Engineering An Empire Maya Worksheet Answers

Name____________________________ Hour_____

Engineering an Empire
The Maya: Death Empire

1. ____ AD, in the lowlands of the ____________ jungle, the Maya are becoming desperate. Their civilization is mysteriously declining.

2. What is the Maya Code?

3. The Mayas came into existence, probably a couple of ______________ years before Christ.

4. Where were the kingdoms of the Mayans located (use map).

5. What was the most sacred thing that could be offered to the gods?

6. Tikal was a thriving kingdom/capital whose rival city was ______________. There, Yikin Chan Kawil built something that would stand the test of time. This was The Temple of the ________________.

7. How was the temple built?

8. The Temple was _____ stories high, nearly as high as the towers on the ____________________.

9. In Mayan culture, kings were chosen by:
Bloodline Elections Spin the bottle

10. The mysterious tomb that Peter Weller is exploring was home to _________. He was the most important Maya king.

11.In the Temple of the Inscriptions, how did someone on top of the pyramid communicate with someone inside?

12. How old was Pacal when he died? _______ Who takes over after him? __________________

13. In what way(s) were the Mayans ahead of their time?

14. In Palenque, the challenge of water was not storing it but rather removing the surplus of water. How did they do it?

15. There is no one agreed upon cause of the implosion (decline) of Mayan civilization, but scholars seem to believe that __________________________ played a role. Give one example:

16. The causeway systems allowed for _________, movement, and ________ in the north. What was the name of the city located in the north were the Mayans wanted a second chance?
Chichen Itza Palenque Tikal

17. How many days did the Maya estimate for their calendar?

18. What was the significance of the stairs and panels of the The Castle, in Chichen Itza?

19. What is the advantage of a column?

20. Where were the conquistadors from whom feuded with the Maya?

Engineering an Empire Maya worksheet answers are a crucial resource for educators and students alike, facilitating a deeper understanding of the ancient Maya civilization's achievements, innovations, and the complexities of their societal structure. This article aims to explore the key themes presented in the documentary "Engineering an Empire: The Maya," while also providing insights into the answers commonly sought in the associated worksheet. By examining the architectural marvels and engineering feats of the Maya, we can appreciate how their advancements laid the groundwork for future civilizations.

Overview of the Maya Civilization

The Maya civilization, which thrived in Mesoamerica from approximately 2000 BCE to 1500 CE, is renowned for its remarkable achievements in various fields, including architecture, mathematics, astronomy, and agriculture.

Key Features of Maya Civilization

1. Advanced Architecture: The Maya constructed impressive cities with monumental pyramids, temples, and palaces, often using locally sourced stone.

2. Sophisticated Calendar Systems: They developed complex calendar systems that included the Tzolk'in (260 days) and the Haab' (365 days), which played a crucial role in their agricultural and religious practices.
3. Writing and Mathematics: The Maya created one of the most advanced writing systems in the pre-Columbian Americas and had a deep understanding of mathematics, including the concept of zero.
4. Agricultural Innovations: Techniques such as slash-and-burn agriculture and terracing allowed them to thrive in challenging environments.

Engineering Feats of the Maya

The Maya's engineering prowess is evident in their architectural designs, which not only served practical purposes but also held significant cultural and astronomical importance.

Notable Engineering Achievements

- Pyramids and Temples: Structures like the Pyramid of Kukulcán at Chichén Itzá exemplify the Maya's ability to create monumental architecture that aligned with their cosmological beliefs.
- Water Management Systems: The Maya developed intricate systems for capturing and distributing rainwater, including reservoirs and aqueducts, critical for sustaining their cities during dry seasons.
- Road Networks: Extensive trade routes and causeways connected various city-states, facilitating commerce and communication across their vast territory.
- Astronomical Observatories: Structures such as El Caracol at Chichén Itzá served as observatories that enabled the Maya to track celestial movements and incorporate this knowledge into their agricultural practices.

