



# Future Problem Solving Program of New Jersey



**Opening Doors to the Future**

## What is the Future Problem Solving Program?

The Future Problem Solving Program (FPSP) is a nonprofit educational corporation administering creative problem solving activities for students in elementary, middle, and high schools. Opening doors to student imaginations since its founding in 1974 by creativity pioneer, Dr. E. Paul Torrance, FPSP stimulates critical and creative thinking skills and encourages students to develop a vision for the future. FPSP features curricular and co-curricular competitive, as well as non-competitive, activities in creative problem solving.



Inspiring and motivating, FPSP helps students discover rich and varied ways of thinking. The program teaches students how to think, not what to think.

## Who can participate?

The Future Problem Solving Program is open to all students in grades K-12 or equivalent school year levels. A school affiliation is not required to participate. There are 43 FPSP affiliate programs in the United States, Australia, New Zealand, and Korea, including the New Jersey Future Problem Solving Program (NJ FPS). Annually, over 250,000 students from around the world, including the above countries and Canada, participate in FPSP activities.

## How does the program work?

The Future Problem Solving Program teaches a six-step model which serves as the foundation to build dynamic, creative thinking processes:

- 1. Identify Challenges Related to the Topic or Future Scene**
- 2. Select an Underlying Problem**
- 3. Produce Solution Ideas to the Underlying Problem**
- 4. Generate and Select Criteria to Evaluate Solution Ideas**
- 5. Evaluate Solution Ideas to Determine the Better Action Plan**
- 6. Develop an Action Plan**

Students can participate in one of three divisions in competitive FPSP components: **Junior Division** – grades 4-6, **Middle Division** – grades 7-9, and **Senior Division** – grades 10-12. In addition, the non-competitive Action-based Problem Solving component offers three divisions: **Primary** – grades K-3, **Junior** – grades 3-6, and **Middle** – grades 6-9.

## What are the goals of the program?

- Increase creative thinking, reading, and writing abilities
- Improve analytical thinking skills
- Stimulate an interactive interest in the future
- Extend perceptions of the real world
- Explore complex societal issues, ranging from business and economics to science and technology
- Refine communication skills – written, verbal and technical
- Promote research
- Integrate problem-solving into the curriculum
- Encourage cooperative, responsible group membership and teamwork
- Offer authentic assessment

## What are the components of the program?



### Team Problem Solving

Under the guidance of a teacher/coach, teams of four students in grades 4-12 use the FPSP six-step model to explore challenges and propose action plans to complex societal problems, such as fads, financial security, amateur sports, the Internet and genetic engineering.

Teams complete two practice problems and one qualifying problem throughout the school year. Trained evaluators score student work and return it with feedback including suggestions for improvement. The top scoring teams on the qualifying problem are invited to the State Bowl held each spring. The winners of the State Bowl advance to the FPSP International Conference in June.

In 1998, students from Woodbridge High School in Woodbridge, New Jersey won 2<sup>nd</sup> Place at the International Conference in the Senior Division of Team Problem Solving. In 2002, students from Park Ridge High School in Park Ridge, New Jersey placed 4<sup>th</sup> in the Senior Division at the Conference, and students from Freehold Intermediate Middle School in Freehold, New Jersey placed 7<sup>th</sup> in the Junior Division there as well.

### Individual Problem Solving

In individual competition, a student works individually rather than as a member of a team. Individual competitors use the same six-step model to complete the same rounds of practice and competition as do participants in Team Problem Solving.

### Action-based Problem Solving

This yearlong, non-competitive component is designed for use in the regular classroom, and introduces students to the skills of creative problem solving in a hands-on, non-threatening manner. Teams consisting of four to six students are encouraged to work on two topics, one per semester.

## Community Problem Solving (CmPS)

Teams apply their FPS skills to real problems in their communities. A unique form of service learning, or learning by doing, implementation of the action plan is included in this component. Teams move from hypothetical issues to authentic, real world concerns. The top Community Problem Solving team projects at the state level are invited to the FPSP International Conference in June. In 2002, students from the Dr. John Howard Jr. Unique School of Excellence in East Orange, New Jersey won the International Grand Championship in the Junior Division of CmPS, having completed a project in which they united and assisted people in their community who had experienced personal tragedies in their lives.

## Scenario Writing

Students compose futuristic short stories (1,500 words or less), set at least 20 years into the future, that are related to one of the current year's topics. The top three essays in each division at the state level are submitted to the International Scenario Writing Competition.

