STORIES of WORLD HERITAGE

secondary teacher guide

Learning how to live sustainably from ancient communities to modern factories

M'ZAB VALLEY, ALGERIA
KAKADU NATIONAL PARK, AUSTRALIA
WEST LAKE CULTURAL LANDSCAPE, CHINA
COFFEE CULTURAL LANDSCAPE, COLOMBIA
ROCK-HEWN CHURCHES OF LALIBELA, ETHIOPIA
FAGUS FACTORY, GERMANY
CLIFFS OF BANDIAGARA, MALI
CULTURAL LANDSCAPE OF AGAVE, MEXICO
EVERGLADES, UNITED STATES
TAOS PUEBLO, UNITED STATES

www.worldheritage.si.edu
Protection, Preservation, and Prosperity: Stories of World Heritage is produced by the Smithsonian Institution. Teachers may duplicate the materials for educational purposes.

Much of the material is adapted from UNESCO’s Young Hands: To Know, Cherish and Act: An educational resource kit for teachers. For more classroom suggestions and information about the World Heritage sites featured in this publication please visit: http://whc.unesco.org.

Founded in 1846, the Smithsonian Institution is the world’s largest museum and research complex consisting of 19 museums and galleries, the National Zoological Park and nine research facilities. The Institution was established for the “increase and diffusion of knowledge” and is dedicated to the understanding and preservation of humanity’s cultural heritage, the encouragement of contemporary cultural creativity, unlocking the mysteries of the universe, and the understanding and sustaining of the planet’s biodiversity.

The United Nation Educational, Scientific and Cultural Organization (UNESCO) was founded in 1945 to promote intellectual and moral solidarity between states. The organization developed five specific programs: education, natural sciences, social and human sciences, culture, communication and information. Through the implementation of these themes UNESCO wants to contribute to the building of peace, the eradication of poverty, sustainable development and intercultural dialogue. UNESCO operates jointly with specialized departments, member states, non-governmental organizations and the private sector.

CREDITS
Karen Lottes, writer
Cara Seitchek, copy editor

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Stories of World Heritage
MIDDLE & HIGH SCHOOL
LESSON PLANS

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Kakadu National Park, Photo: Stefano Liboni (CC BY-NC-SA).
Background

...deterioration or disappearance of...the cultural or natural heritage constitutes a harmful impoverishment of the heritage of all the nations of the world.

Preamble to the World Heritage Convention

In 1972, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) gathered together 187 countries from around the world to create a tool to protect and conserve sites of cultural and natural heritage with outstanding universal value.

Heritage can be defined as those places and objects we wish to keep; cultural and natural places that we value because they come from our ancestors; places that are beautiful, scientifically important, or irreplaceable examples and sources of life and inspiration. They are our touchstones, our points of reference, our identity. This heritage often reflects the lives of our ancestors and often survives today only because of specific efforts to preserve it.

The World Heritage Convention is an effort by the nations of the world to identify, understand, and preserve heritage that has universal value and codify our obligation as caretakers of these places and objects.

The Concept of World Heritage

- Conservation of heritage of outstanding universal value
- Both cultural and natural heritage
- Conservation of irreplaceable heritage
- Conservation of World Heritage is dependent on collective international action

Above  L-R: Taos de Pueblo, Photo: Tolks Rover (CC BY-NC-SA), Kakadu National Park, Alligator, Photo: Digitalreflections (CC BY-ND)  Bandiagara, Photo: Martha de Jong-(CC BY-NC-SA); Painting – El Rio de Luz, Frederick Edwin Church, 1877, Courtesy National Gallery of Art.
For what is the value of protecting and preserving heritage through specialized institutions and national legislation if we do not instill the reasons for protecting it in the minds of the young?
Bozo Biskupic, Minister of Culture, Croatia

DEFINING HERITAGE AND CONSERVATION
As an introduction to the World Heritage Convention website and educational activities, ask your students to define Heritage and Conservation.

Curricular Areas: Social Studies, Global Connections, Geography, Individual Development & Identity, Speaking & Listening

• Lead a discussion with your students about what these concepts mean to them and how they might affect their lives.
• Ask your students to identify places in your community that represent heritage and/or conservation, and state what they think the value of having these sites is.
• Ask your students to write a brief paragraph on what heritage and/or conservation means to them.

Deerhide/deerskin, clay
Taos Pueblo circa 1930
National Museum of the American Indian, Smithsonian Institution
Donated by Ernest S. Carter
Photo: R.A. Whiteside
What is Sustainability?

Sustainability is based on a simple principle: everything that we need for our survival and well-being depends, either directly or indirectly, on our natural environment. Sustainability creates and maintains the conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations.

Sustainability is important to making sure that we have and will continue to have, the water, materials, and resources to protect human health and our environment.

U.S. Environmental Protection Agency

Sustainability is something we talk about a lot today. In the past, we generally thought about each resource and how it would help us, not how its use might impact the world around us. For example, think of a situation where people are moving into an area and need places to live. The builders and planners see open farmland on which the homes could be built. The builders and planners may not be thinking of the wildlife that lives on that land and how the animals and plants would lose their habitat, how that land serves as a filter to waterways and helps prevent pollution, how it provides locally produced food that doesn’t require large amounts of energy to transport from one place to another. Sustainability means considering the whole and not just each part.
Today we are more aware of how one change to the environment will impact another. We are also aware of how much people use resources that cannot be replaced. To make the world a more livable place now and in the future, we are beginning to think in terms of sustainability.

The ten sites featured on the website *Protection, Preservation, and Prosperity: Stories of World Heritage* represent cultures that understood sustainability without necessarily understanding the scientific reasons behind it. The people who lived in these cultures knew if they harvested and ate every plant there would not be seeds to grow the next year or the wild animals that lived off the leftovers would not have enough to live on during the winter, and the people would lose another food source. They knew the importance of water to grow their crops and for their own needs, and that water needed to be clean and healthy. They knew that they needed to be able to provide their own food through farming, gathering, animal husbandry, or hunting.

