, the Pyrenees, etc.

SLIDE 13- Climate Change and Global Warming.

A- The introduction will discuss about

- a - What is the main cause of Global Warming.
- b - What consequences can this phenomenon cause?
- c - Name some of the most recent climate disasters?

B- The students will view a selection of scenes from An Inconvenient Truth, by Al Gore.

C- ACTIVITY: As a result of global warming, traditional constructions in regular locations may no longer be suitable.

- a- Decide a city where you would build a durable house. Locate it in a map.
- b- What will it be like? Materials, structure, appearance
- c- What sources of energy will it use?

SLIDE 14- Evaluation. Constructions in different environments

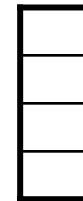
Match the descriptions with the pictures.

- 1- Flat roofs and adobe walls.
- 2- Thatched roofs with palm leaves and bamboo.
- 3- Wooden floors and walls with slate roofs.
- 4- Stone walls and tile roofs with wall openings.



SLIDE 15- Evaluation. Environments for different constructions.

- 1- Hot, dry, desert area with very scarce rains and extreme temperature changes.
- 2- Temperate area with some rains in the Spring and Autumn.
- 3- Cold region with frequent rains and snow.
- 4- Hot and rainy region with slight temperature differences throughout the year



SLIDE 16-. Regions and Cities. The activity can be extended by asking the students to bring their pictures of cities.

A		
B		
C		

SLIDE 17-. Research activity: A World Full of Architectonic Treasures.

SLIDES 18-19-. **Research activities.** The suggested presentations will be carried out by each group of students. They will use a power point editor. Special emphasis should be given to explain the relationships between dwelling and natural environment.

General Evaluation.

- The paper copies of class activities should be completed and returned.
- Research input and oral presentations that can be carried out after most of the slides.

The extension activities should meet the stated requirements on the subject area.

- They should include an overview of the subject.
- Variety and use of sources.
- Evidence of all team members' contributions.
- Efficiency and clarity of presentation.

UNIT 5 Architecture and civilization. Teacher's guidelines.

Subject areas: Geography, History, Social Studies, Anthropology.

Created by: Anselm Pagès

For students: 4th ESO

Time needed: 10 class periods.

Objectives: Students will learn about the cultural characteristics of architecture throughout the world. The processes of innovation and the persistence of tradition. Students will be introduced to the identification of architectonic shapes, plans and fronts.

Materials: Paper, pen, pencil, blackboard, screen projector, computer with internet access, maps and books, loud speakers.

Extensions: Students may be required to produce materials as stated in the procedures of each slide. To carry out of these activities they will need some extra time.

Contents: Cultural tradition in construction throughout the world. - Colonial architecture. - The world and the durability of buildings in the different countries. - When tradition does not stimulate innovation. A case study: Myanmar. - When tradition inspires innovation. A case study: the Netherlands. - Tradition and innovation in architecture. Which one was first? - Function in architecture. - Function and shape in time. - Clues to understand function. Which is the odd one out? - Shapes in architecture. - Temples: Plans and fronts. - Architecture and the making of spaces

Concepts and procedures:

SLIDE 1- Introduce the lesson by asking about the relationship between architecture and civilization. Discuss about the impact of culture in the building processes. Read the introductory text and see the table of contents.

SLIDE 2- Identify the location of these pictures. Students should bring other pictures and produce a similar slide.

