GEORGIA | PEACH STATE PATHWAYS

Career, Technical, & Agricultural Education

ENGINEERING & TECHNOLOGY

PATHWAY: Engineering

COURSE: Foundations of Engineering and Technology

UNIT: 2: Technology Student Association

INTRODUCTION

Annotation: Briefly describe the unit topics, tasks, methods, etc.

Students will be introduced to the Technology Student Association (TSA). They will develop leadership & problem-solving skills through activities associated with TSA.

Grade(s):

X	9th
X	10th
X	11th
X	12th

Time:

5 Hours

Author:

Gillespie

Additional Author(s):

Students with Disabilities:

For students with disabilities, the instructor should refer to the student's IEP to be sure that the accommodations specified are being provided. Instructors should also familiarize themselves with the provisions of Behavior Intervention Plans that may be part of a student's IEP. Frequent consultation with a student's special education instructor will be beneficial in providing appropriate differentiation.

FOCUS STANDARDS

GPS Focus Standards: Please list the standard and elements covered.

ENGR-FET-1c – Participate in co-curricular and extracurricular activities related to career interests.
ENGR-FET-4 – Students will apply mathematics and science to the solution of a technological problem.
ENGR-STEM-7 – Students will develop leadership and interpersonal problem-solving skills through participation in co-curricular activities associated with the Technology Student Association.
CTAE-FS-8 Safety, Health and Environment: Learners employ safety, health and environmental management systems in corporations and comprehend their importance to organizational performance and regulatory compliance.

GPS Academic Standards:

SCSh3. Students will identify and investigate problems scientifically.
SCSh6. Students will communicate scientific investigations and information clearly.

National / Local Standards / Industry / ISTE:

UNDERSTANDINGS & GOALS

Enduring Understandings: Enduring understandings are statements summarizing important ideas and have lasting value beyond the classroom. They synthesize what students should understand – not just know.

Students will participate in teamwork to accomplish specified organizational goals and demonstrate effective communication skills.

Essential Questions: Essential questions probe for deeper meaning and understanding while fostering the development of critical thinking and problem-solving skills. Example: Why is life-long learning important in the modern workplace?

1. What is the Technology Student Association?
2. What are the benefits of joining an active TSA chapter?
3. Why are problem-solving & team work integral parts of leadership & career opportunities?

Knowledge from this Unit: Factual information.

1. Students will learn the concept of team dynamics.
2. Students will know what a Technology Student Association (TSA) is and know the importance of joining such a group.
3. Students will gain vital communication skills needed in the workplace.

Skills from this Unit: Performance.

1. Students will be able to identify Parliamentary Procedure principles.
2. Students will actually conduct a business meeting of the TSA.
3. Students will demonstrate the leadership skills needed in the workplace.

ASSESSMENT(S)

Assessment Method Type: Select one or more of the following. Please consider the type(s) of differentiated instruction you will be using in the classroom.

- ____ Pre-test
- ____ Objective assessment - multiple-choice, true- false, etc.
  - __ Quizzes/Tests
  - __ Unit test
- ____ Group project
- X Individual project
- ____ Self-assessment - May include practice quizzes, games, simulations, checklists, etc.
  - __ Self-check rubrics
  - __ Self-check during writing/planning process
  - __ Journal reflections on concepts, personal experiences and impact on one's life
  - __ Reflect on evaluations of work from teachers, business partners, and competition judges
  - __ Academic prompts
  - __ Practice quizzes/tests
- X Subjective assessment/Informal observations
  - __ Essay tests
  - _X_ Observe students working with partners
  - _X_ Observe students role playing
- ____ Peer-assessment
  - __ Peer editing & commentary of products/projects/presentations using rubrics
  - __ Peer editing and/or critiquing
- X Dialogue and Discussion
  - __ Student/teacher conferences
  - __ Partner and small group discussions
  - _X_ Whole group discussions
  - __ Interaction with/feedback from community members/speakers and business partners
- X Constructed Responses
  - __ Chart good reading/writing/listening/speaking habits
  - _X_ Application of skills to real-life situations/scenarios
- ____ Post-test

Assessment(s) Title:

Problem Solving Activity. Activity will differ by Teacher, see suggested resources below.

