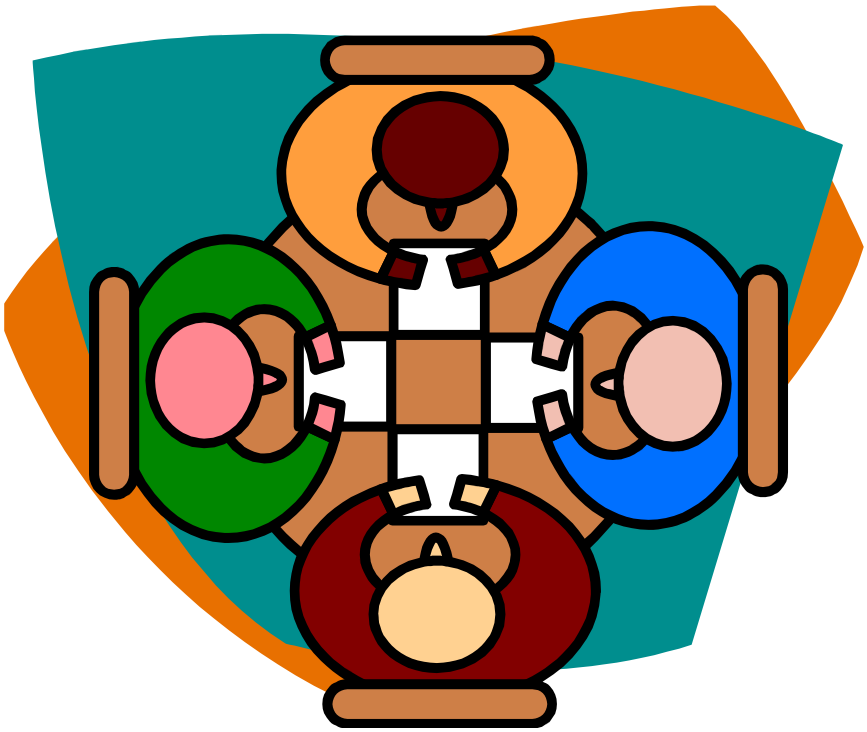
Future Problem Solving Program International

Global Issues Problem Solving



Coach Information
2017-18

Future Problem Solving Program International

Global Issues Problem Solving Overview

What is Global Issues Problem Solving?

Global Issues Problem Solving (GIPS) is a competitive component of Future Problem Solving Program International (FPSPI). It is a team or individual activity in which participants research a series of global topics and learn a six-step creative problem solving process. In competition, participants apply their knowledge and the problem solving process to address a Future Scene, an imagined situation set in the future. Topics for the Future Scenes include global issues in the areas of business & economics, science & technology, and social & political areas. Each year five topics are addressed: two practice problems, a qualifying problem, an Affiliate Bowl/Final problem, and the problem at the International Conference.

Why Global Issues Problem Solving?

Future Problem Solving Program International provides the tools and strategies students need to face the challenges of today and the future. What better way to prepare students than by guiding them to learn in depth about topics of global importance, to systematically address related complex situations, and to evaluate multiple solutions in order to best address the situation through an Action Plan? Those involved in Global Issues Problem Solving practice powerful problem solving skills using critical and creative thinking. Participants improve their communication skills through collaboration and learning to write concisely with a specific focus in mind. The non-fiction/informational text reading skills, writing skills, and teamwork collaboration skills address many academic standards identified as critical skills by Common Core, STEM, 21st Century Skills, and NAGC (Nat'l Association for Gifted Children). The 4Cs – collaboration, communication, critical thinking, and creative thinking are infused into FPS and strengthened with membership in Partnership for 21st Century Learning (P21) www.p21.org.

Who can participate in Global Issues Problem Solving?

Recent Topics in Business & Economics

Air Transportation
Counterfeit Economy
Debt in Developing Countries
Fund-raising and Charity Giving
Intellectual Property
Pharmaceuticals
Trade Barriers

Students may participate in competitive Global Issues Problem Solving in multiple divisions equivalent to grade levels of the USA: Junior (grades 4-6), Middle (grades 7-9), and Senior (grades 10-12), and an Adult division for team participation. Many Affiliates also offer options for non-competitive participation as young as kindergarten, including Action-based Problem Solving, curricular and/or novice problem solving, and other Affiliate created options. Check with your Affiliate Program for more information.