- SLIDE 3- Identify the descriptions with the pictures to enhance reading comprehension. Students can produce descriptions with their own Pictures.
- SLIDE 4- Cultures and architecture. See that architecture also acts as a cultural imposition in the territory. Architecture is not only a functional response to natural environmental features, it is a product of a certain period and it evolves differently in each territory. However, it is fundamentally a man's work, and therefore it can evolve in different locations. Architecture is a globalized activity.
- SLIDE 5- Study these examples of colonial architecture and find new ones.
- SLIDE 6- The traditional types of construction vary from one region to another. Here we can compare the actual size of the countries, the number of people that inhabit them and the durability of their houses. Highly populated African areas seem to have no houses while other less populated developed regions appear very large.
- SLIDE 7- 8. Two examples of opposite concepts of tradition versus innovation. Read and compare the examples of Myanmar and The Netherlands. **Research activity about The Netherlands.** <http://edcwwwcr.usgs.gov/earthshots/slow/tableofcontents>
- SLIDES 9- Function and culture. We can still find interesting examples of how cultures determine function despite the rapid processes of globalization in architecture. Traditional rural architecture has suffered great transformations since it started its modernization in the last decades. The traditional house has changed. Students can help to find other examples.
- SLIDE 10- This reference world map has links to the countries mentioned in the unit.
- SLIDE 11- Function in Architecture. Distinguish the different types of construction according to their uses.
- SLIDE 14- Function and Shape in Time. The changes of functions in time are also visible in the change of shapes. New needs have appeared as new materials and shapes have evolved. Produce a chart and write down the different types of buildings.
- SLIDE 15 - Clues to Distinguish the Uses of a Building.
- SLIDE 16-17. These two slides are designed to encourage observation. Ask students to bring other pictures of different constructions so they identify their uses.
- SLIDE 18 -19 – These two slides include listening activities.
- SLIDE- 20 Distinguish the combination of the geometrical shapes that buildings have.
- SLIDES 21- 22. These two slides introduce students to the observation of plans and fronts in architecture. This will help us to understand a building and it is essential to produce a model of a building.
- SLIDE 23 - 24 Architecture and engineering have long been globalized. This is an exercise that aims to show the students that ideas, styles and technology rapidly spread throughout the world.
- SLIDE 25- This slide summarizes some of the main issues that have appeared in this unit.

Architecture and the Making of Spaces. Complete the text with:
decorative materials functional cultural structures shapes

The use of _____, _____ and the design of _____ go along with aesthetics. Our likes and dislikes often determine our approach to architecture and cities. However, good architecture and urbanism combine the _____ and _____ features in a larger context where the natural and _____ environment play decisive roles.

SLIDE 26 Research and presentation activity. It will be carried out in small groups of students.

- General Evaluation.**
- The paper copies of class activities should be completed and returned.
 - Research input and oral presentations that can be carried out after most of the slides.
 - The extension activities should meet the stated requirements on the subject area
 - They should include an overview of the subject.
 - Variety and use of sources.
 - Evidence of all team members' contributions.
 - Efficiency and clarity of presentation.

UNIT 6. Cities, Large and Evolving Works. Teacher's guidelines.

Subject areas: Geography, History, Social Studies.

Created by: Anselm Pagès

For students: 4th ESO

Time needed: 10 – 12 class periods.

Objectives: Students will learn about the reasons of cities, their growth, functions, shapes and the characteristics of our urbanised world.

Materials: Paper, pen, pencil, projector, computer with internet access, maps and books, DVD & projector.

Contents.

- A personal approach to cities. - Reasons for the settlement of a city. - Cities; Design, Growth and Limits. - The World's Oldest and Most Populated Cities. – Cities; Locations, Skyslines and Layouts. – City Shapes. - Functions and Urban Land Uses. - Historical Changes in City Shapes and Functions. – The Urban World and its rapid growth. – The 10 Largest Cities in the World. – Slum population.

Suggested Procedure: After a teacher's presentation, students will be working in small groups that will go through diverse discussions, research and presentation activities.

SLIDE 2 - Introduce the unit by asking about the students' views of cities. The questions on the slide will give elements of discussion.

SLIDE 3 - The natural, the social and cultural causes for the settlement of a city. Think of towns and cities and make use of maps so that all the places are geographically located.

SLIDE 4– Continue discussing about the design, growth and limits of cities.

Students work in teams and select cities that were founded and settled according to diverse purposes.

SLIDE 5- The World's Oldest and Most Populated Cities. Distinguish the main periods.

SLIDE 6-7 The cities that appear in these slides coincide in the fact that they all have good water communication facilities. Student will produce similar descriptions of other cities and organise quizzes.

SLIDE 8- See the suggested city shapes and ask the students to find other cities that are shaped according to the models. Although all these shapes can be found in recently planned cities, their origin can some times be traced to specific periods and regions. Cities commonly combine a variety of patterns. Lay out observation can lead us to understand historical periods of growth and also the topography of the region.

