

solution  
fluency

# Quickstart Skills Guide





# About This Guide

These guides are designed by the Global Digital Citizen Foundation to help you gain a better understanding of the **21st Century Fluencies** and how they work.

This guide contains a description of the stages of Solution Fluency, as well as a perspective on the skills each stage develops and why they are important for our students—and *everyone*—to learn.

We hope this information will help you with the development of the Fluencies as you work to infuse them into your students' learning experiences.





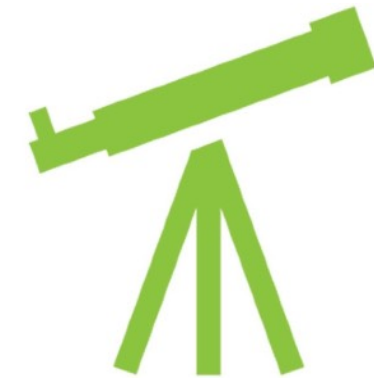
# solution fluency

Solution Fluency is the ability to think creatively to solve problems in real time by clearly defining the problem, designing an appropriate solution, delivering the solution and then evaluating the process and the outcome. Solution Fluency is defined by the 6Ds process.



## Define

In order to solve a problem, we have to clearly define what the problem is first. We must decide exactly what needs to be solved, and give proper context to the problem.



## Discover

This is the stage of researching and gathering, and analyzing clear knowledge about the problem. This helps us to give the problem context so that we can identify with it easier.



## Dream

Here, we open up the heart and mind to the possibilities and visions of a solution the way we wish to see it. This phase is all about imagination, extrapolation, and visualization.



## Design

This is basically the workshopping phase. Here the actual mechanics of your solution begin to take shape. It involves techniques that allow us to get the solution “on paper.”



## Deliver

In this phase, there are two separate stages—Produce and Publish. This involves the action for completing the product (Produce), and presenting the proposed solution (Publish).



## Debrief

The reflection stage where students get to own their learning. They look at the ways they succeeded, and ways they could improve their approach in similar future situations.





## DEFINE Skills

In order for us to be able to solve a problem, we have to clearly define what the problem is first. We must decide exactly what it is that needs to be solved, and give proper context to the problem.



## Restating/rephrasing the problem

- Brainstorming options leads to better, more versatile solutions
- It reveals things about the problem that aren't obvious
- Rephrasing can lead to creating solutions for multiple problems
- Leads to hearing unique perspectives from others



## Challenging assumptions

- Helps us understand how the problem may have originated
- Challenges us to consider an issue in different ways
- Helps us question assumptions that limit independent thought
- Teaches us to decide for ourselves what is right and true



## Researching and gathering facts

- Provides opportunities for developing useful research/data analysis
- You discover surprising things about a problem you didn't know before
- Helps us avoid assumptions and forming opinions without ample information
- It gives us time to think about why finding a solution to the problem is important



## DEFINE Skills

In order for us to be able to solve a problem, we have to clearly define what the problem is first. We must decide exactly what it is that needs to be solved, and give proper context to the problem.



## Chunking details together/breaking them down

- Breaking down details allows for better focus on the project as a whole
- Examining the details reveals how each component strings together logically in the overall project
- Team members can devote themselves to a specific project detail if they wish, depending on their individual strengths and talents