What is the composition for GIPS?

Teams of four, or fewer, and individuals participate in Global Issues Problem Solving. The composition of the team does not have to be the same for each practice problem, as this is when the dynamics of a good team are being determined; however, rules apply to team composition from the qualifying problem through the international level. Students may compete in a division higher than their grade level, but not in a lower division. Coaches may work with multiple teams and individuals.

Recent Topics in Social & Political Areas

Child Labor
Culture of Celebrity
Cultural Prejudice
Human Rights
Megacities
Olympic Games
Orphaned Children

How can I get started with my students?

Training in the problem solving process is essential for Global Issues Problem Solving coaches. Affiliate Programs often schedule workshops in the problem solving process – check your Affiliate Program's website for specifics. If you are not able to attend a workshop, you can find many valuable resources at fpspimart.org. "GIPS Essential Offerings" highlights information focused on Global Issues Problem Solving. Additionally, interaction through the optional FPSPI Association, provides support and information for all components.

Recent Topics in Science & Technology

Coral Reefs
Biosecurity
Genetic Testing
Ocean Soup
Robotic Age
Space Junk
Water Quality

How do I register students for Global Issues Problem Solving?

Each Affiliate Program determines its own processes, fees, and due dates for registration and entries. Your Affiliate can provide you with registration and submission materials and may be able to put you in touch with experienced GIPS coaches. If you need contact information for your Affiliate, you can find it at fpspi.org under Connect/Existing Locations Affiliate Directory.

How are GIPS booklets evaluated?

GIPS booklets are scored by trained evaluators who carefully read and assess the written booklets. Some Affiliate Programs require that all coaches receive evaluation training and participate as evaluators. If yours does not, serving as an evaluator is highly recommended and always improves coaching skills!

Quality teams from the qualifying competition move on to the Affiliate Bowl/National Competition and champion teams and individuals in each division at this level then advance to the International Conference competition.

GIPS Essential Offerings

Most coaches can't get along without these important resources from **www.fpspimart.org.**

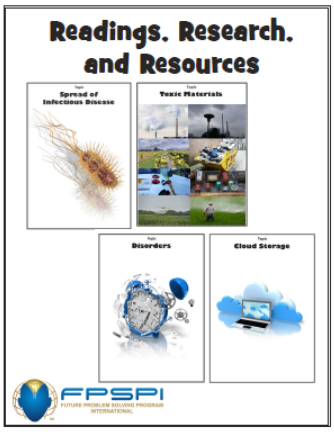
FPSPI Association Fee 2017-18

Join this official group to support FPSPI and receive information for **all** FPS Components from the International Office:

- Official guidelines and documents
- Unique supplemental materials including tips and examples

$30 fee for electronic download of supplemental materials and participation throughout the year through various offerings!

Readings, Research, and Resources (RR&R)



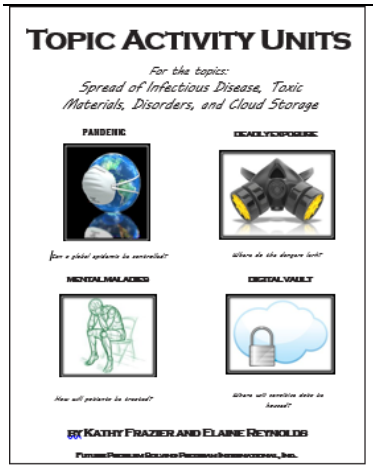
Provides essential background information for coaches and students

For each of the first four topics of the year, the guide includes the following publications:

- Themes and Concepts
- Terms and Definitions
- Overview
- Questions for Discussion
- Internet Resources
- Article Summaries

(Note: No chapter is provided for the International Competition topic.)