Today, we are often in a position where we have to cope with the choices our ancestors made in the past. Some of those choices were good, but others have left us with pollution, limited energy supplies, and over- or under-populations of native animal species.

**Discussion of Sustainability**

Before starting the activities in this unit, you may wish to discuss the concept of sustainability. What does sustainability mean? How is it reflected in their community? You can lead a discussion or ask the students to write a brief essay on sustainability in general or you can suggest one of these topics:

- The oil crisis and the growth of alternative fuels that are renewable.
- The extinction of some animals in their community and how that has affected other animal populations. For example, the elimination of hunting species like wolves has led to an increase in the deer populations, which is causing problems in urban areas in some parts of the United States.
- The use of land for development and the resultant increase in water runoff and water pollution.

An issue related to sustainability may be currently affecting your community. You can ask the students to consider that issue or event, the reasons it is happening, and some possible solutions to the problem.
People and the Land

When we Indians kill meat, we eat it all up. When we dig roots, we make little holes. When we build houses, we make little holes. When we burn grass for grasshoppers, we don’t ruin things. We shake down acorns and pine nuts. We don’t chop down the trees. We only use dead wood.

Wintu Woman, 19th Century

If you live in an industrialized country or an urban setting, a disconnect often exists between the things we use in their raw form, or as they occur in nature, and how we use them in our daily life. Having a global economy means that we don’t have to rely on the growing season in the place we live in order to access the foodstuffs we enjoy. We often use resources that don’t come from our community, region, or even, country. In contrast, early cultures needed to be completely attuned to what resources were available naturally or they might not have enough food on which to live. Locally obtainable resources determined how people lived, what kind of work they engaged in, the food that they ate, and sometimes even the games that they played. It isn’t that trade didn’t exist, but the difficulty in moving natural resources from place to place meant that if you over-harvested a food, you might not have access to it in the future.
<table>
<thead>
<tr>
<th>Subjects</th>
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<td>Environmental Science, Human Development</td>
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1) Ask students to select one of the World Heritage sites featured on *Protection, Preservation, and Prosperity: Stories of World Heritage.*

2) After studying the site, ask students to identify the following:
   - the site
   - ecosystem for that site
   - available natural resources
   - food
   - housing/architecture
   - commerce
   - arts & recreation
   - type of community
   - religion/belief system

3) Some World Heritage sites have more than one ecosystem. For those, the student can just pick one ecosystem. Use the questions below to help guide

**QUESTIONS:**

**Ecosystem** – In what type of environment is the World Heritage site located? Examples - marsh, temperate, subtropical, etc.

**Natural Resources** – What kinds of animals or plants in the environment help support the society? Examples - fish, birds, coal, trees, etc. Student responses can be general or detailed. An example might be water birds (general) vs. flamingoes (specific).

**Food/Diet** – What kinds of food are located there? Is the place known for producing a specific food?

**Community** – What kind of community is the place? Examples – rural, urban, nomadic.

**Architecture/Housing** – What are the buildings made from? How are they constructed? Examples - single family homes, housing complexes like apartments; brick, wood, mud, permanent, temporary.

**Commerce/Jobs** – How do people make a living in the community? Examples – farmer, butcher, weaver.

**Arts/Recreation** – What is the music like? What instruments do they play? What is their art like? How do they spend their leisure time? What games do they play?

**Religion/Belief System** – Do they believe in one god or multiple gods? Nature based or mystical beings? Does the natural world play a major role?
Sustainability in Agriculture

A sustainable agriculture must be ecologically sound, economically viable, and socially responsible... these three dimensions of sustainability are inseparable, and thus, are equally critical to long run sustainability... an interconnectedness of humanity with the other biophysical elements of our natural environment. Through agriculture, we may tip the ecological balance in our favor. But if we attempt to tip it too far or too fast, we will destroy the integrity of the natural ecosystem, of which both we and our agriculture are apart. If we degrade our natural resources and poison our natural environment, we will degrade the productivity of agriculture and ultimately will destroy human life on earth. Nearly everyone seems to agree that a sustainable agriculture must be ecologically sound.

John Ikerd, University of Missouri

The farmer is a poor creature who skins the land and leaves it worthless to his children. The farmer is a good farmer who, having enabled the land to support himself and to provide for the education of his children, leaves it to them a little better than he found it himself.

Theodore Roosevelt, 26th President of the United States

Before we can effectively and efficiently farm land and produce a robust crop, we have to understand the land being farmed. What type of soil does it have? What is its geology? What is the climate? At times, people have tried to grow the wrong crops in a place or use incorrect farming techniques only to find that the crops produced are poor quality with a low yield; the land loses nutrients, becomes exhausted, and can no longer produce; or soil erosion occurs. Using fertilizers to produce a better crop can potentially increase water and ground pollution, affect native wildlife, and increase the cost of production. On the other hand, by using fertilizers responsibly, farmers can improve their crop yield safely.

Early cultures didn’t have the knowledge to scientifically analyze their soil; they didn’t have the ability to easily import fertilizers, or acquire non-native plants to grow, but they lived closer to the land and instinctively understood many of its qualities. If they lived near a river, they understood that the annual flooding may not be great for people and their homes, but it was great for making the land fertile and so they planted near the river. If they lived in a dry region, they knew that devising a way to get water to the crops was critical and so irrigation systems were developed.
More advanced societies were often driven by market needs – they grew what people would buy, not necessarily what the land was best suited for growing. In the past, farmers didn’t always understand that the way they farmed affected the ability of the land to produce in the future. Today, they are considering more and more how to best farm the land on which they live for today and the future.

**ACTIVITY**

Ask your students to go to the grocery store and identify where the produce their family buys is grown. Students often don’t think about whether the apples they are eating came from another state or country or whether they are locally grown; whether it is conventionally or organically produced.