## Considering multiple perspectives

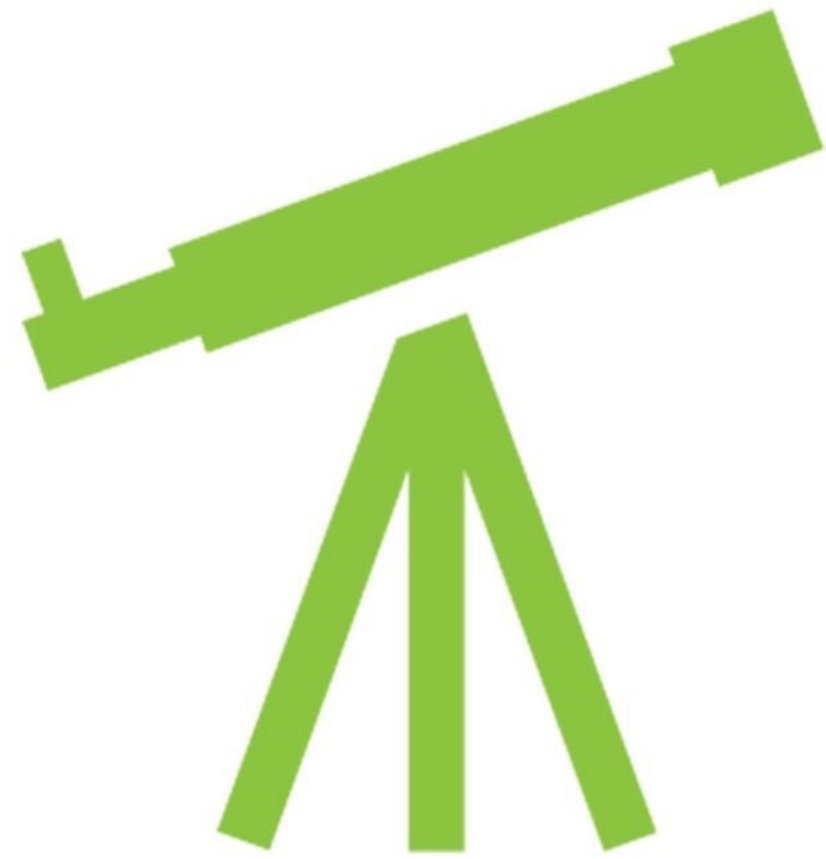
- Helps us think of others and develop open-mindedness
- Urges us to consider the far-reaching effects of a problem or issue
- Guides us towards creating better solutions by considering others' needs
- Lets us empathize with other professional, creative, or cultural viewpoints



## Reversing the problem

- Reversing a problem can give you a better perspective on the problem's severity, and help you work towards a more effective solution
- Considering what could make a problem worse can lead you to solutions that may never have occurred to you
- It encourages a kind of lateral thinking about a problem, and allows us to brainstorm better solutions in a more uninhibited manner





## DISCOVER Skills

Discovery is the stage of research, gathering, and then analyzing knowledge. It gives the problem context so that we can identify with it easier, and come up with the best solution possible.



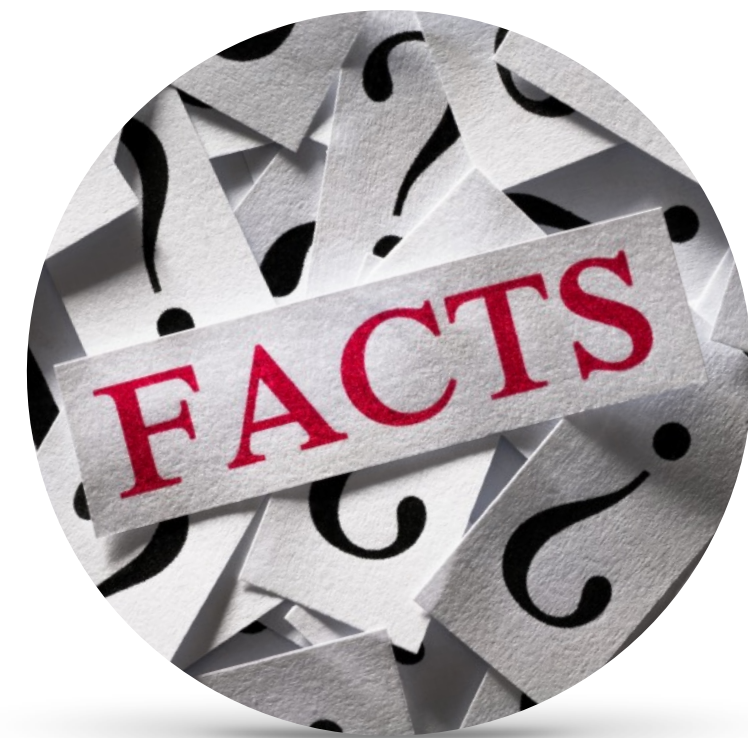
## Locating information

- It teaches you effective search skills
- You begin to see various sources as not complete, or not as a "one-stop shop" for all your information needs
- You develop habits of mind for asking the best possible questions
- You learn to be inquisitive and analytical about what you're trying to solve
- You will discover that sometimes you know more than you think you do