$45 electronic/$50 binder ready



Topic Activity Units (TAU)

Provides a wide variety of instructional activities for preparation on the first four topics of the year

Can be used as a unit of study or activities may be used as desired for particular steps within the process

Build the following skills through various activities:

- Researching and analyzing the topics
- Analyzing & writing the process steps

$55 electronic/$60 binder ready

Combos

Combo #1 – *Coach's Handbook, Student Guide Workbook* (4), *Problem Solving across the Curriculum*: $95 hard copies

Combo #2 – *RR&R* and *Q&A*: $72 electronic, $80 binder ready

Combo #3 – *RR&R* and *TAU*: $85 electronic, $95 binder ready

Combo #4 – *RR&R*, *TAU*, and *Q&A*: $115 electronic, $130 binder ready

More GIPS Essential Offerings

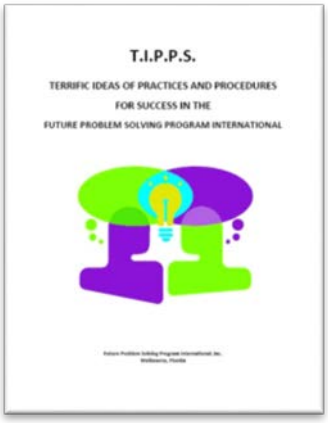
Available at www.fpspimart.org

Coach's Handbook

A comprehensive overview of Global Issues Problem Solving
A great resource for beginning coaches:

- Six-step creative problem solving process
- Examples for each step
- Tips on teaching
- Exercises for improving team performance

$33 electronic/$35 binder ready



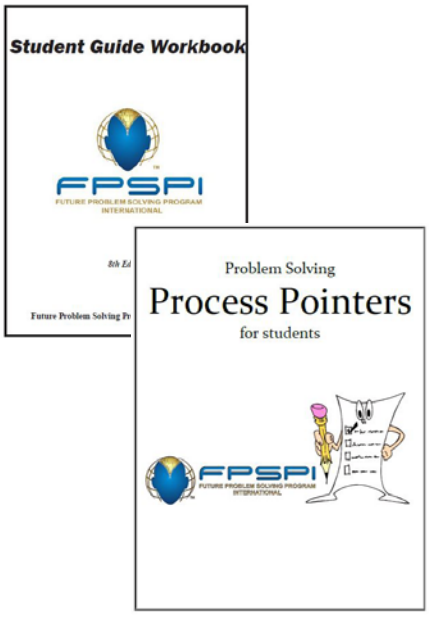
TIPPS – Terrific Ideas of Practices & Procedures

A collection of ideas, strategies, and techniques contributed by successful coaches
Addresses pertinent areas:

- Establishing and maintaining a program
- Strengthening teams
- Strengthening research skills
- Strengthening the problem solving process
- Strengthening creative, critical, and futuristic thinking
- Integrating problem solving into the curriculum, and MORE

$38 book

Problem Solving Process Pointers & Student Guide Workbook



Written for students, these "workbooks" provide plenty of practice

- *Student Guide Workbook* introduces basic generating and focusing tools and guides beginning students through the six-step creative problem solving process. Explanations and examples are included.
- *Problem Solving Process Pointers for Students* includes hints for reading a Future Scene, the "anatomy" of each problem solving step, hints for thinking and writing, "build your own" guides, and writing practice.

$10 Process Pointers/$7 Student Guide Workbook

WARNING – DO NOT POST . . .

Future Scenes: Every Future Scene contains the following warning: ***Do not post on any website until 2021.*** This means that Future Scenes should not be posted on any unsecured site, anywhere or at any time, until that date.

The main reason for this policy is to make sure the confidentiality of Future Scenes is maintained for all Affiliate Programs.

- Different Affiliates have different calendars, especially those in the southern hemisphere where the school year begins and ends much differently from the northern hemisphere; thus, they may be using a Future Scene at a much later date.
- Affiliate Programs are free to change the order of topics. For example, the Future Scene identified for practice problem #2 could conceivably be used as the qualifying problem by another Affiliate; therefore, practice problems must also be kept confidential.

Videos/Images: "Do Not Post" also applies to any videos, such as Presentation of Action Plan or images that might include details from Future Scenes.

Evaluation Notes: Evaluation notes from any topic may not be posted on any publicly accessible site as they provide specific details of the Future Scene.

FPSPI Publications: A purchase of any publication entitles that person to use the content only with his/her students. Such publications should be posted only on secure sites to which only his/her students have access.