**Curricular Areas:** Geography, Social Studies, Environmental Science, Personal & Social Perspectives, Life Science, People Places & Environments, Production Distribution & Consumption, Global Connections

**Follow-up discussion:**
- Where does the produce come from?
- How does it get to the store?
- What is involved in getting produce from a distance?
- What if it is locally grown?
- Why are some things from far away and other things local?
- Does the way it is produced or where it’s grown affect the price?
- Are there seasonal differences?

**Variations:**
- You can extend this activity to include other commonly bought food staples, such as meat or dairy products.
- You can explore the difference between organic and conventional. What does it mean? Why is organic more expensive if it uses fewer pesticides? What are the repercussions of not using pesticides?
## PRODUCE CHART

<table>
<thead>
<tr>
<th>Product (what it is)</th>
<th>Type (vegetable, fruit, etc)</th>
<th>Place of Origin</th>
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CASE STUDY: Coffee Cultural Landscape of Colombia

The Coffee Cultural Landscape is an exceptional example of a sustainable and productive cultural landscape. It is the result of the effort of several generations of campesino families who, for more than 100 years, have accumulated knowledge of how to adapt coffee cultivation to small plots of land and to the difficult conditions of their surroundings. They have created a strong, unparalleled cultural identity, not to mention having produced one of the finest coffees in the world.

– UNESCO World Heritage Site

In the 1960s, there was a marked change in the cultivation techniques because of the development of new rust resistant coffee varieties and a search for greater productivity. A portion of the traditional plantations, distinguished by long productive cycles, low density plantations, varieties of tall trees, the use of shade trees, and low productivity were replaced by ‘technified’ and denser plantations with organized layouts and smaller trees, less shade, and greater productivity. Given the greater yield per hectare, technified systems require more intensive labor and a greater use of fertilizers. The percentage of technified plantations increased from 5% in 1970 to 80% in 1993-1997.

There appears also to be a negative impact on the environment from full sun planting of coffee without shade trees. The traditional planting left shade trees in the forest clearings in which the coffee was planted and these not only were remnants of the forest but they also provided an ecological corridor. The full sun planting clear fells the areas and separates the plots with small hedges; it also uses more artificial fertilizers.

It is acknowledged that the risk of soil erosion is high. This could be exacerbated by any change in climatic conditions. It is also acknowledged that this can be counteracted through mass incorporation of practices that protect the environment such as shade systems, cross-slope planting, and selective weeding. Some of these practices are already applied in parts of the property.

– UNESCO Advisory Evaluation
Conservation of Resources

*Waste not, want not.*
Benjamin Franklin

The average American creates 1,600 pounds (726 kg) of trash a year. How is it possible? One characteristic of an industrialized society is that people are more removed from the source of raw materials that are used to create the food, clothing, and other necessities of life. For example, has your family ever bought beets and thrown out the greens or had oysters and just thrown out the shells? Large landfills and trash dumps show what happens when people lose their connection to the natural world.

Through *Protection, Preservation, and Prosperity: Stories of World Heritage*, we can see how connected early cultures were to their environment. The result is better use of resources and less production of trash. Today, industrialized societies are identifying more ways of re-using and recycling resources instead of creating more trash.

**DISCUSSION AND ACTIVITY**

**Curricular Areas:** Earth Science, People Places & Environments, Environmental Science, Botany

**Discussion:** What do we throw out that we could eat or use in something other way? The parts of agave and corn not used for eating are immediately used for other purposes. This is not recycling, but getting most out of everything and wasting the least amount possible.

**Field Trip & Activity:**

- Is there a farm near you that grows corn? If possible, arrange a field trip to the farm to harvest fresh corn stalks. If a field trip isn’t possible, see if you can acquire the whole corn stalk, ears of corn and all, for use in your classroom.
- Using the whole harvested corn plants, see how much the students can do with the plant. What was unusable? How much refuse did they produce?
- Follow-up with a discussion about what they accomplished and how they felt about it. Also, talk about would they plan to do to reduce their own garbage production.
CASE STUDY: AGAVE

Agave Landscape & Ancient Industrial Facilities, Tequila, Mexico

Best known for making tequila, the blue agave was domesticated at least 2,000 years ago, but evidence shows that it was harvested long before that time. Tequila isn’t the only thing made from the agave plant:

- **Stalks** – dried, it is used in construction, and fresh, it is a lot like sugarcane and a sap can be extracted for cooking
- **Leaves** – pounded into a pup to make paper, thatched to make waterproof roofs, and the fibers twisted into strong cords; tea from the dry leaves is used as a medicine for digestion problems; sap from the fresh leaves makes a soap
- **Spines** – made into needles and arrowheads
- **Flowers** – used in cooking
- **Sap** – used in medicine and making beverages
- **Pina** – sap is used for making a syrup and beverages
- **Roots** – medicine for arthritis
CASE STUDY: MAIZE (Corn)

Pueblo de Taos, New Mexico, USA Corn or maize is first thought to have been grown more than 5,600 years ago in Mexico, first by the Mayan and Aztec tribes. Originally a wild grain, cultivation spread when its versatility and nutritional value became known. For the Indians, corn was not just a valuable food source:

- **Husk** – used in cooking, making ribbons/ties, sleeping mats, baskets, dolls, and shoes.
- **Cob** - used to make darts, to burn as fuel, or made into ceremonial rattling sticks.
- **Silk** - medicinal and nutritional purposes, in particular to treat urinary disorders.
- **Leaf** - to make herbal tea and flavor beer, in cooking, a heating fuel
- **Stalk** – syrup, fuel, construction.
- **Kernels** – eating fresh, drying and grinding into a flour for cooking, used in animal feed.
Sharing the Land

Conservation is a state of harmony between men and land. By land is meant all of the things on, over, or in the earth. Harmony with land is like harmony with a friend; you cannot cherish his right hand and chop off his left. That is to say, you cannot love game and hate predators; you cannot conserve the waters and waste the ranges; you cannot build the forest and mine the farm. The land is one organism. Its parts, like our own parts, compete with each other and co-operate with each other. The competitions are as much a part of the inner workings as the co-operations. You can regulate them—cautiously—but not abolish them.