## Skimming, scanning, scouring data for background

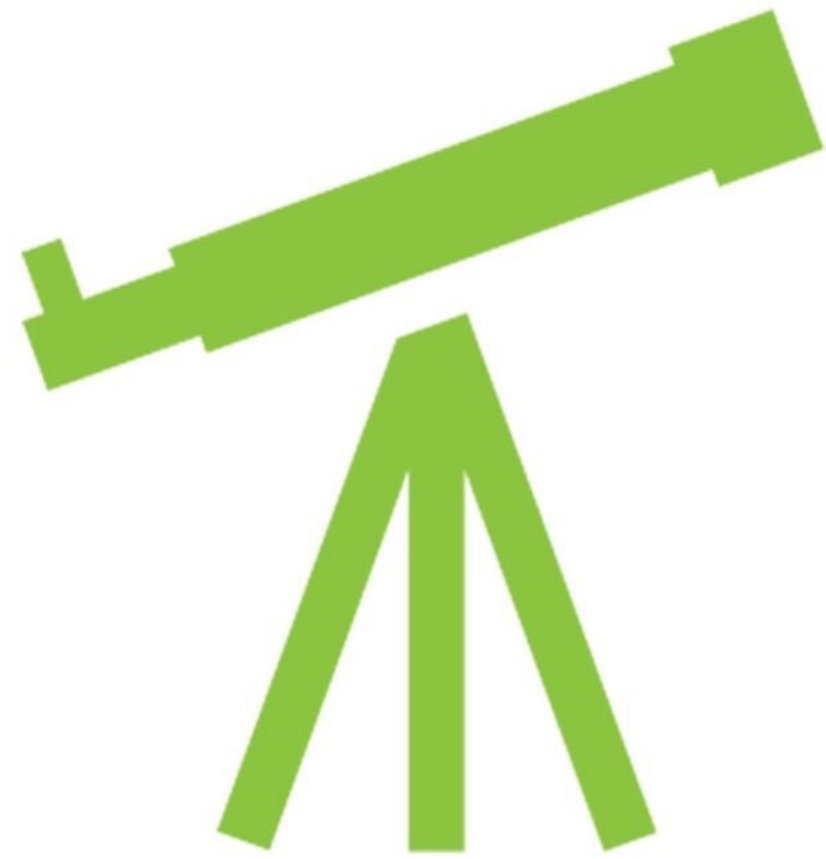
- You become able to determine at a glance what is useful to you if you have clearly defined your problem and know what you're looking for
- It helps you develop your organizational skills
- As you practice skim-scan-scour techniques you become more proficient with them, which helps you in future information quests



## Filtering

- Learning to identify facts will help you to inform your audience so that they can shape their own opinions
- Fact-finding by filtering helps you to present your solution in a more unbiased manner
- Helps to differentiate fact from opinion
- Facts are central to properly supporting the ideas in your solution





## DISCOVER Skills

Discovery is the stage of research, gathering, and then analyzing knowledge. It gives the problem context so that we can identify with it easier, and come up with the best solution possible.



## Taking smart notes

- Good note taking works in tandem with training you to be a better listener
- You develop better information organization skills
- It encourages you to not be a mechanical writer, but rather to consider the real goal you have for taking notes on a certain subject
- It helps you learn to be brief and concise, and focus on what's important



## Analyzing, authenticating, and arranging materials

- Practicing these three actions helps you learn to avoid taking what you see at face value
- It teaches you how to be analytical—and not cynical—about what information is on offer
- Authentication encourages the habit of checking information sources for validity and currency, an important practice in information gathering



## DREAM Skills

In the Dream stage, we open the heart and mind to possibilities and visions of a solution the way we wish to see it. This phase of Solution Fluency is about imagination, extrapolation, and visualization.



