



Creative Problem Solving Problems / Ideas / Plans (PIP) Lesson Plan and Worksheet

Lesson/activity title:	PIP (Problems / Ideas / Plans)
Lesson plan author:	Nadja N. Reilly, PhD
Designed for grade levels:	5 – 12
Time needed for activity:	45 minutes
Materials/ supplies:	1) PIP worksheet and pen / pencil for each student 2) Post-it notes and fine tip markers for each student or a whiteboard to record ideas 3) Flip chart sheet, whiteboard or slide projection of completed worksheet example (Note: The slide presentation on PIP at www.adolescentwellness.org includes the completed PIP worksheet example #1 to display)
Prep needed and time:	Read and practice – 90 minutes

Lesson/Activity Objectives:

Research indicates that problem solving is an important strategy used in treatment of mental illness and as a coping skill to promote wellness. The PIP is a fun, creative tool for teaching problem solving skills. It is brief, engaging, and can be used by both children and adults. The PIP promotes decision making skills of SEL, along with creative (divergent) and critical (convergent) thinking skills of 21st century learning. There is a direct link between the skills taught through the PIP and the emotional health skills needed to promote wellness in children and adolescents. These include:

- Importance of developing and examining multiple perspectives
- Withholding judgment and criticism in evaluating one's and others' ideas
- Promoting cognitive flexibility – generating many ideas and ways of thinking
- Promoting collaboration
- Use of creativity as it is defined by the individual

Facilitator instruction for PIP (Problems / Ideas / Plans)

- 1) **Introduce the activity:** *"Today we will be learning a new approach to problem-solving, the Problems, Ideas, and Plans, or PIP. This is a fun and creative way to solve any kind of challenge that you might be facing, like how to have better time management for homework, or how to talk to your friends about a very difficult topic. Let me introduce you to the new ways of thinking we'll be using for problem-solving. Let's pretend that we have been given the task of creating the perfect locker. What should be in it? What should it look like?"*

*When we are first trying to come up with these ideas, we will use **DIVERGENT THINKING**. (Note to facilitator: use hand gestures to make the point of this – arms outstretched in a V) Divergent thinking is when you come up with as many ideas as you can, suspending all judgment or value on the idea. Don't think "I won't say that because that could never happen," or "That's a silly idea, I don't want to say that and be embarrassed." Be as bold, brave, loud, and creative as you can! The goal here is quantity, so the more wild and crazy ideas the better! You can build on each other's ideas and anything goes! Are you ready to practice? Let's take turns using divergent thinking to come up with ideas for making the perfect school locker." (Allow for 5 minutes of divergent thinking. Note to facilitator – A visible record must be kept to show the volume of ideas generated during this divergent thinking process. One method is for students to write a single idea onto a sticky note which you collect on a flipchart; a different method is for you to write on the board their ideas as they come up with them.)*

- 2) *"That was great! How did that feel? (The goal here is to encourage kids to reflect on the flexibility and power that deferring judgment can generate). Ok, now let's look at this amazing list of ideas and let's use **CONVERGENT THINKING** (note to facilitator – use the hand gestures to convey the convergence – bringing arms together over your head, palms touching) to narrow down on the ideas and choose the one you like the most. When you use convergent thinking, you focus on ideas that seem realistic and helpful. You consider new approaches and ones that make an improvement on what you've done in the past." (Allow for 5 minutes of convergent thinking: reflect on the idea chosen for the best locker ever - elicit student reactions about this portion of the process – encourage connections between collaboration, critical thinking, and finding new perspectives.)*

"Here is an example of a PIP worksheet that was used to record some divergent thinking and convergent thinking about a perfect locker." (Displaying an oversize example of the completed sections C, D and E of the locker example helps everyone use the blank PIP worksheet.)

