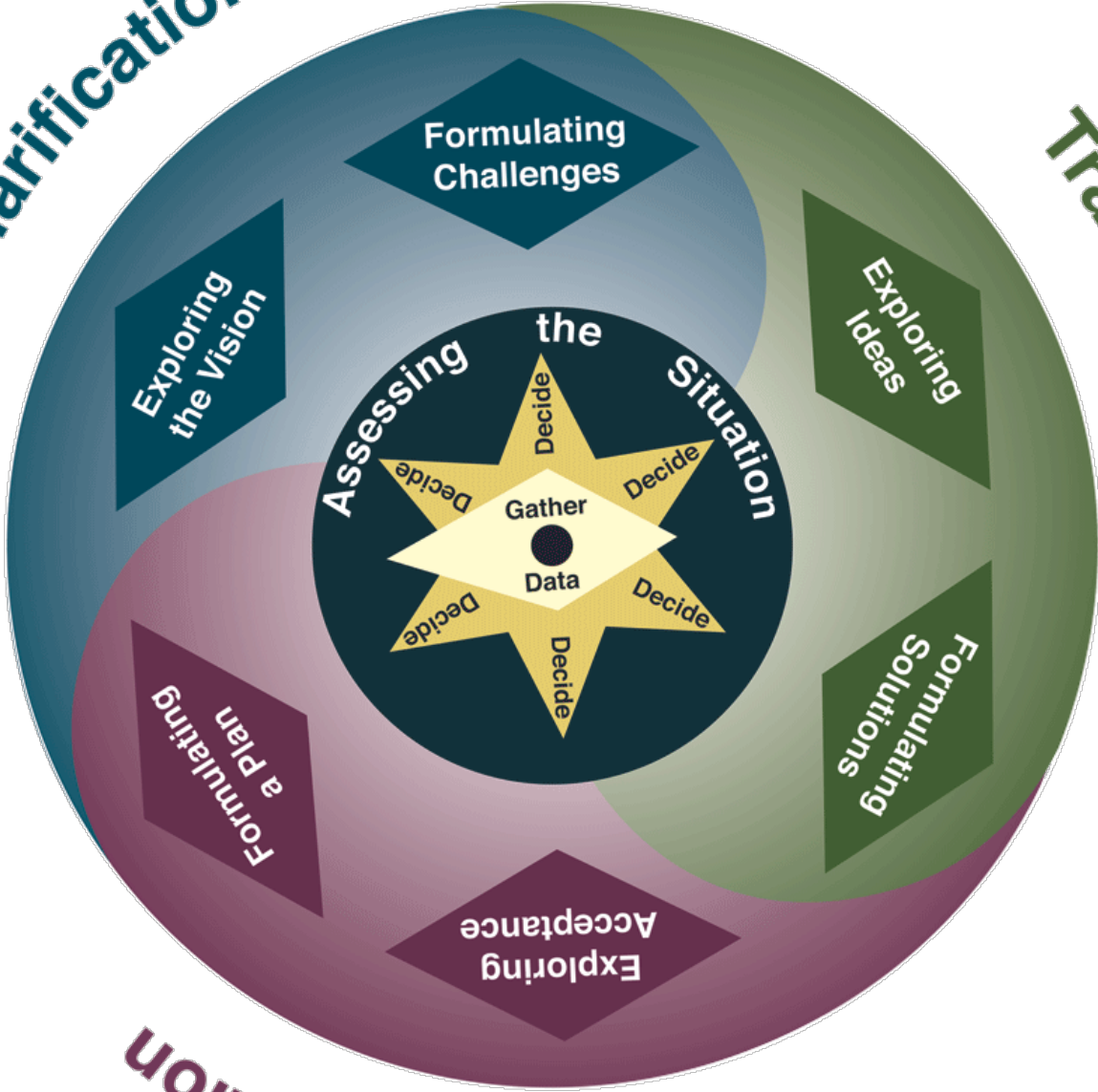


Clarification

Transformation



Implementation

Using the Thinking Skills Model

of CREATIVE PROBLEM SOLVING

*Cognitive skills that underlie all steps of CPS:	
Divergent thinking principles	Convergent thinking principles
o Defer judgment	o Apply affirmative judgment
o Go for quantity	o Keep novelty alive
o Make connections	o Check your objectives
o Seek novelty	o Stay focused
Wild card principle: Allow for incubation	