## What is a future scene?

The first step in successful problem solving is defining and describing the problem. Who is involved in the problem? What is the problem? When and where does the problem occur? Why does the problem happen? How does it occur? A **future scene**, or **fuzzy**, is a description of the problem situation that needs to be solved. Students use future scenes to project themselves into the future, and to generate challenges related to the topic, examining what has changed, and what other areas might change.



Listed below are topics that serve as the basis for future scenes. Students research information relating to the topics prior to reading the future scene for a particular round of Team or Individual Problem Solving. Their research then helps them to understand the context of the future scene, and provides them with a starting point for identifying challenges and generating solution ideas for the future scene. Sample future scenes can be found on the following pages.

## Topics

	<b><u>2002-03</u></b>	<b><u>2003-04</u></b>
<b>Practice Problem #1</b>	Sports Medicine	Smart Clothes
<b>Practice Problem #2</b>	E-Commerce	Rage/Bullying
<b>Qualifying Problem</b>	Nanotechnology	Artificial Intelligence
<b>State Bowl</b>	DNA Identification	Media Impact
<b>International Conference</b>	Worldwide Communication	Immigration

**Future Problem Solving Program  
1999-2000 – Practice Problem #1  
Junior Division Future Scene – Fads**

From the Maquire Campus of Learning Student Electronic Newspaper: September 14, 2035 –  
“All the Fads Fit to Follow.”

We students at the K-12 Maquire Campus of Learning are in our second week of the fall semester. The new fads are everywhere. Holographic technology has produced many entertainment products. Holograms are three-dimensional projections. Holographic technology has encouraged the development of numerous entertainment products. In the late 1990’s virtual pets and beanie babies were hot items. The fads passed as fads do, but they combined in a big comeback last spring in the form of holographic virtual beanie babies. They covered desks and computers in May, but I’ve seen only a few in the lower grades this week.

A new kind of hologram is here this fall. Two recent movies featured the actors wearing hologram images on their clothes and skin. Four weeks ago, local stores and E-malls started selling the pocket computers that produce the holograms. They were an instant hit with Maquire students. Students are wearing monsters, flowers, and favorite movies stars on their foreheads, arms and shirts these days. There are many different plug-ins for the computers so you can have different images. Some students are covered with images. I’ve heard rumors that some of our teachers are not very pleased with the new look. The school may place limits on our holograms. Remember, you read this E -news flash here first!

We are seeing the hottest new clothes fad on campus, too. These are made from Prism, a new fiber that changes color as the light changes. This results in clothing that changes colors while you wear it. Halls and classrooms at Maquire look like they are full of moving rainbows. Many students also project holographic images over their bright clothing.

The holographic computers and the Prism clothing are expensive. The companies that make the products are very pleased with their profits. I have learned that many companies now send out "scouts" to schools like Maquire. We are familiar with scouts from colleges who recruit our academically and athletically gifted students. But these company scouts recruit the high school students who are the first to pick up the newest fad and who are followed by the other students. These trendsetters, while still in high school, are paid well for the leads they provide the companies.

Fads are fun and give us something to talk about. But, what makes us choose a fad? How does a fad start? Is it because we see something advertised? Is it because a popular student chooses it, and we want to be like them? Is it just because we really like something new? What do you think about fads?

Gather a few friends together and discuss the challenges presented to us by fads. Those of you who are FPSers should generate a list of challenges and concerns. Identify the challenge that most interests you and phrase it as an underlying problem. Generate a list of suggestions to meet that challenge. We’ll publish all the responses in future issues of the Maquire “E-News.”

**Future Problem Solving Program  
2001-02 – State Bowl  
Middle/Senior Division Future Scene – Environmental Law**

*As you approach Montreal, your attention is directed to the “Smart Arch,” a complex of multi-family dwellings on a five-acre site. The complex of moderately-priced homes feature the latest technologies, home offices equipped with video conferencing and student study forums with holographic tutoring. Each community green space is shared by six dwellings. The next stop on our virtual tour is Chicago’s long-admired lakefront park system complete with the latest in x-sports venues, water games and award winning floral gardens. The final stop on our tour is a bleak, abandoned and burned out warehouse that looks like it belongs in an old laser movie. In reality, the site could easily have been the Smart Arch or Chicago’s lakefront park just a few years ago. The greening of abandoned lands brought opportunity and urban vitality to Montreal and Chicago. Montreal’s Smart Arch is located on an abandoned factory site; the lakefront park is the site of Chicago’s former tannery district.*

The desolate brownfield remains frozen on the screen. Avery Shaw, the spokesperson for the North American Environmental Association (NAEA), begins her presentation.