- 3) *"Ok, now that we have had the opportunity to practice the main components of the PIP, let's apply this process to a real life situation that is going on for you right now. We'll use convergent and divergent thinking, and we'll also come up with an action plan that you can use starting today." (Distribute a blank PIP worksheet to each student.)*
- 4) **Section A** - *"Now, please think about a real problem that you would like help with in solving. We'll use the PIP worksheet to address that problem. Look at your PIP worksheet. I need each of you write down some information about a problem that has been on your mind. Take 3 minutes to decide and write it down in section A."*

- 5) **Section B** - "Next, on section B, I need you to create at least three different ways to rephrase the problem starting with 'How to.' For example, if my problem were that I'm always feeling exhausted, I might write: How could I feel more energetic? How could I get more sleep? How could I organize everything I have to do better so I have more time to relax?" (allow 3-5 minutes)
- 6) **Section C** - "Now we go to section C - pick the phrasing of the problem that you think is really the most important or relevant question to you. In my example, I would use "How could I organize everything I have to do better so I have more time to relax" (allow 2-3 minutes)
- 7) **Section D** - "Now that you've identified and made clear the real problem you would like to work on, please find a partner. You and your partner will work together to generate ideas for addressing each of your problems. What kind of thinking will you use? That's right – divergent thinking (use hand gesture to reinforce) – remember, many ideas, and anything goes! You can use section D of your handout for this. (5 minutes)
- 8) **Section E** - "Ok, now what kind of thinking do we need to use? That's right – convergent (use hand gestures to reinforce). Look at the options you came up with in section D, and narrow them down to the one idea or combination of ideas you like most, and write it down on your worksheet in section E. That is your solution statement." (5 minutes)
- 9) **Section F** - "Now it is time to create an action plan. This part is really important, as it is your guide in outlining the steps you'll need to take to solve your problem. Start your action plan by copying underneath the chart in section F the solution statement you wrote in section E. Within the chart labeled 'Action Plan', write down the list of steps you will take to complete your proposed solution. Who is going to do what? By when? Make sure you include the due dates, with at least one action step happening within 24 hours. If you are able to take your first step in these first 24 hours, you will have a much better chance of completing your whole action plan." (5-10 minutes)
- 10) **Student Discussion:** When students finish, encourage sharing with the larger group what they have written on their worksheets. Ask how the process was helpful toward finding potential new solutions. Some questions to guide discussion include: What was it like to come up with a problem and define it? What was difficult? What did they like about it? What did they come up with for their action plan? Why does it make sense to break down large problems into smaller portions? What do they think might happen as they complete each action step? How might they feel?

Worksheet – PIP (Problems / Ideas / Plans)

A) Problem: What is on your mind? What is something you would like help in solving?

B) Rephrase the problem you wrote above 3 different ways, starting with "How to:"
How to...

How to...

How to...

C) Now, from the list above, select the most important question to answer and write it below.

How to...

D) Divergent Thinking: Generate at least 6 ideas for answering the question above.

1)

2)

3)

4)

5)

6)

E) Convergent Thinking: From the list above, choose the best idea and create a solution statement that begins with the phrase "What I see myself doing is..."

SOLUTION STATEMENT: What I see myself doing is...

Reread your solution statement in E) above and think of the steps for an action plan to list **who** is going to do **what**, by **when**. Start your action plan by re-writing your solution statement below the chart in section F, and then list at least 5 action steps to achieve that solution. Make sure your **by when** is an actual date (for example, by July 4th) and that the first action is scheduled within 24 hours; this builds momentum and keeps you focused!

F) Action Plan



STEP #?	WHO?	DOES WHAT?	BY WHEN?
#1 Example	Me	Buy a planner to schedule my activities	Today, after school
#1 Yours			
#2			
#3			
#4			
#5			
#6			

➔ Copy your solution statement from section E: **What I see myself doing is...**

AWI is grateful to Nadja Reilly, PhD, Russ Schoen and Gloria Rapport for their assistance in the creation of PIP. For information, see www.AdolescentWellness.org

Based on original work by the Creative Education Foundation and the Osborn-Parnes Creative Problem Solving Process, 1954

Completed example #1 - Locker problem using PIP

A) Problem: What is on your mind? What is something you would like help in solving?

Design a better locker

B) Rephrase the problem you wrote above 3 different ways, starting with "How to:"

How to... *make my own locker better*

How to... *invent the best locker in the world*

How to... *imagine the perfect locker for me*

C) Now, from the list above, select the most important question to answer and write it below.