- a- The grid pattern has had an old and long application. It has been the most common pattern of urban growth since the first Greek settlements to newly planned colonial towns. It is practical, adaptable and easy to establish. Notice that the Grid pattern of Barcelona is quite special for its octagonal final shape.
- b- The development of the radial pattern is mainly related to baroque urban planning. Some parts of Rome and Paris as well as the lay out of Versailles and Washington have very much in common.
- c- The irregular pattern is often identified with medieval towns. Some 19th century urban developers related with the city garden movement also experimented with this type of pattern as it was considered to be better related with nature. Sometimes it is the work of spontaneous city growth.
- d- The concentric model puts emphasis in a central core area that generates a number of ring shaped quarters around. The specific features of Amsterdam can't be taken as a model. However, this pattern has been applied in some newly planned cities as New Delhi
- e- The scattered pattern is often considered the outcome of spontaneous growth. It is a traditional model in hot and humid tropical areas.

SLIDES 9- Ask the students to make a list of the different land uses in a city. Once they have it complete, we ask them to produce a map with their distribution. Once the activity is finished we discuss about their coincidences and contrasts with the urban models provided in the slide.

SLIDE 10-12 Bring a map of Barcelona and ask them to identify the different periods of growth.

SLIDE 13. **Evaluation. Research activity.** Centre the activity on the cities where the students live. They should give explanations to understand the growth, design and land uses of these cities.

SLIDE 14. The Urban World. Discuss about the information of the graphic. The impact of the industrial revolution and the fact that almost 2/3 of the world population live in urban areas.

SLIDE 15- Compare the distribution of population with the regions with access to electricity. Find other statistics referring to access to drinking water, petrol, cereals, etc.

SLIDE 16-17 A Rapidly urbanizing world. Study the graphics of population and urban growth presented on these slides before proceeding to discuss the questions.

SLIDE 14-15. The 10 largest cities in the World. Locate them and find out about the reality of these metropolises. Some cities have extra information and **Sao Paulo** includes an audio-slide show with listening activities.

LISTENING: Haves and Have Nots in an Urban World.

- 1- Where will most people live in the near future?
- 2- What is the most common type of dwelling for the new city dwellers?
- 3- How many cities have got more than 8 million inhabitants?
- 4- What is a characteristic in most of big cities?
- 5- Why did she go to Sao Paulo?
- 6- Is she happy in the city?
- 7- What is her job and salary?
- 8- What's so special at the commercial centre of Dalsu?

SLIDE 16. Slums and slum population. Shanty towns, Favelas, Bidon villes, barracas, etc. Different expressions words to describe the poorest districts in cities.

SLIDE 17. Research Activity. Present a metropolis.

Resources

- www.un-habitat.org
- <http://whc.unesco.org/en/254>
- <http://www.peopleandplanet.net/doc.php?id=2950>
- http://www.learnquebec.ca/en/content/curriculum/social_sciences/sec_geography/resources/metropolises/
- <http://www.architectureforhumanity.org/programs/Settlements/index.html>
- <http://www.urbanology.org/content.html>
- <http://www.urbanology.org/ghettospaces/housing.html>
- http://www.ucl.ac.uk/dpu-projects/Global_Report/TOR.htm
- <http://www.organicity.org/architecture/organicity>

- General evaluation.**
- The paper copies of class activities should be completed and returned.
 - Amount of research input and oral presentations carried out after most of the slides.
 - The extension activities should meet the requirements on the subject area.
 - They should include an overview of the subject.
 - Variety and use of sources.
 - Evidence of all team members' contributions.
 - Efficiency and clarity of presentation.

UNIT 7. Approaches to a History of Architecture.

Subject areas: Geography, History, Social Studies.

Created by: Anselm Pagès

For students: 4th ESO

12 – 15 Class periods depending on the inclusion or not of the listening and research activities

Objectives: Students will learn some issues related to; The history of architecture and cities; The social changes that urban societies have introduced; The history of art and architectonic styles. The use of visual support is especially important in this unit for it will enhance the identification of styles in constructions, events, etc.
Students will produce their own presentations on historical issues.

Materials: Paper, pen, pencil, projector, computer with internet access, maps and books, DVD, projector.

Contents.

Historical periods from 3200 BC to 1600, Architecture, countries civilizations, cities, historical movements, styles, people and events.

Historical periods from 1600 to 1900, Architecture, countries civilizations, cities, historical movements, styles, people and events.

Some facts about the industrial revolution. The Industrial Revolution and the transformation of cities.

