

Lesson Plan: Civilizations and Climate Vulnerability: The Khmer Empire

As a **High School** or **Undergraduate** teacher of **History** or **Social Sciences**, you can use this set of computer-based tools to teach about **civilizations, decline of civilizations or empires, and societal vulnerability to climate-related extreme events.**

This lesson plan will help students to learn about Angkor and the Khmer empire—its history, the geographical boundaries, various rulers, the architecture and structures built during the period, culture (including religion and festivities), and possible reasons for the decline and demise of the empire, including climate-related extreme events. The activities will also help students to use 360 degree visualizations while learning about the significance of water and water systems in the life of the Khmer people.

Thus, the use of this lesson plan allows you to integrate the teaching of a climate science topic with a core topic in **History** or **Social Sciences**.

About the Lesson Plan

Grade Level: High School or Undergraduate

Discipline: Social Sciences, History, Humanities

Topic(s) in Discipline: Civilizations, Angkor, Khmer Civilization, Khmer Empire, Urban Design, Water Systems, Water Management Systems, Demise of Civilizations, Decline of Civilizations

Climate Topic: Disasters and Hazards, Climate Vulnerability

Location: Cambodia, Asia

Access: Online

Language(s): English

Approximate Time Required: 75 min

1 Contents

1. Reading (10 min)

An introductory reading that provides an overview of the Khmer empire – its establishment, the rulers, the religions, the people, and the culture. It also describes the significance of Angkor, the construction and architecture of various monuments and structures, and the decline and collapse of the empire.

The reading can be accessed at:

https://www.ancient.eu/Khmer_Empire/

2. Reading (20 min)

A more detailed reading describing the foundation of the kingdom, the Angkorean civilization (including information about the various rulers, the magnificent structures built, and conflicts with enemies), the long reign of Jayavarman VII, and a discussion on the reasons that led to the decline of Angkor.

This reading can be accessed at:

<https://www.britannica.com/place/Cambodia/The-Khmer-state-Angkor>

3. Classroom/Laboratory Activity (45 min)

A classroom/laboratory activity that uses 360 degree visualizations, readings, and a map to explore Angkor virtually and to learn about the important role of water and water systems (canals, reservoirs, and tanks) in the Khmer empire. The three-part activity concludes with a discussion on the climate vulnerability of Angkor and climate variation as one of the causes of the downfall of the Khmer empire.

This activity can be accessed at:

<https://www.virtualangkor.com/water>

4. Suggested questions/assignments for learning evaluation

- Describe the reign of Suryavarman II in the Khmer empire. What were his key accomplishments?
- Discuss the role of water and water management systems in the life of the Khmer people.
- What were the possible reasons for the decline and eventual collapse of the Khmer empire?
- Discuss the climate-related extreme events that may have played a significant role in the demise of the Khmer empire.

2 Step-by-step User Guide

Here is a step-by-step guide to using this lesson plan in the classroom/laboratory. We have suggested these steps as a possible plan of action. You may customize the lesson plan according to your preferences and requirements.

1. Introduction to the topic

Use the reading “[Khmer Empire](#)” from the Ancient History Encyclopedia to provide an introduction to the Khmer Empire. Use the map to observe the geographical location and boundaries of the empire and discuss its modern-day equivalent location. Proceed to a discussion on the main rulers of the kingdom and their contribution. Provide an overview of the cultural and religious aspects, and conclude with information about the time period and events that led to the decline of the Khmer Empire.

This reading can be accessed at:

https://www.ancient.eu/Khmer_Empire/.

2. Detailed discussion on the topic

Use the reading “[The Khmer state \(Angkor\)](#)” from the Encyclopaedia Britannica for a more detailed discussion on Angkor and the Khmer Empire. Begin the discussion with the **Foundation of the kingdom** and the perceived role and importance of the rulers. Read about the **Angkorean civilization**; further, discuss the reigns of various rulers (including **Jayavarman VII**), the cities that were chosen as capitals over the years, and the magnificent monuments and structures built in the kingdom (including the Angkor Wat temple complex). Read about and discuss the gradual **decline of Angkor** and the various reasons that could be attributed to this downfall.

This reading can be accessed at:

<https://www.britannica.com/place/Cambodia/The-Khmer-state-Angkor>.