“Past environmental policy-making has tended to react to existing environmental problems once they have emerged. Today in 2022 there is an ever-shrinking inventory of pristine land. Not enough ‘new’ land exists in our urban areas and suburbs to provide for open space and development. For forty years, there has been a lack of effort among the public and the decision-makers to bring about the changes needed to preserve the environment. Further encroachment on agricultural areas in North America – Canada, the United States and Mexico – impact our ability to produce sufficient food to feed the population of North America.

“There are an estimated 600,000 brownfield sites in North America. A brownfield is an abandoned, idled or underused property where expansion or redevelopment is complicated by real or perceived contamination. Brownfield sites include abandoned factories and other industrial facilities, gasoline stations, oil storage facilities, dry cleaning stores and businesses that dealt with polluting substances. Economic activities once thrived on these properties but they have fallen into disuse and disrepair and now lay idle. Left unclaimed, they cast a shadow over thousands of cities and towns across North America. If restored, they can revitalize neglected neighborhoods.

“Brownfield redevelopment requires thinking in a different way about environmental policies. Few laws exist that adequately address brownfield development. Given how far we have come in damaging the global environment, efforts have to focus on environmental restoration. Each of the estimated 600,000 brownfields in North America is a missed opportunity.

“It is a lot more difficult to redevelop environmentally impaired real estate than anyone ever imagined. These sites remain unloved and unused due to the responsibility cleanup entails.

“Successful brownfields developers recognize environmental expertise is not enough. Developing environmentally impaired real estate generally takes more time. Early developers learned the hard way as community and political scrutiny, heightened by environmental issues, delayed their development projects. Brownfield developers also face additional delays due to the time needed for environmental agency approvals. Local governments need to understand one of the most important incentives they may provide is predictability and speed in land use decision making.”

Avery Shaw concludes. “This is your future, the environment in which you will live. There are many issues in brownfield development. As problem solvers, your team has been selected to work with the North American Environmental Association in developing policy for brownfields. You are asked to examine the challenges faced in brownfield development and recommend an action plan.”

## New Jersey Future Problem Solving



### Board of Directors

**Dr. Jeanne Carlson, Executive Director**, is the founding director of New Jersey's affiliate FPS program. Dr. Carlson coordinates all administrative aspects of the state program, oversees all competitive and non-competitive components of the program in New Jersey, organizes the annual NJ FPS State Bowl, and serves as a member of the International FPSP Governing Council. She is a past recipient of the international program's 'Yes' Award for an Outstanding Program. An expert in gifted education, Dr. Carlson served as the NJ Department of Education (NJDOE) Specialist in Gifted Education and as Chairperson of the NJDOE Commissioner's Advisory Council on Gifted Education, and was a recipient of the NJ Association of Gifted Children's Hall of Fame Award. She is also a former Acting Director of the New Jersey Governor's Schools and a former Director of the Governor's School of Public Issues and the Future of New Jersey. In addition, she is currently a member of the Board of Education of Somers Point, NJ, and an adjunct professor of education at Temple University.

**Laurel Petersen, Evaluation Director**, is responsible for recruiting, training, and supervising New Jersey's dedicated team of evaluators in judging and providing feedback to students on their performance in the program's Team and Individual Problem Solving competitions. A member of the International FPSP Governing Council, Ms. Petersen is also a highly experienced and successful FPS coach, and she received the international program's Keith Frampton Memorial Award for Outstanding Coaching in 2002. In addition, she is currently a teacher of mathematics and gifted and talented enrichment education at Woodbridge High School in Woodbridge, NJ.

**Jason Navarino, Assistant Evaluation Director**, works with Laurel Petersen in coordinating evaluations for the Team and Individual Problem Solving competitions at the state level. Mr. Navarino is also an FPSP International Conference Evaluator and a member of the International FPSP Governing Council. A former state champion and international semifinalist in the team and individual competitions, Mr. Navarino is currently a student at the Woodrow Wilson School of Public and International Affairs at Princeton University.

**Cherie Spangler** assists Dr. Jeanne Carlson in managing the state FPS program. She is a highly experienced evaluator in several components of FPS offered in New Jersey. In addition, Ms. Spangler is a staff member at Brigantine Elementary School in Brigantine, NJ.

**James Griffin** assists in overseeing evaluations at the state level. A former participant in the team and individual competitions, Mr. Griffin is a recent graduate of Harvard University with a degree in government. He currently works as a research and policy analyst for *Prosperity New Jersey*, a public-private partnership under the auspices of the New Jersey Commerce and Economic Growth Commission that helps to develop public policies for creating jobs and improving the quality of life in the state.

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