Aldo Leopold
The conservation of the Earth’s biodiversity is a huge task as it involves the conservation of all life on Earth. This includes the conservation of aquatic, marine, and temperate environments, and of micro-organisms. World Heritage conservation is an important component in the global effort to conserve the Earth’s biodiversity and is heavily reliant on collective international action.

Ecosystem conservation is another part of this. Loss of biodiversity, particularly for threatened ecosystems (e.g. islands and wetlands) is usually irreversible, so there is ample reason to be concerned about threats to biodiversity and to act immediately to reduce them. In addition to protecting individual threatened species, conservation measures are generally more effective to ensure long-term sustainability of ecosystems, natural plant and animal communities, and landscapes as a whole.

Many World Heritage sites have been established to ensure the protection from extinction of threatened plant and animal species.

**DISCUSSION**

**Curricular Areas:** Earth Sciences, Environmental Studies, People Places & Environments, Informational Text

Discuss with your students what biodiversity is and the difference between endangered and extinct species.
CASE STUDY: EVERGLADES NATIONAL PARK, Florida, USA

Everglades National Park is the largest designated sub-tropical wilderness reserve on the North American continent. Its juncture at the interface of temperate and sub-tropical America, fresh and brackish water, shallow bays and deeper coastal waters creates a complex of habitats supporting a high diversity of flora and fauna. It contains the largest mangrove ecosystem in the Western Hemisphere, the largest continuous stand of sawgrass prairie and the most significant breeding ground for wading birds in North America.

The Everglades protect 800 species of land and water vertebrates, including more than 14 threatened species, 25 mammals, more than 400 bird species, 60 known species of reptiles, amphibians, and insects, including two threatened swallowtail butterfly species. More than 20 species of snake have been recorded, including the threatened indigo snake. More than 275 species of fish are known from the Everglades, most inhabiting the marine and estuarine waters. Several species are important game species that attract thousands of anglers (fishermen) to the park. During autumn a continuous procession of songbirds and other migrant species fly over or rest on these islands.

1905: "The murder of an Audubon warden, Guy Bradley, by poachers of flamingo focused the indignant attention of the world on the bird plume industry".

1973: "Few people are aware that in spite of the environmental disruptions of the past few decades, you can now see more herons and egrets in a day's drive through southern Florida than you could have seen in a whole year back in 1905".

-- Archie Carr, The Everglades, 1973

UNESCO World Heritage Nomination
ACTIVITY AND DISCUSSION: Bird Conservation

Curricular Areas: English Language Arts, Literature, Environmental Studies, Earth Sciences, People Places & Environments, Art

- Ask your students to read http://archive.audubonmagazine.org/features0412/hats.html.
- Ask them to search for examples of poaching or endangered species today, both in the Everglades and elsewhere.
- Write about or discuss what is being done today in the protection of endangered species. Have the paper focus on one specific effort.

Hooded Warbler
Photo: Gerhard Hoffmann. All rights reserved/
**Sustainability in Urban Planning**

*Good urban design contributes to the creation of positive and vibrant communities. It reinforces a sense of place, encourages neighborhood interaction, and promotes the development of functional and meaningful places for the community. Urban Design...is a collaborative and multi-disciplinary design process that is concerned with the formation of public space and its interface with the built form, focusing on creating a desirable environment to live, work and play.*

Planning Institute, Australia

As human cultures began to develop thousands of years ago with hunters and gatherers, people might find a cave to live in or create basic, temporary shelter of some form, which had a minimal impact on the environment. But as they moved from that very simple existence into agrarian-based societies and then industrial, their need for permanent settlements meant they had a greater impact on the world around them. It also meant that they had to consider how to handle many people and activities in a relatively small space. And so, the discipline of urban planning was established.

**DISCUSSION**

Any discussion of urban planning must start with an identification of the place you live. What types of planning can be seen in your area? How would your students describe where they live? What is an *exurb*? The concept of an *exurb* is fairly new. It was identified because so many suburbs, which were developed to provide living places with central services still in the city, have developed their own central core. Not really cities, but more than the suburb they started out as, so they have been called exurbs.

**Curricular Areas**: Social Studies, People Places & Environments, Culture

**Ask your students:**
- What would they call their community?
- Is there a central core that provides essential services? What are essential services?
- Is there something that unifies their community?
CASE STUDY: Kakadu National Park, Australia

Isolated from the rest of the world until man first arrived some 50,000 years ago, Australia was the home of a separate nature, where mammals had pouches to carry their young; some mammals even laid eggs. Kangaroos 3.5 meters tall bounded across the plains, chased by large saber-toothed "tigers". Giant flightless birds scratched in the desert for their living, and wombats the size of rhinos roamed the woodlands. The trees often shed their bark instead of their leaves, and great flocks of colorful parrots descended to feed on the grassy savannas.

Into this bizarre world came people migrating from southeast Asia, possibly under pressure from more modern people moving in from the north and west. Their trip through the Indonesian archipelago involved at least 8 sea voyages. Including one of at least 87 kilometers; what sort of vessel these ancient people used is unknown, as historical aboriginal cultures had nothing capable of braving the wild seas between Timor and mainland Australia. However they arrived, it is likely that the first Australians made their landfall somewhere around what is today Kakadu National Park. This area is the best example of a complex of ecosystems unique to northern Australia, providing an indication of how the continent looked to its first settlers. The spectacular scenery ranges from tidal flats to floodplains and majestic sandstone plateau and escarpments. Comprising 6,144
square kilometers in the Alligator River drainage, it is home to a third of Australia’s bird species and a quarter of the continent’s fish species; of special interest is a primitive archer fish which is elsewhere known only from the Indonesian portion of New Guinea (an indication of the ancient links between Australia and its northern neighbor). Endangered species such as estuarine crocodile, chestnut-quilled pigeon, and hooded parrot find a secure habitat in Kakadu’s rivers and forests, and a recently discovered python appears to be restricted to the stony escarpment country, as does a large gecko lizard.

