Disney Youth Education Series

Walt Disney World

supplemental materials

THE EVOLUTION OF TECHNOLOGY

APPLIED SCIENCES

Designed For Students:
Grades 6th-12th
Ages 11-18

HELLO EDUCATOR!

Disney Youth Education Series is pleased to be able to provide you with these materials to gauge your students' progress as they prepare for and complete their Disney Y.E.S. experience.

To encourage creative thinking, open-mindedness, and generate excitement, we suggest that you use the Pre-Trip Coursework to help your students prepare for The Evolution of Technology. Upon your return to school, you might find the Post-Trip Assessment useful to measure student learning.

These tools are sure to get your students moving in the right direction and help ensure a learning experience that is relevant, inspiring, and thought-provoking!

We look forward to hosting you at the Walt Disney World® Resort where iconic settings, imagination, and storytelling come together to create a unique learning environment and life-long memories. See you soon!

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pre-trip coursework

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1. **Students to examine the shoes that they are wearing. Students should diagram their shoe, and discuss the following:**
   - The science/technology involved in the design of the shoe
   - The materials used to create the shoe
   - The technology used to manufacture the shoe
   - The factors that influenced the design, manufacturing, and sale of the shoe
   - The complexity of the production of modern-day shoes as compared to footwear prior to the Industrial
   - Revolution

2. **Students to design an ideal classroom within a designated budget.**
   - Students should consider the following while designing their classroom:
     - Available finances
     - Purpose of the space
     - On-going maintenance of space and equipment
     - Restrictions and regulations
     - Available space
       - √ Utility requirements
       - √ American Disabilities Act
       - √ Building/room capacity
       - √ Fire regulations
     - Equipment needs:
       - √ Multimedia, computers, etc.
       - √ Software and systems requirements
       - √ Seating
       - √ Work stations
       - √ Acoustical and lighting requirements
   - Students discuss:
     - How finances, regulations, and other factors influenced their design.
     - How these considerations are applicable to development in other areas.

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3. **Students to develop a code using zeros and ones to encrypt the main phone number of the school. Students to discuss:**
   - Challenges of developing the code
   - Challenges of deciphering the code
   - Challenges of transmitting the code
   - Challenges of storing the code
   - Morse code as precursor to computer binary code
   - Advantages of binary code and its practical appliction
   - Electronic methods of storing and transmitting binary code

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post-trip assessment

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At the conclusion of the Disney Youth Education The Evolution of Technology experience, have each student do the following:

1. Define what technology is.
2. Illustrate the ever-changing nature of technology by citing specific examples.
3. Discuss the advantages of teamwork in creative problem-solving.
4. Demonstrate or illustrate the acceleration of technology within the past 100 years.
5. Discuss the role of testing in the product development process.
6. Demonstrate how scientific knowledge changes and accumulates over time.
7. Articulate the relationship between the evolution of mathematical systems and the development of technology.
8. Discuss factors that influence the development of technology