3. Further exploration using a hands-on activity

Use the teaching module “[Water & Climate](#)” from Virtual Angkor to help your students explore the history of Angkor and the Khmer Empire in a hands-on, interactive manner and to learn about how climate-related factors may have played a crucial role in the decline of this empire.

First, navigate to Theme One (Living with Water) of this module: <https://www.virtualangkor.com/water>.

- Read the introductory paragraph.
- Ask students to play the video and to explore the 360 degree views to learn about the role of water in the Khmer people’s lives.
- Facilitate a discussion on Questions 1., 2., and 3. of this module.

Next, navigate to Theme Two (The Hydraulic City) of this module: <https://www.virtualangkor.com/water-t2>.

- Read the introductory paragraph.
- Ask students to play the video and to explore the 360 degree views to visualize the rice fields and irrigation system in Angkor.
- Ask students to study the map.
- Facilitate a discussion on Questions 1. and 4. to learn about the water and water features in Angkor, and the significance of water in the Khmer empire.

Then, navigate to Theme Three (Climate Vulnerability) of this module: <https://www.virtualangkor.com/water-t3>.

- Read the introductory paragraph.
- Navigate to the article “[Climate as a contributing factor in the demise of Angkor, Cambodia](#)” listed in this module (<https://www.pnas.org/content/107/15/6748>). Encourage students to read the section, “Climate and Societal Vulnerability at Angkor”.
- Facilitate a discussion on the water management system in Angkor, the *barays*, and the modifications to the water management infrastructure. Discuss the role of climate-related extreme events (droughts and floods) in the downfall of the Khmer empire.

This classroom/laboratory activity can be accessed at:

<https://www.virtualangkor.com/water>

4. Questions/Assignments

- Describe the reign of Suryavarman II in the Khmer empire. What were his key accomplishments?
- Discuss the role of water and water management systems in the life of the Khmer people.
- What were the possible reasons for the decline and eventual collapse of the Khmer empire?
- Discuss the climate-related extreme events that may have played a significant role in the demise of the Khmer empire.

3 Learning Outcomes

The tools in this lesson plan will enable students to:

1. Give an account of the establishment, growth, and decline of Angkor and the Khmer empire.
2. Describe the monuments and structures built during the reign of various Khmer rulers.
3. Discuss the significance of water and water management systems in the Khmer empire.
4. Discuss the possible reasons for the downfall of the Khmer empire.
5. Explain how climate-related extreme events may have contributed to the decline of the Khmer empire.

4 Additional Resources

If you or your students would like to explore the topic further, these additional resources will be useful.

1. Classroom/Laboratory Activities

Educational modules from Virtual Angkor to learn about Angkor and the Khmer empire in an interactive and engaging manner.

These resources can be accessed at:

<https://www.virtualangkor.com/modules/>

2. Reading and Photographs

A reading and photographs on Water Technologies of the Khmer Civilization: Angkor from the website “ancient and water technologies” by Larry W. Mays for detailed exploration of the water management system in Angkor, including *barays*, moats, and canals.

This reading and photographs are available at:

<https://ancientwatertechnologies.com/2015/05/21/water-technologies-of-the-khmer-civilization-angkor/>

3. Teaching Module

A detailed teaching module on Angkor Wat titled “Angkor What? Angkor Wat!”, authored by Jennifer Foley and available on the EDSITEment! Website.

The detailed teaching module (lesson plan) is available at:

<https://edsitement.neh.gov/lesson-plans/angkor-what-angkor-wat>

5 Credits/Copyrights

All the teaching tools in our collated list are owned by the corresponding creators/authors/organizations as listed on their websites. Please view the individual copyright and ownership details for each tool by following the individual links provided. We have selected and analyzed the tools that align with the overall objective of our project and have provided the corresponding links. We do not claim ownership of or responsibility/liability for any of the listed tools.

1. Reading; “Khmer Empire”

from the [Ancient History Encyclopedia](#)

2. Reading; “The Khmer state (Angkor)”

from the [Encyclopaedia Britannica](#)

3. Classroom/Laboratory Activity; “Water & Climate”

from [Virtual Angkor](#)

4. Additional Resources

Classroom/Laboratory Activities from [Virtual Angkor](#);

Reading and Photographs from [ancient water technologies](#);

Teaching Module from [EDSITEment!](#)