- ** Affective skills that underlie all steps of CPS:**
- Openness to Novelty: Ability to entertain ideas that at first seem outlandish and risky.
 - Tolerance for Ambiguity: To be able to deal with uncertainty and to avoid leaping to conclusions.
 - Tolerance for Complexity: Ability to stay open and persevere without being overwhelmed by large amounts of information, interrelated and complex issues, and competing perspectives.

Stages & Steps		If you ...	Suggested entry point in CPS and its purpose	The thinking skill you need is* ...	The supporting affective skill is**...	What you need to get started in this step	Possible tools to use	At the end of the step you should have ...	What next?
Executive Step Always begin here	Assessing the Situation	Need to address a situation that presents a predicament or an opportunity for which you would like a new and relevant solution, and you are not sure how to get started	Assessing the situation – to describe and identify relevant data in order to determine if CPS would be useful, and if so, where to begin in the CPS framework	Diagnostic thinking – making a careful examination of a situation, describing the nature of the problem, and making decisions about appropriate process steps to be taken	Curiosity – a desire to learn or know; inquisitive	A broad awareness that there is a predicament or opportunity that you wish to address	Divergent – •5 W's and H •Why/Why diagram Convergent – •Hits •Highlighting Metacognitive- •4 I's •If-Then Process analysis •Key Word Search	Data about the situation and, because CPS is a flexible process, an analysis of that data that allows you to determine in which step of the process you should go next	You now have an analysis of your situation. If you need to establish a vision of the desired outcome, the next natural step is Exploring the Vision. If this is not the case, go to the "If what you have is ..." column to determine which CPS step is most appropriate given your analysis of the situation
	Exploring the Vision	Need to establish the goal or desired outcome of your efforts	Exploring the Vision – to develop a vision of the desired outcome	Visionary thinking – articulating a vivid image of what you desire to create	Dreaming – to imagine as possible your desires and hopes	A description of the situation; e.g., history, key players, etc.	Divergent – •Wishful thinking •Story boarding Convergent – •Success zones	An established goal or desired outcome phrased as follows: It would be great if..., Wouldn't it be nice if..., or I wish...	You now have an established goal or outcome. If you need to identify the challenges that stand between you and the goal, the next natural step is Formulating the Challenges. If this is not the case, go to the "If what you have is ..." column to determine where to go in CPS
Clarification	Formulating Challenges	Need to identify the obstacles or barriers that need to be addressed to achieve the desired outcome	Formulating the Challenges – to identify the gaps that must be closed to achieve the desired outcome	Strategic thinking - identifying the critical issues that must be addressed and pathways needed to move toward the desired future	Sensing gaps – to become consciously aware of discrepancies between what currently exists and is desired or required	A statement of the vision (i.e., desired outcome) and key data. The vision statement should begin with "It would be great if...", "Wouldn't it be nice if...", or "I wish..."	Divergent – •Statement starters •Web of abstraction Convergent – •Convergent principles •Hits or highlighting	A specific identified challenge or challenges that would, if resolved, move you in the direction of your goal	You now have identified ideas with potential. If you need to evaluate the ideas and turn them into solutions, Formulating Solutions is the next natural step. If this is not the case, go to the "If what you have is ..." column to determine where to go in CPS
	Formulating Solutions	Need to identify the obstacles or barriers that need to be addressed to achieve the desired outcome	Formulating the Solutions – to identify the gaps that must be closed to achieve the desired outcome	Strategic thinking - identifying the critical issues that must be addressed and pathways needed to move toward the desired future	Sensing gaps – to become consciously aware of discrepancies between what currently exists and is desired or required	A statement of the vision (i.e., desired outcome) and key data. The vision statement should begin with "It would be great if...", "Wouldn't it be nice if...", or "I wish..."	Divergent – •Statement starters •Web of abstraction Convergent – •Convergent principles •Hits or highlighting	A specific identified challenge or challenges that would, if resolved, move you in the direction of your goal	You now have identified ideas with potential. If you need to evaluate the ideas and turn them into solutions, Formulating Solutions is the next natural step. If this is not the case, go to the "If what you have is ..." column to determine where to go in CPS