Kakadu is not only an important habitat for Australian wildlife. It is also a fascinating homeland for Australian aborigines. Over 1,000 archeological and Aboriginal art sites have been identified, among them the site revealing evidence of the earliest human settlement in Australia and the world's oldest edge-ground axe. The art sites concentrated along the Arnhem Land escarpment represent outstanding examples of Aboriginal art. Some art sites feature representation of legendary heroes and were the scenes of regular rituals; other paintings were thought to bestow specific benefits to the groups responsible for their maintenance, such as bringing rain and increasing the supply of plants or animals. A few paintings depict species which are now extinct in Australia, such as the Tasmanian "Wolf" and the New Guinea species of spiny anteater. Several Aboriginal groups still live within the National Park, providing a vital link in the chain of human development worldwide.

--Jeffrey A. McNeely, World Heritage Site Nomination

Bark Painting, Fish, Place: Oenpelli (Gunbalanya), Arnhem Land, Northern Territory, Australia, National Museum of Natural History, Smithsonian Institution
The M’Zab Valley, located within the Sahara, 600 km south of Algiers, is the site of a unique group in a restricted area. Traces of very early settlement are to be found on the plateau and rocky slopes bordering this valley, which has been ravaged by rare and devastating flooding of the wadi. However, systematic occupation of the land and the adaptation of a strikingly original architecture to a semi-desert site date from the beginning of the 11th century and are the achievement of a group of human beings defined by clearly defined religious, social and moral ideals.

The Ibadis, whose doctrine in many ways achieved the intransigent purism of Khridjism, dominated part of the Maghreb during the 10th century. They founded a state whose capital, Tahert, was destroyed by fire in 909; they then sought other territorial bases, first at Sedrata and finally in the M’Zab. The site bears witness, in a most exceptional manner, to the Ibadic culture at its height.

The primary reason for choosing this valley, which until then had been inhabited only sporadically by nomadic groups, was the defensive possibilities that it offered a community that was concerned with its own protection and fiercely dedicated to the preservation of its identity, even at the expense of isolation. The occupation of the land and the organization of space were based on very strict principles and, in their precision and their detail, were exemplary in character. A group of five ksour (ksar: fortified village) - El Atteuf, Bou Noura,
Beni Isguen, Melika and Ghardia - located on rocky outcrops housed a sedentary and essentially urban population. Each of these miniature citadels, encircled by walls, is dominated by a mosque, whose minaret functioned as a watchtower. The three unchanging elements - *ksar*, cemetery, palm grove with its summer citadel - are found in all five villages. They serve to illustrate an example of a traditional human settlement, which is representative of a culture that has continued into the 20th century.

The mosque, with its arsenal and grain stores, was conceived as a fortress, the last bastion of resistance in the event of a siege. Around this building, which is essential to communal life, are houses built in concentric circles right up to the fortress walls. Each house, a cubic cell of standard type, illustrates an egalitarian ideal, whereas in the cemetery only the tombs of sages and the small mosques are distinguished in any way. The pattern of the life in the M’Zab Valley included a seasonal migration. Each summer the population moved to palm groves, where the ‘summer cities’ were marked by a looser organization, the highly defensive nature of the houses, the presence of watchtowers, and a mosque without a minaret, comparable with those in the cemeteries.

The settlement of the M’Zab Valley has exerted considerable influence on architects and city planners of the 20th century, from Le Corbusier to Pouillon.

---UNESCO World Heritage Site Description
ACTIVITY: Cultural Comparison

Curricular Areas: People Places & Environments, Individuals Groups & Institutions, Civic Ideals & Practices, Geography

Explore the differences between Kakadu National Park and the M’Zab Valley.
• In what way are these two cultures similar?
• How are they different?
• What are the factors that may have most influenced the development of their housing and communities?

Have your students consider the following factors:
• Geography
• Climate
• Type of Society (i.e. hunter-gather, agricultural, industrial)
• Do they move seasonally?
• Plants
• Animals
• Architectural forms
• Religion

Illustration: Name: Melanotaenia splendid inornata. Drawn by Dorothea Schultz. From the American Australian Expedition to Arnhem Land, 1949, National Museum of Natural History- Fishes Division, Smithsonian Institution 178294
PLANNING A CITY

…urban planning or city and regional planning…works to improve the welfare of people and their communities by creating more convenient, equitable, healthful, efficient, and attractive places for present and future generations… Planning enables civic leaders, businesses, and citizens to play a meaningful role in creating communities that enrich people’s lives…Good planning helps create communities that offer better choices for where and how people live. Planning helps communities to envision their future. It helps them find the right balance of new development and essential services, environmental protection, and innovative change.

American Planning Association

Urban planning has been a discipline for centuries. Many ancient societies, including the Greeks and Romans, planned by taking into account the needs of a city:

- Water – living, washing, drinking, flushing
- Sanitation – a lot of people + limited space = a lot of refuse and trash
- Housing – how much land ÷ number of people
- Activities – commercial, industrial, governmental, religious, recreational
- Infrastructure – roads, bridges, tunnels, sewers

In addition to the elements of urban planning, you need to keep in mind some of the principles of good urban design:

- Livability – does it make sense?
- Aesthetics – does it please or offend?
- Functionality – does it work?
ACTIVITY: Plan a City

Curricular Areas: People Places & Environments, Individuals Groups & Institutions, Civic Ideals & Practices, Geography, Earth & Space, Physical Science

Steps:

• Create a space for your city:
  o On a piece of paper decide how large your city will be - dimensions, acres/hectares
  o What are the land features - river, hills, plateaus, etc.
  o How many people do you plan to have living in your city?