Understanding the Worksheet Answers

The "Engineering an Empire: Maya" worksheet typically includes questions that require students to analyze the documentary and engage with the content actively. Here are some common questions along with their answers.

Sample Worksheet Questions and Answers

1. Question: What were the primary materials used by the Maya in their constructions?
- Answer: The Maya primarily used limestone, which was abundant in their region. They also utilized plaster for finishing surfaces and creating decorative elements.

2. Question: Describe the significance of the Maya calendar.
- Answer: The Maya calendar was crucial for agricultural planning, religious ceremonies, and social organization. It helped the Maya keep track of time and seasonal changes, which were vital for their crops.

3. Question: How did the Maya's engineering techniques influence their society?
- Answer: The engineering techniques of the Maya allowed for the development of large urban centers, supported a growing population, and facilitated trade and cultural exchange. Their innovations in water management, for example, directly impacted their agricultural productivity.

4. Question: What role did astronomy play in Maya engineering?
- Answer: Astronomy was integral to Maya engineering, as many structures were aligned with celestial bodies. This alignment was not only for practical purposes, such as agricultural cycles, but also held religious significance.

Challenges Faced by the Maya

Despite their many achievements, the Maya civilization faced significant challenges that ultimately contributed to its decline.

Factors Leading to Decline

- Environmental Degradation: Intensive agricultural practices led to deforestation and soil depletion, which adversely affected food production.
- Climate Change: Periods of drought severely impacted water supply and agricultural yields, leading to famine and social unrest.
- Warfare and Political Strife: Increasing competition for resources often resulted in conflict between city-states, destabilizing the region.
- Societal Collapse: The combination of environmental stressors, warfare, and political instability led to the gradual abandonment of cities and a decline in population.

Lessons from the Maya Civilization

The Maya civilization provides valuable lessons about sustainability, innovation, and the consequences of environmental mismanagement.

Key Takeaways

- Sustainability: The importance of sustainable practices in agriculture and resource management cannot be overstated. The Maya's initial successes were

overshadowed by the long-term impacts of their practices.
- Innovation: The engineering marvels of the Maya remind us of the potential for human ingenuity in overcoming challenges. Their methods in construction and water management are still studied today for inspiration.
- Cultural Significance: Understanding the Maya's cultural and religious ties to their engineering projects underscores the importance of integrating societal values into technological advancements.

Conclusion

In conclusion, **engineering an Empire Maya worksheet answers** serve as a gateway to understanding the complexity of the Maya civilization's achievements and challenges. By engaging with the documentary and its accompanying materials, students can gain a richer appreciation for the ingenuity of the Maya and the lessons their civilization imparts for modern society. The study of the Maya is not merely an exploration of the past; it is a reflection on how we can navigate the future by learning from those who came before us.

Frequently Asked Questions

What are the key engineering achievements of the Maya civilization highlighted in the 'Engineering an Empire: Maya' worksheet?

The worksheet highlights the Maya's advanced architectural techniques, including the construction of pyramids, temples, and observatories, as well as their sophisticated water management systems, such as reservoirs and canals.

How did the Maya use their understanding of astronomy in their engineering projects?

The Maya incorporated astronomical alignments into their architectural designs, ensuring that structures like temples and pyramids were oriented with celestial events, which played a significant role in their religious and agricultural practices.

What materials were commonly used by the Maya in their construction projects, as mentioned in the worksheet?

The Maya primarily used limestone for their buildings, along with other materials such as adobe, wood, and thatch, which were readily available in their environment.

What role did the environment play in the engineering strategies of the Maya, according to the worksheet?

The Maya adapted their engineering strategies to the local environment, utilizing natural resources and landscapes to design effective agricultural systems, such as terracing and raised fields, which helped manage water and soil fertility.

What lessons can modern engineers learn from the Maya's engineering practices as discussed in the worksheet?

Modern engineers can learn about sustainable building practices, the importance of integrating natural landscapes into construction, and the value of using locally sourced materials, as demonstrated by the Maya's successful adaptation to their environment.

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