Those found to have violated this policy will be charged $500 per incident, plus additional costs incurred by the International Office and other Affiliate Programs and Mentored Regions.

Thank you in advance for complying with this policy!

GIPS: Overview of the 2017-18 Competition Year

For each topic, individuals or teams of 4 or fewer persons research and study a topic area and complete a written problem solving booklet based on the provided Future Scene. A team of evaluators assesses the booklets and provides extensive written feedback focused on improvement of writing and thinking skills. See your Affiliate Calendar for submission due dates.

Practice Problem 1

Topic for study:	**SPREAD OF INFECTIOUS DISEASE**
Steps completed:	Steps 1-3: Challenges, Underlying Problem, Solutions
Participants:	Any students of registered coach
Working conditions:	Flexible, based on educational needs of students, guidance recommended for young or beginning students

Practice Problem 2

Topic for study:	**TOXIC MATERIALS**
Steps completed:	All 6 steps
Participants:	Any students of registered coach
Working conditions:	Flexible - based on educational needs of students, some guidance recommended for students in first couple of years, may do booklet work in 2 hour practice session to prepare for Qualifying Problem

Qualifying Problem

Topic for study:	**DISORDERS**
Steps completed:	All 6 steps
Participants:	All registered teams/individuals
Working conditions:	"Competitive" conditions in place: 2 consecutive hours, unassisted, no notes Note: Top teams qualify for Affiliate/National Competition

Affiliate Bowl (also called State Bowl or National Finals)

Topic for study:	**CLOUD STORAGE**
Steps completed:	All 6 steps
Participants:	Teams/Individuals advancing from Qualifying Problem (Affiliates may vary selection of participants for advancement.)
Working conditions:	"Competitive" conditions must be met: 2 consecutive hours, unassisted, no notes, usually on-site

International Conference

Topic for study:	**TOPIC ANNOUNCED BEGINNING OF MARCH**
Steps completed:	All 6 steps
Participants:	First place teams from Affiliate Bowls/National Competitions and Mentored Regions are invited; Affiliates may qualify for additional invitations according to scale (size of program)
Working conditions:	"Competitive" conditions are in place: 2 consecutive hours, unassisted, no notes; on-site only

The Creative Problem Solving Process

Global Issues Problem Solving (GIPS) is based on the Creative Problem Solving (CPS) process, a powerful process that can be applied to many complex situations in education, business, community, and personal settings.

1. Identify Challenges
(16/team; 8/individual)

- Generate issues, concerns, and problems, applying background knowledge to the Future Scene.
- Consider major issues and categories of problems in order to think of more challenges.
- Select the sixteen best challenges.
- Write the sixteen challenges clearly and concisely, showing cause and effect and tying directly to the Future Scene.

2. Select an Underlying Problem (UP)

- Consider the major issues in the sixteen challenges.
- Select an issue, one that will have a major impact on the Future Scene, for the focus of the Underlying Problem.
- Be forward-looking and proactive, not regressive and reactive, in developing the Underlying Problem.
- Write the Underlying Problem in correct format, beginning with the Future Scene conditions that are the basis or rationale for the idea.
- Indicate a desired action to be taken, a purpose for the desired action, and parameters tying the problem to the Future Scene.

3. Produce Solution Ideas
(16/team; 8/individual)

- Generate multiple solutions to the Underlying Problem.
- Think futuristically and consider the use of technological advances.
- Focus in on the sixteen best solution ideas, checking that each solution addresses the Underlying Problem.
- Write the sixteen solutions clearly.
- Elaborate by telling who will implement the solution, what action will be taken, and how or why the action will be taken.

4. Generate & Select Criteria

- Considering the UP and the Future Scene, generate possible criteria that could be used to evaluate the solutions.
- Select five important criteria.
- Write criteria in question format using the superlative form, one dimension, and the desired direction.

5. Apply Criteria

- Select the eight most promising solutions and enter in the grid.
- Rank the solutions based on each of the criteria separately.
- Identify the best solution (highest number of total points).
- **Note:** Pilot option available in Middle and Senior Division in which ALoU (Advantages, Limitations, ways to overcome, and Unique possibilities) may be completed rather than the grid.