### Generating wishes

- This skill allows us to break all bonds of our thinking, and envision a perfect solution to work backwards from
- It encourages us to be fearless in brainstorming and sharing our ideas
- Wishing inspires us and invokes a stronger drive towards finding solutions



### Exploring possibilities

- Guides us towards challenging assumptions and beliefs that hold us back
- It teaches us to be brave and courageous with our vision
- Focusing on the possibilities teaches us to keep a positive frame of mind when solving problems
- We discover that the impossible may actually be possible sometimes



### Imagining best case scenarios

- Helps us remain inspired towards developing the best possible solution
- Encourages brainstorming activities that hone communication skills
- Lets us be free with our ideas, and develops positive and constructive mindsets from team members
- Guides us towards thinking in terms of possibilities and helps us transcend limited thinking





## DREAM Skills

In the Dream stage, we open the heart and mind to possibilities and visions of a solution the way we wish to see it. This phase of Solution Fluency is about imagination, extrapolation, and visualization.



## Visualizing “time machine” visits to a perfect future

- The time machine visits help us continue to explore positive possibilities
- It provides an effective visualization exercise in which we can be clear about how we want our solution's outcome to look in real life
- It helps us envision a better world for present and future generations





## DESIGN Skills

In the Design phase we begin utilizing gathered knowledge to synthesize solutions. We create goals and milestones, assign team roles, and create systems of accountability for the team as a whole.



## A clear idea of how to begin

- Proceeding with clear focus keeps everyone aligned towards the end goal
- It fosters the collaborative spirit by making sure everyone looks out for each other
- It offers a chance for team members to share initial opinions/concerns/suggestions before the project development begins
- It helps you avoid the classic "ready-fire-aim" approach



## Starting at the end and building backwards

- Creates a habit of logical, organized thinking
- Having a plan of action inspires confidence in yourself and team members in achieving the goal
- It eliminates the dangers and uncertainties of "flying blind"
- It introduces structure, and a clear strategy for progression in problem solving and project management



## Creating instructions

- Instruction writing is a good communication practice for explaining the logical steps to a task
- It helps us to consider the viewpoints of others as we create a set of instructions that can be broadly understood
- This skill also works to develop logical patterns of thinking





## DELIVER Skills

The Deliver phase happens in two separate stages—*Produce* and *Publish*. It involves both completing the solution (Produce), and then making the actual presentation or demonstration (Publish).



## Identifying the appropriate format for presentation

- Making use of the best visual solutions is critical for success in business and education alike
- It helps you learn about how new technologies work, and how they can be used in classroom projects
- You learn to focus on the message and how it shapes people's thinking, instead of just passively consuming what you see
- Guides you towards considering what you really want to accomplish with any message you want to share
- Lets you consider the delivery more carefully and critically
- You learn to become interested in others by getting to know about your audience beforehand

## Demonstrating/presenting the solution

- Lets you test your solution by applying it against the challenge
- It gives you a chance to revisit other stages of Solution Fluency to refine and improve your solution
- Presenting your solution raises questions from both yourself and your audience as to what works and what could be improved
- It teaches you to respect and consider the opinions of others
- You learn confidence and how to share your opinions with others in a constructive manner







## DEBRIEF Skills

The students look at their project from beginning to end and really get to own their learning. They determine what could have been done better and ways they could improve their problem-solving approach in similar situations.



### Revisiting and reflecting on the product/process

- It sets the tone for a more lengthy discussion about how the 6Ds were utilized in creating the solution to the challenge
- You learn more about "big picture" thinking and broader perspectives
- It develops collaborative communication skills