• Identify the types of structures you need in your city and create a key for your city map so it will be easier to place them on the map:
  o What types of housing - apartments, single family, some combination? Think about how much housing you will need for the number of people.
  o Community structures - schools, recreational centers, government buildings, stores, etc.
  o Religious structures, cemeteries
  o Stores, factories, etc.

• Infrastructure - roads, bridges, public areas, and parks. Indicate water sources, but you don’t need to draw in the sewer system as that would require an underground map. If you are industrialized, then you will need to show power

ACTIVITY: Document Your Community

Curricular Areas: People Places & Environments, Geography, Photography, Mapping, Social Studies, Public Speaking

Ask your students to document their community in photographs and words.

• To make it more manageable, divide your class into teams.

• Divide your community into districts and assign a district to each team of students. You may want to only include the area within walking distance of your school or you can include your entire school district. You can make it a class decision.

• Have the teams of students go out and photograph their district. If you choose an area that is within walking distance of the school, this can be done as a field trip.

• Have each team organize their findings, choose the images they like the best, and write a description of their district. This should include descriptions of each building pictured, geological features, and infrastructure.

• Have the class combine their findings and present them.
Landscape architects design the built environment of neighborhoods, towns and cities while also protecting and managing the natural environment, from its forests and fields to rivers and coasts. Members of the profession have a special commitment to improving the quality of life through the best design of places for people and other living things.

American Association of Landscape Architects

We move in and out of designed landscapes every day, usually without realizing it. We have all been to parks and public gardens where it is obvious to us, as the visitor, that the place we are walking through was planned. We may not recognize that the roadways, school grounds, office buildings, and shopping centers we go to also have planned grounds, something that was specifically designed by a landscape architect. How public and private places are designed makes an impact on how we view the world around us.

CASE STUDY: West Lake Cultural Landscape of Hangzhou, China

West Lake District of Hangzhou, Keso (CC BY-NC-ND 2.0) via Fotopedia
A Visit to Qiantang Lake
By Bai Juyi

Gushan Temple is to the north, Jiating pavilion west,
The water’s surface now is calm, the bottom of the clouds low.
In several places, the first orioles are fighting in warm trees,
By every house new swallows peck at spring mud.
Disordered flowers have grown almost enough to confuse the eye,
Bright grass is able now to hide the hooves of horses.
I most love the east of the lake, I cannot come often enough
Within the shade of green poplars on White Sand Embankment.

The Chinese believed that a garden should be a place that provides tranquility and inspiration. It is a marriage of art and gardening and people.

ACTIVITY: Design a Landscape

Design a landscape that seeks to achieve the Chinese ideal of tranquility and inspiration. Students will use the instructions provided to research native plant species and create a mapping key.

Curricular Areas: Environmental Studies. Earth & Space, People Places & Environments, Mapping, Writing, Speaking & Listening

Optional Activities:

- Plan a field trip to a public garden in your community. Have students tour the garden and talk to the designer or gardener about the types of plantings chosen, and why and how the natural landscape may have been changed to create the garden or been used in the design of the garden.

- Ask a landscape architect to visit the class.
DESIGN A LANDSCAPE

Your task is to create a landscape that takes into account the geography of the land, natural features, native plant species, and aesthetics.

• Examine the map of the West Lakes garden from 1759 and the other examples of garden plans. This will help you to get an idea of how to draw a landscape.

• Decide what type of landscape you will be designing – a home, a neighborhood park, a shopping center – you decide.

• Create the plat for the land – what are its dimensions? If structures are on the land, you need to draw them in; if natural features are focal points (like a stream or a lake), you must place them on your plat.

• Name your garden. It can be as simple as “The Miller Garden” or more descriptive, such as “The Garden of Tranquility.” Write a brief description of what you want your garden to be.

• Identify the type of garden – will it be natural (uses the land to help guide the design) or formal (significant changes to the natural landscape to create a planned design)?

• Research the types of plants you wish to use in your landscape. What trees, bushes, flowers, and grasses? Is it a specific type of garden, such as a rose garden? What types of plants are native to your region?

• Create a key.

• Present your design to the class.
West Lake Garden Hangzhou
ca. 1759.
From the Library of Congress.
Frederick Law Olmsted’s sketch plan for the grounds of the Schlesinger Estate, Brookline, Massachusetts, USA. 1904. Collection of the Library of Congress
Herb Garden design. The designer used numbers to provide a key for the garden plantings. Waleed Anwar. (CC0 1.0 Universal Public Domain)
Design for the Royal Botanical Society Gardens in the Inner Circle
Regent’s Park, London by Decimus Burton, 1840.
Architecture

Architecture is not all about the design of the building and nothing else; it is also about the cultural setting and the ambience, the whole affair.

Michael Graves

Building styles found at the places featured in *Protection, Preservation, and Prosperity: Stories of World Heritage* provide excellent illustrations of the interaction between people and their natural environment. What our environment is like – its geology and climate – can dictate the type of architecture built. But what those buildings look like – their distinctive style and form – is often unique to a place or a culture. As our ability to control our space, despite geography and climate, changes, as our understanding of the resources that are available to us grows, as our capacity for acquiring materials not locally produced or available expands, so our architecture changes and evolves.

**ACTIVITY: Architecture as Expressions of Identity**

**Curricular Areas:** Architecture, Art History, People Places & Environments, Global Connections

To prepare your students for this unit, ask them to write a brief essay on the qualities of your country’s buildings, monumental heritage, and national parks. Are there any World Heritage sites in your area? Is there a building type or style that is specific to your region? Is the way your buildings look and the natural resources available in your area related? Does your cultural identity reflect the way your houses are built and the materials used?