Resources: www.thebanmappingproject.com
<http://oi.uchicago.edu/OI/MUS/ED/mummy.html>
<http://nefertiti.iwebland.com/history.htm>
<http://khufu.3ds.com/introduction/>
<http://www.egyptianmuseum.gov.eg>
<http://www.bbc.co.uk/schools/gcsebitesize/history/>
<http://the-orb.net> (Medieval studies)
<http://www.teacheroz.com/renaissance.htm>
<http://www.romeartlover.it/Bernini.htm>

Note: The following templates correspond to the audio-slide show. They can be easily photocopied. The solution to every one of these listening activities is included in their last slide.

Audio slide show: Listening: **Religion and Death in Ancient Egypt.**

A- Which was the god that could provide immortality?

- a- Osiris b- Isis c – Orus

B- The pyramid of Cheops was built around

- a- 2500 years ago. b- 4500 years ago. c- 2000 years AD.

C- How many limestone blocks were used to build the Cheops pyramid?

- a- Two million. b – Twenty thousand. 3- Twenty hundred thousand.

D- How long are the sides?

- a- Two hundred metres long.
b- Two hundred thirty metres long.
c- Two hundred and thirty five metres long.

E- How high is it?

- a- One hundred sixty eight metres high.
b- One hundred forty six metres high.
c- One hundred thirty eight metres high.

F- How long did it take to complete the pyramid?

- a- Fifty years. b- Two years c- Twenty years.

The Classical Periods. Greece.: Audio slide Marathon Listen and fill in the gaps.

The Greek colonies did not want to be ruled by a Persian King. They _____ to pay him tribute and threw out the Persian governors. The King of Persia, the King of Kings, had never been so _____ and was determined to conquer Greece and destroy Athens. But his ships were caught in a violent storm and _____.

He then sent his son in law with a new fleet and 70000 men. They conquered many islands and destroyed a lot of cities before stopping at Marathon. The Greeks were only 10000 strong, but they were under the command of Miltiades, a general who knew the fighting tactics of the Persians. He implemented the attack and _____.

The defeated Persians went back to their ships and, thinking they could still attack Athens, sailed towards the city. But the distance from Marathon to Athens was greater by sea than by land and Miltiades _____ a messenger to warn the Athenians. This was the famous Marathon Run after which we call our race. Famous because the messenger ran so far and so fast that all he could do was deliver his message before he _____ down dead. The Athenians were not taken by surprise and the Persians preferred to return home.

Listening activity: Audio slide show. Greek Gods and Festivals.

NATIONAL FESTIVALS

COMPLETE THE TABLE

Olympic Games.	Athletics	
Pythian Games.		
Isthmian Games.		
Nemean Games	Athletics	Nemea
Festivals in Athens	No athletics	