### Asking good questions about the product/process

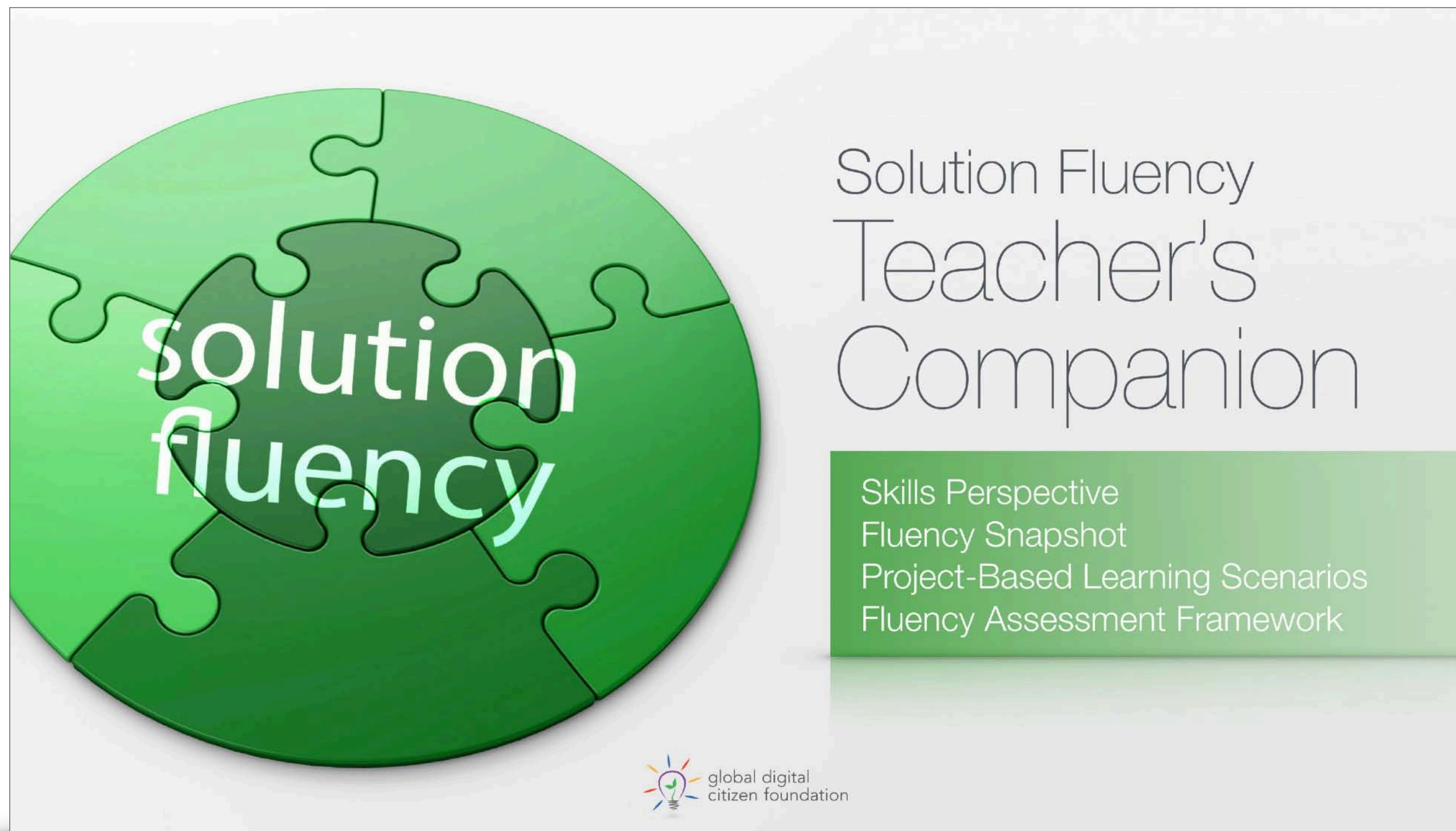
- Asking questions reveals what you can improve on when addressing similar problems in the future
- You can learn to improve processes to make them more versatile
- It continues the development of collaborative skills when working in teams
- It allows you to recognize the specific contributions of each team member



### Internalizing and utilizing new learning

- Utilizing new learning is the only way to make it stick—the more you practice this process, the more unconscious or "fluent" it becomes
- Problem solving becomes easier with an internalized process like the 6Ds
- You begin to see problems as opportunities for greater learning
- You are better prepared to handle future challenges





# A companion you can count on.

If you enjoyed the free quickstart guide, we know you'll love this. This premium guide has everything in the free guide, **plus**:

- A Fluency Snapshot tool for quick assessment
- 6 exciting project-based learning scenarios
- A full rubric framework for assessing Solution Fluency
- Resources for understanding and instruction

## Get a Lot for a Little.

This premium resource and others are available when you **upgrade to a Teacher Professional Plan** or a **School Plan** on the Solution Fluency Activity Planner. It's a whole lot more for a little bit extra.

Visit [solutionfluency.com](https://solutionfluency.com) for more information, or **log in and upgrade** your account today.



Please feel free to print or distribute this publication electronically as long as you do not modify it in any way or charge for it.