Assessment(s) Description/Directions:

Attachments for Assessment(s): Please list.

LEARNING EXPERIENCES

Instructional planning: Include lessons, activities and other learning experiences in this section with a brief description of the activities to ensure student acquisition of the knowledge and skills addressed in the standards. Complete the sequence of instruction for each lesson/task in the unit.

Sequence of Instruction

1. Identify the Standards. Standards should be posted in the classroom for each lesson**.**

ENGR-FET-1c – Participate in co-curricular and extracurricular activities related to career interests.
ENGR-FET-4 – Students will apply mathematics and science to the solution of a technological problem.
ENGR-STEM-7 – Students will develop leadership and interpersonal problem-solving skills through participation in co-curricular activities associated with the Technology Student Association.
CTAE-FS-8 Safety, Health and Environment: Learners employ safety, health and environmental management systems in corporations and comprehend their importance to organizational performance and regulatory compliance.

2. Review Essential Questions.

1. What is the Technology Student Association?
2. What are the benefits of joining an active TSA chapter?
3. Why are problem-solving & team work integral parts of leadership & career opportunities?

3. Identify and review the unit vocabulary.

TSA-Technology Students Association

Competitive

Guide-

Recruitment-

Parliamentary Procedure-

4. Assessment Activity.

Day 1: Introduce TSA

- Show slide show of competitive events (see attachment for Learning Experiences)
- If applicable, have TSA officers present information on their experiences
- Have students complete an online Scavenger Hunt on the Technology Students Association

Day 2& 3: Problem-Solving

- Possibly choose something from the TSA competitive events guide or the GETEA activities. www.gitea.org under Teacher Resources
    - Examples include Marble Roller Coasters, Cardboard Towers, Pringles Challenge, Spaghetti Towers, etc.
- Have students brainstorm/research possible solutions. Predict outcomes.

- Have students work in teams to complete a problem-solving activity.
- Test Solutions
- Evaluate

Day 4: Recruitment
- Have students create recruitment brochures or flyers

Day 5: Leadership & Professional Growth
- Show students example of Parliamentary Procedure
- Conduct an actual TSA meeting in class
- Invite guest speakers (bonus if they were once TSA members) to talk about the skills gained in TSA & how they have helped in their careers

Attachments for Learning Experiences: Please list.

PowerPoint:

Middle School Events (by Georgia TSA)

High School Events (by Georgia TSA)

Notes & Reflections: May include notes to the teacher, pre-requisite knowledge & skills, suggestions, etc.

There is information on TSA found at www.gatsa.org and www.tsaweb.org. There are many great problem-solving activities in the TSA Competitive events guide. TSA is to be co-curricular.

CULMINATING PERFORMANCE TASK (Optional)

Culminating Unit Performance Task Title:

TSA Internet Scavenger Hunt

Culminating Unit Performance Task Description/Directions/Differentiated Instruction:

See Attached

Attachments for Culminating Performance Task: Please list.

TSA Internet Scavenger Hunt

UNIT RESOURCES

Web Resources:

www.gatsa.org
www.tsaweb.org
www.gitea.org

Attachment(s): Supplemental files not listed in assessment, learning experiences, and performance task.

Materials & Equipment:

View Screen for Power point presentation, computer/internet access

What 21st Century Technology was used in this unit:

X	Slide Show Software		Graphing Software		Audio File(s)
	Interactive Whiteboard		Calculator	X	Graphic Organizer
X	Student Response System		Desktop Publishing	X	Image File(s)
	Web Design Software		Blog		Video
	Animation Software		Wiki	X	Electronic Game or Puzzle Maker
	Email	X	Website		