Stages & Steps		If you ...	Suggested entry point in CPS and its purpose	The thinking skill you need is* ...	The supporting affective skill is**...	What you need to get started in this step	Possible tools to use	At the end of the step you should have ...	What next?
Transformation	Exploring Ideas	Have identified a challenge or challenges that, if overcome, would move you in the direction of the desired outcome, but you do not know how to address this challenge	Exploring Ideas – to generate novel ideas that address important challenges	Ideational thinking - producing original mental images and thoughts that respond to important challenges	Playfulness – freely toying with ideas	A focused statement of the challenge(s) that stand in the way of solving the problem. The statement should begin with “How to ...” How might I ...” In what ways might I ...,” or “What might be all the ways ...?”	Divergent - •Brainstorming •Forced connections Convergent - •Hits and highlighting	Ideas that need to be transformed into workable solutions for overcoming your challenges	You now have identified ideas with potential. If you need to evaluate the ideas and turn them into solutions, Formulating Solutions is the next natural step. If this is not the case, go to the “If what you have is ...” column to determine where to go in CPS
	Formulating Solutions	Have ideas to be transformed into workable solutions to overcome a challenge	Formulating Solutions – to move from ideas to solutions	Evaluative thinking - assessing the reasonableness and quality of ideas in order to develop workable solutions	Avoiding Premature Closure – resisting the urge to push for decision	Ideas that have potential to become solutions	Divergent and Convergent •Criteria •Evaluation Matrix •PPCo	Solutions or a proposed change you want to carry forward	You now have identified the solution or change that will overcome a major challenge and ultimately move you closer to your vision. If you need to examine the environment to increase the chances of success, Exploring Acceptance is the next natural step. If this is not the case, go to the “If what you have is ...” column to determine where to go in CPS
Implementation	Exploring Acceptance	Have solutions or a proposed change you wish to carry forward, and want to ensure that the environment will support your thinking	Exploring Acceptance – to increase the likelihood of success	Contextual thinking - understanding the interrelated conditions and circumstances that will support or hinder success	Sensitivity to environment – the degree to which people are aware of their physical and psychological surroundings	A clearly stated solution that can be examined in the context in which it will be implemented	Divergent - •Assisters and resisters •Stakeholder analysis Convergent - •Hits	An analysis of what might be done to prepare the context to adopt your proposed change.	You now have identified the environmental factors for success. If you need to develop steps and their sequencing for implementation, Formulating a Plan is the next natural step. If this is not the case, go to the “If what you have is ...” column to determine where to go in CPS
	Formulating a Plan	Have solutions or a proposed change, and you are not sure what steps need to be taken, or in what sequence, to implement your thinking	Formulating a Plan – to develop an implementation plan	Tactical thinking - devising a plan that includes specific and measurable steps for attaining a desired end & methods for monitoring its effectiveness	Tolerance for risks – not allowing yourself to be shaken or unnerved by the possibility of failure or setbacks	Tolerance for risks – not allowing yourself to be shaken or unnerved by the possibility of failure or setbacks	Divergent - •Generating action steps •How-How diagram Convergent - •Sequencing •Performance dashboard	A complete plan of logistics and details that need to be addressed to implement the solution.	You now have a complete detailed plan of implementation. Track your progress. If you need to resolve some issues that were overlooked or that did not go as planned, then go to the “If what you have is ...” column to determine where to go in CPS and use appropriate steps, skills and tools to sustain momentum.