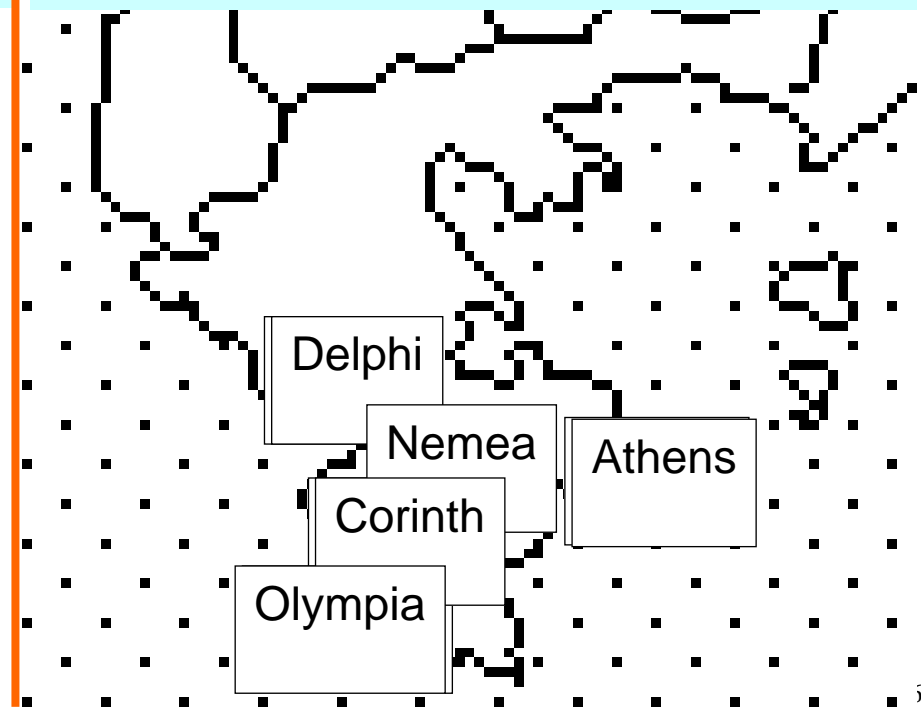
PERFORMANCES

- Theatre
- Athletics
- Athletics
- Art exhibitions.
- Music and dance.
- Song and dance.
- Music and literature.

DIVINITIES

- Dionysius
- Poseidon
- Zeus.
- Apollo
- Zeus

CITY STATES



Audio slide. Listening: Roman Roads.

1- Why did the Romans build this large web of roads?

- a) To expand commerce. b) For the couriers c) For their armies.

2- What did they do after draining the land?

- a) They placed the paving stones. b) The engineers decided the itinerary. c) A lot of workforce was needed.

3- What was the width of the roads?

- a) 2 metres wide b) The roads were from 2 to 10 metres wide. c) The average width was 10 metres.

4- How did they cross the mountainous areas?

- a) They built the roads around them. b) They cut the stone, adjusted the grades and built bridges. c) They avoided mountains.

5- What was the average speed of a Roman courier?

- a) 5 miles per hour. b) 15 miles per hour. c) 50 miles per week.

6- How long would it take a government courier to travel from Rome to Byzantium?

- a) 50 days. b) 15 days. c) 55 days

A

. Audio slide show. **Listening: Life in a Medieval Town.**

- What were the streets and the houses like?
- What were some of the most common jobs at that time?
- What is the name given to the professional associations related to an activity?
- What activity captured most of the efforts of the population in those towns?

Audio slide show **The Age of Cathedrals.**

1-Tick the professions mentioned in the text.

a) Engineers b) smiths c) masons d) merchants e) architects f) artisans g) craftsmen

2- Tick the materials mentioned in the text. a) stone b) wood c) stained glass d) iron

3- Cathedrals were built in (+1)

a) a peaceful time b) a period of wars c) a period of disease d) a period of scientific discoveries.

4- A cathedral is a) a large church b) the church of a bishop c) the church of a religious order.

5- a) All cathedrals are alike. b) Each cathedral is unique. c) Some cathedrals are alike

6- The building a cathedral meant an important effort for:

a) the bishop b) the merchants c) everybody in the region.

7-In what period were 80 cathedrals built in France? a) 1200- 1500 b) 1150- 1450 c) 1050- 1350

8- A characteristic of the Romanesque churches is their: a) massiveness b) height c) lightness

9- Gothic churches are characterized by (+1)

a) elaborate sculptures b) lightness c) height d) massiveness e) solid walls

f) stained glass windows g) flying buttresses h) moulded arches i) verticality

10-The Gothic style was predominant in Europe until

a) the 14th century b) the 15th century c) the 16th century

Text The Black Death

True or false

- 1- Cities have the reputation of being unhealthy.
- 2- Until the 20th century, the growth of cities was mainly caused by the new immigrants.
- 3- The bubonic plague disappeared with the Renaissance.
- 4- The bubonic plague caused a rapid death.
- 5- Fleas were the insects that transmitted the plague.

Answer the questions

- 1- What did the local authorities do to protect their cities from the plague?
- 2- How many people lived in Genoa in 1655?
- 3- Name all the diseases mentioned in the text.

Discuss.

Do you think cities are unhealthy today?

Audio slide show. **Listening: The Renaissance**

- 1- Renaissance was born in ...
a) Greece b) Italy c) Rome
- 2- Which subjects are not mentioned?
a) Sciences b) Philosophy c) Mathematics d) Computing
- 3- Leonardo and Michelangelo were ...
a) rulers b) merchants c) artists d) bankers
- 4- Beauty was identified with... a) classicism. b) middle ages. c) Florence.
- 5- The Renaissance was a ...
a) peaceful period. b) period with continuous conflicts. c) non creative period.
- 6- The new fortifications had ...
a) high walls. b) low and thick walls. c) medieval walls.
- 7- Cities had ...
a) a sense of centrality, straight streets, symmetrical constructions.
b) a sense of unity, curved streets and asymmetrical buildings.
c) narrow streets and symmetrical constructions.