6. Develop an Action Plan

- Plan how the best solution can be implemented.
- Describe the actions and steps of the plan.
- Clearly state how the plan will address the Underlying Problem and impact the Future Scene.

Category List for Generating Ideas

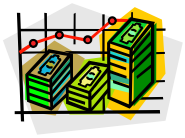
1 Arts & Aesthetics 

2 Basic Needs 

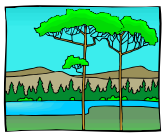
3 Business & Commerce 

4 Communication 

5 Defense 

6 Economics 

7 Education 

8 Environment 

9 Ethics & Religion 

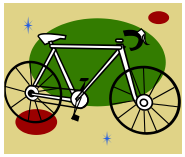
10 Government & Politics 

11 Law & Justice 

12 Miscellaneous 

13 Physical Health 

14 Psychological Health 

15 Recreation 

16 Social Relationships 

17 Technology 

18 Transportation 

Non-Competitive Global Issues Problem Solving

Problem solving skills can easily be taught to your student non-competitive setting. If you are looking for a non-competitive activity, consider these options to determine which best fits your needs.

Action-based Problem Solving (AbPS)

- AbPS is designed for integration into the classroom curriculum and can easily be used with the primary level (K-3) and up through grade 9.
- Teachers begin by purchasing an Action-based Problem Solving manual from Future Problem Solving Program International (FPSPI). The manual provides instructional materials and lesson plans for initial learning of the problem solving process using easy children's stories or nursery rhymes.
- AbPS teaches a simplified version of the problem solving process, providing guidance in the writing of ideas. The materials may be used with a few students or with an entire class; either the teacher or the students may record the ideas that are generated; the work may be completed with teacher guidance or independently in small groups.
- Some Affiliates offer AbPS as a non-competitive component. In these Affiliates, registration provides two additional problem solving fuzzies for students to address and the registration entitles the teacher to submit the students' work for evaluation twice during the year. Contact your Affiliate for more information.
- For registered coaches, information is also provided on conducting an Action-based Problem Solving Fair where students address real problems within their school or community.

Problem Solving Curriculum

- *The Problem Solving Experience: Classroom Curriculum Designed to Promote Problem Solving in the 21st Century* is a complete curriculum targeted at grades 5-8, but portions of the curriculum may be used with younger or older students.
- The curriculum can be implemented as a full semester course, or spread across 1-4 school years. Complete lesson plans and resource materials are provided.
  (See the detailed flier for more information.)

Connecting Future Scenes to Curriculum

- *Problem Solving Across the Curriculum* provides copies of hundreds of Future Scenes that have been used in the Global Issues Problem Solving component over a number of years.
- Teachers may select Future Scenes to fit their curriculum and may modify the scenes to meet their students' educational needs.
- Training in teaching problem solving process skills is helpful in order to make full use of these Future Scenes.

Action-Based Problem Solving Teacher's Manual
The Problem Solving Experience: Classroom Curriculum
Problem Solving Across the Curriculum
Available at fpspimart.org

The Problem Solving Experience:

Classroom Curriculum Designed to Promote Problem Solving in the 21st Century

The activities in this course are an outgrowth of the Future Problem Solving Program International, a program originally developed by E. Paul Torrance who was a pioneer in creativity. The curriculum provides direct instruction that introduces students to the creative problem solving process and then provides practice through the application of problem solving in a variety of contexts.

The course is targeted at grades 5-8. The curriculum can be implemented as a full semester course, spread across a year, or split up across 2-4 years. Cross-curricular possibilities are numerous. The course consists of lesson plans for nine units, with extensive resources for each unit including handouts, and teacher reference materials.

Preparation for Problem Solving
Problem Solving Experience 1: Eensy Weensy Spider
Problem Solving Experience 2: The Elephant's Nose
Problem Solving Experience 3: Robin Hood
Problem Solving Experience 4: The Lorax
Problem Solving Experience 5: Harrison Bergeron
Problem Solving Experience 6: Smart Clothes
Problem Solving Experience 7: Digital Music Rights
Problem Solving Experience 8: Prejudice

Available at fpspimart.org