**Variation:**
Sometimes great cities are identified by their architecture, both monumental (such as the Parthenon in Greece or pagodas of Japan), as well as secondary (such as the “Painted Ladies” of San Francisco or Eskimo igloos). Have your students each select a city or place and discuss the architecture for which it is known. ([UNESCO’s World Heritage Center](https://whc.unesco.org/en) is a good resource.) Is the style culturally specific? Is it connected to available natural resources? Is it associated with a specific period in time or event? Is there evidence of those styles elsewhere in the world or in your community?
From 1911, Walter Gropius laid the foundations of modern architecture with the Fagus factory. Especially the office building of this complex industrial plant offered the then 27 year old architect the opportunity to realize his revolutionary visions of modern architecture through a project of substantial scope. For the first time ever, Gropius coaxed steel and glass, which had already proved instrumental in tremendous engineering feats in the nineteenth century, into a radically new form. In contrast to the iron and glass constructions that featured in many civil engineering structures of the nineteenth century, Gropius developed tectonically conceived structures and spaces, which, characterized by precision, rigor and compactness, lead modern architecture into the twentieth century...The structural possibilities of construction using steel and glass were made subservient to an extremely modern artistic design for the first time. The exterior wall of the building is perceived as a transparent, space-encompassing cover and artistically visualized through a superior, extensively glazed and subtly sectionalized steel framework that stands column-free around the building corner...With complex interweaving of aesthetic, psychological, social and technical functional aspects, the Fagus factory represents a masterpiece of the creative mind on the threshold of a new time and manifests, for the first time, the theoretical basics for the development of twentieth century architecture.

— UNESCO World Heritage Nomination
ACTIVITY: Architectural Influences

We have had enough and to spare of the arbitrary reproduction of historic styles. In the progress of our advance from the vagaries of mere architectural caprice to the dictates of structural logic, we have learned to seek concrete expression of the life of our epoch in clear and crisply simplified forms.

Walter Gropius, The New Architecture and the Bauhaus. (1925)

A breach has been made with the past, which allows us to envisage a new aspect of architecture corresponding to the technical civilization of the age we live in; the morphology of dead styles has been destroyed; and we are returning to honesty of thought and feeling. The general public, formerly profoundly indifferent to everything to do with building, has been shaken out of its torpor; personal interest in architecture as something that concerns everyone of us in our daily lives has been very widely aroused; and the broad lines of its future development are already clearly discernible. It is now becoming widely recognized that although the outward forms of the New Architecture differ fundamentally in an organic sense from those of the old, they are not the personal whims of a handful of architects avid for innovation at all cost, but simply the inevitable logical product of the intellectual, social and technical conditions of our age. A quarter of a century’s earnest and pregnant struggle preceded their eventual emergence.

Walter Gropius, The New Architecture and the Bauhaus. (1925)

When the first buildings of the Fagus Factory opened in 1911, Walter Gropius was seen as a new kind of architect. He is now thought to be the Father of Modern Architecture. His success with Fagus and other buildings led him to found the Bauhaus School. The artists, craftsmen, and architects that came out of Bauhaus are characterized by their use of geometric design, their reduction of nature to its most basic design elements, and their attention to detail and craftsmanship.

But did Gropius’ “new” designs have an inspiration? As Mark Twain said “It takes a thousand men to invent a telegraph, or a steam engine, or a phonograph, or a telephone or any other important thing—and the last man gets the credit and we forget the others. He added his little mite—that is all he did.”

Walter Gropius had many inspirations, from his teachers, from art and architectural history, from nature, from other cultures and ancient civilizations. Using his quotes above as a starting point, look at traditional architecture as well as the architectural movements that preceded the construction of Fagus, identify what you think may have inspired and informed his design aesthetic. What traditional architectural forms and intellectual concepts can be seen in Fagus? What architects, design theory, and schools of thought are evident? Can you find any from among the World Heritage sites?

The form your project takes is up to you, but you should use Fagus as a case study, illustrating how Gropius developed what is now called modern architecture and the Bauhaus approach. Show what other cultures can be seen in Fagus? How is nature reflected in its style and structure?
Creating A World Heritage Nomination

No one person, nor any single culture can develop without the interactivity of other people and cultures. We must learn to recognize what each culture owes to all other cultures. We ought to realize that cultural tourism could also be one of the most fertile and challenging means through which the dialogue between cultures and civilizations might be expressed. To meet others also helps to appreciate one's own culture and heritage, and understand one's own natural environment.

Koichiro Matsuura, Director-General of UNESCO, 2001

Heritage is often defined as our legacy from the past, what we live within the present, and what we pass on to future generations to learn from, to marvel at, and to enjoy. You may prefer to think of heritage as those places and objects we wish to keep, cultural and natural places and objects that we value because they come from our ancestors; places that are beautiful, scientifically important, or irreplaceable examples and sources of life and inspiration. They are our touchstones, our points of reference, our identity. This heritage often reflects the lives of our ancestors and often survives today only because of specific efforts to preserve it.

Can you imagine your local area without heritage? Think about, for example, the places in which you and your students live. What represents the past, the present, and the future? What should be preserved? What could be replaced? What is irreplaceable? The world includes both cultural and natural heritage. In your local region you may know of archaeological and rock-art sites, a church, another religious or sacred place, or a historic city. We call this cultural heritage. You may live close to a forest or a magnificent coastal area. We call this natural heritage. This heritage is all immovable heritage (it cannot be easily moved). Heritage objects, such as coins, botanical samples, paintings, statues, or archaeological artifacts are movable heritage (they can be easily moved from one place to another).

The nominations must include the following information:

NAME OF PROPERTY:

STATE/COUNTRY:
PHYSICAL ADDRESS:

LATITUDE AND LONGITUDE COORDINATES:

DESCRIPTION:

JUSTIFICATION OF OUTSTANDING UNIVERSAL VALUE:

CRITERIA CONSIDERED TO BE MET:

World Heritage Criteria (may be more than 1)
Explanation of how this site meets the selected criteria.