Listening activity: Audio slide show. **Baroque. A New Theatrical Style.**

Questionnaire:

- 1- The Baroque style was born in the
a- 15th century b- 16th century c- 17th century d- 18th century

- 2- The Baroque style was
a- massive b- theatrical c- sober d- beautiful e- spectacular

- 3- San Carlo alle Quatro Fontane has a _____ plan.
a- simple b- fantastic c- circle d- complex

- 4- Bernini designed:
a- San Carlo alle Quatro Fontane
b- Saint Peter's Piazza
c- St Therese sculpture
d- David's sculpture

- 5- Baroque style was adopted by
a- Catholicism
b- Protestant churches
c- Latin American Authorities

Listening: Audio slide show. **Life in a Palace.**

What palace is it? _____ Who made it built? _____

What did Versailles have?

- _____
- _____
- _____
- _____
- _____
- _____

What were things like in the palace?

- _____
- _____
- _____
- _____

Listening activity. Audio slide show. **The Industrial Revolution and the Making of Textiles.**

A- What four main factors brought the industrial revolution?

- 1 - _____ 2 - _____
3 - _____ 4 - _____

B- What materials are mentioned in the visual listening?

- a- cotton b- nylon c- wool d- silk e- linen

C- Where was cotton grown at the beginning?

- a- United Kingdom b- Egypt c- Asia d- Europe e- Africa

E- Where were the main cotton goods factories?

- a- United Kingdom b- United States c- Catalonia d- Egypt

F- What similarities were there between British and Catalan factories?

Listening activity: Audio slide show. **The Steam Engine.**

A- What materials are required by a steam machine?

- a- coal b- water c- petrol d- water e- gas

B- What country with important coal reserves is not mentioned in the audio-slide show?

- a- Holland b- Italy c- England d- Poland

C- Where was a steam machine first used?

- a- On a train b- In a mine c- In a factory. d- On a ship

D- The speaker mentions some major changes in society. Which are they?

- a- People started to work in factories. b- People and goods could travel much faster.
c- Goods were produced in large quantities.
d- Cities grew very fast in a short period of time.

Listening activity: Audio slide show. **Life in a Mining Town.**

1- Which were the good and the bad things in the life of a miner?

2- What did children do?

3- What did women do?

4- What was the worst that could happen?

Audio slide show. Listening: **New Lanark: A Model for a Utopian Industrial Society.**

When did construction begin?

Where is it?

What was produced in New Lanark?

How many people lived in the town?

Which were Robert Owen's proposals?

Audio slide show. **Chicago. The Growth of a Metropolis.**

Choose the correct answers.

- 1- Where is Chicago? **A) In Canada.**
 B) In the East coast of the U.S.A.
 C) In the South of the USA.
 D) In the Mid-West of North America.

- 2- When did the first Europeans settle in Chicago?
 A) In the 16th century B) In the 17th century C) In the 18th century D) In the 19th century.

- 3- How did travellers reach Chicago's settlement in the first part of the 19th century?
 A) On foot B) By boat C) By train D) On carts pulled by horses.

- 4- Which were the most developed North American cities in the nineteenth century? (+1)
 A) Houston B) Los Angeles C) New York D) Washington E) New Orleans F) Boston

- 5- How did travellers reach Chicago's settlement during the first part of the 19th century?
 A) On foot. B) By boat C) By train D) On horse pulled carts.

- 6- What happened in 1848? **A) A railroad communicated Chicago with New York.**
 B) A canal communicated the Mississippi river with the Lake Michigan
 C) A and B
 D) A railroad communicated Chicago with New Orleans.

- 7- How many inhabitants were there in Chicago in 1860? **A) 9.800 B) 109.260 C) 298.977**

- 8- And in 1920? **A) 109.260 B) 298.977 C) 1.698.575 D) 2.701.705**

- 9- How many people lost their homes in the fire of 1871? **A) 90.000 B) 9000 C) 19.000**

- 10- Where did wealthy people want to live? **A) Near the city centre B) In the outskirts**

- 11- Cities started growing upwards thanks to the introduction of
 A) Electric elevators
 B) New tram lines that connected the outskirts
 C) Elevators and iron frame structures.