How to... *imagine the perfect locker for me*

D) Divergent Thinking: Generate at least 6 ideas for answering the question above.

1) *fireworks when I open my locker*

2) *battery charger*

3) *water fountain*

4) *all my music with speakers that vibrate the hallway*

5) *microwave oven for snacks*

6) *Velcro walls holding everything I need in plain sight*

E) Convergent Thinking: From the list above, choose the best idea and create a solution statement that begins with the phrase "What I see myself doing is..."

SOLUTION STATEMENT: What I see myself doing is... *customizing my locker to be a fun spot for me to visit where my stuff is organized, not a pile on the bottom*

Reread your solution statement in E) above and think of the steps for an action plan to list **who** is going to do **what**, by **when**. Start your action plan by re-writing your solution statement below the chart in section F, and then list at least 5 action steps to achieve that solution. Make sure your **by when** is an actual date (for example, by July 4th) and that the first action is scheduled within 24 hours; this builds momentum and keeps you focused!

F) Action Plan



STEP #?	WHO?	DOES WHAT?	BY WHEN?
<i>#1 Example</i>	<i>Me</i>	<i>Buy a planner to schedule my activities</i>	<i>Today, after school</i>
#1 Yours	Me	Measure the locker interior	Today, at break
#2	Me	Put everything from my locker into my backpack	Friday, February 17
#3	Me	Find a simple shelf for the bottom and transparent pockets the correct size to hold the lighter stuff that I want in my locker	Saturday, February 18
#4	Me	Place shelf on bottom and put up the transparent pockets. Set up the spare battery. Put the favorite picture inside the door.	Monday, February 20
#5	Me	Put my stuff back in using the simple shelf and transparent pockets.	Monday, February 20
#6	Me	Enjoy!	Monday, February 20

➔ Copy your solution statement from section E: **What I see myself doing is...**

customizing my locker to be a fun spot for me to visit where my stuff is more organized than a pile on the bottom

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Completed example #2 - Sports problem using PIP

A) Problem: What is on your mind? What is something you would like help in solving?
Defend against a football receiver who is bigger than me.

B) Rephrase the problem you wrote above 3 different ways, starting with "How to:"
How to... *intercept the ball when guarding a bigger receiver*
How to... *knock a bigger receiver off his pattern*
How to... *keep a bigger receiver from catching the ball*

C) Now, from the list above, select the most important question to answer and write it below.

How to... *keep a bigger receiver from catching the ball*

D) Divergent Thinking: Generate at least 6 ideas for answering the question above.

- 1) *find a new position to play*
- 2) *trip him*
- 3) *grow*
- 4) *keep him from getting to the right spot*
- 5) *become Superman*
- 6) *fly up to the ball*

E) Convergent Thinking: From the list above, choose the best idea and create a solution statement that begins with the phrase "What I see myself doing is..."

SOLUTION STATEMENT: **What I see myself doing is...** *working on getting stronger, jumping higher and keeping the receiver from getting to the right spot*

Reread your solution statement in E) above and think of the steps for an action plan to list **who** is going to do **what**, by **when**. Start your action plan by re-writing your solution statement below the chart in section F, and then list at least 5 action steps to achieve that solution. Make sure your **by when** is an actual date (for example, by July 4th) and that the first action is scheduled within 24 hours; this builds momentum and keeps you focused!

F) Action Plan



STEP #?	WHO?	DOES WHAT?	BY WHEN?
<i>#1 Example</i>	<i>Me</i>	<i>Buy a planner to schedule my activities</i>	<i>Today, after school</i>
#1 Yours		<i>Lift weights</i>	<i>January 25</i>
#2		<i>Work on jumping and running with coaches</i>	<i>January 31</i>
#3		<i>Ask coaches for help on being more physical with receivers</i>	<i>February 15</i>
#4		<i>Get stronger, faster and better at keeping receiver from going where he is supposed to go</i>	<i>July 1</i>
#5		<i>Watch film of other teams, see what patterns their receivers run, and when.</i>	<i>Weekly, starting October 4</i>
#6			

➔ Copy your solution statement from section E: **What I see myself doing is...**
working on getting stronger, jumping higher and keeping the receiver from getting to the right spot

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