STATEMENT OF AUTHENTICITY AND/OR INTEGRITY:

ARE THERE SIMILAR WORLD HERITAGE SITES? COMPARISON WITH OTHER SIMILAR PROPERTIES:

IMAGES/VIRTUAL TOUR OF SITE:
GUIDELINES FOR CREATING A WORLD HERITAGE NOMINATION

The criteria for selecting World Heritage sites

Establishing the World Heritage List presents a major challenge to the international community: how can one site, ensemble, or monument, as opposed to another, be judged to form part of the World Heritage? In other words, what is it that constitutes the outstanding universal value or World Heritage value of a cultural or natural site?

The *Operational Guidelines for the Implementation of the World Heritage Convention* has been developed by the World Heritage Committee over many years. The Guidelines explain how to nominate a site for inclusion in the World Heritage List and the criteria required.

▲ **Criteria for selecting cultural World Heritage sites**

One or more of the following six criteria may be applied to the selection of cultural heritage monuments, groups of buildings, and sites that may be considered part of the World Heritage. Cultural sites nominated should:

(i) represent a masterpiece of human creative genius; or

(ii) exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design; or

(iii) bear a unique or at least exceptional testimony to a cultural tradition or to a civilization, which is living or which has disappeared; or

(iv) be an outstanding example of a type of building or architectural or technological ensemble or landscape, which illustrates (a) significant stage(s) in human history; or

(v) be an outstanding example of a traditional human settlement or land use, which is representative of a culture (or cultures), especially when it has become vulnerable under the impact of irreversible change; or

(vi) be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance (the Committee considers that this criterion should justify inclusion in the List only in exceptional circumstances and in conjunction with other criteria cultural or natural).

Equally important is the authenticity of the cultural heritage and its protection and management.
Criteria for selecting natural World Heritage sites

For the selection of natural heritage sites of World Heritage value the Operational Guidelines include four criteria.

(i) be outstanding examples representing major stages of earth's history, including the record of life, significant ongoing geological processes in the development of land forms, or significant geomorphic or physiographic features; or

(ii) be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals; or

(iii) contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance; or

(iv) contain the most important and significant natural habitats for in situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.

Equally important is the integrity of the natural heritage and its protection and management.

Criteria for selecting mixed cultural and natural World Heritage sites

Mixed cultural and natural World Heritage sites have both outstanding natural and cultural values and so are included on the World Heritage List according to a combination of cultural and natural heritage criteria.
...every year millions...visit the national parks and monuments, the state and municipal parks, battlefield areas, historic houses publicly or privately owned, museums great and small--the components of a vast preservation of shrines and treasures in which may be seen and enjoyed the story of our natural and man-made heritage.

In most of such places the visitor is exposed...to a kind of elective education that is superior in some respects to that of the classroom, for here he meets the Thing itself--whether it be a wonder of nature's work, or the act or work of man. "To pay a personal visit to a historic shrine is to receive a concept such as no book can supply," someone has said; and surely to stand at the rim of the Grand Canyon of the Colorado is to experience a spiritual elevation that could come from no human description of the colossal chasm.

Tilden Freeman, "Interpreting Our Heritage"

Tilden Freeman could easily have been talking about any of the places featured in Protection, Preservation, and Prosperity: Stories of World Heritage or any of the places on the World Heritage List when he wrote about heritage interpretation. To experience a place or event has an impact far greater than anything read in a book or seen in pictures.

Plan a field trip for your class to visit either a World Heritage site, if there is one in your area, or a national or state park or historic site. These sites usually have developed educational materials specific to that place. If not, you should follow a few steps to make the trip as much of a learning experience as possible.

Preparing for Your Field Trip

Have your students look at images of the place. You should also discuss with them what they will be seeing and doing on their trip.

- Where are you going?
- What is the history of the place?
What are the natural features? What animals might they encounter?
Are there any stories about the place? Literature?

Be sure to prepare your students to be well-behaved visitors:
1. respect local cultures and traditions;
2. consider the privacy, culture, habits, and traditions of the host communities;
3. support the local economy by buying local goods and services;
4. contribute to local conservation efforts;
5. conserve and preserve the natural environment, its ecosystems, and wildlife;
6. do not disfigure cultural sites and monuments;
7. use energy and water, and dispose of waste, efficiently;
8. be careful with fire;
9. do not make unnecessary noise;
10. use only designated roads and paths.

From General Behavior Guidelines for Tourists, Environmental Codes of Conduct for Tourism, United Nations Environment Program

During the Field Trip

Keep your students together and follow the rules of the site. Even if you don’t use a complete educational activity program, give your students something that will help direct their visit. A simple directed learning activity, such as letting them know that they will be asked to talk or write about a favorite part of the place, or one thing that they learned following the trip. You can also use the following activity sheet.

Following Your Field Trip

Have a discussion about what they saw on the field trip. Did you ask them to look for specific things before you went? This is a good time to go over that list. Have your students write or talk about what they thought was most important about the site. Tie the discussion into other themes you’ve been teaching.
STUDENT ACTIVITY SHEET

To be completed by each student prior, during, and directly after a visit to a site (preferably a World Heritage site).

Name of site ........................................................................................................................................

Name of student ...................................................................................................................................

Date of the site visit ...................................................................................................................................

Write down your expectations for the visit (what do you want to discover, learn about, etc):

Explain

During the visit

Make a drawing of a feature or part of the site that you particularly appreciate (use a separate sheet).

Record some facts and figures that you learned about the site:
Report on sensory discoveries: when you closed your eyes describe what you heard, what you smelled, and describe the aspect of the site that made the biggest impact on you:

sound:...........................................................................................................

smell:...........................................................................................................

sight:...........................................................................................................

After the visit

Were your site visit expectations fulfilled? □ yes □ no

Explain:

Why do you think that this site is important?

Final comments