


# Critical and Creative Thinking



The Family Edition

## Goals for the Introduction

- Share the vision for Critical and Creative Thinking (CCT) for Families
- Provide an overview of how the activities are structured
- Introduce the idea of **S.C.A.M.P.E.R.**
- Plant a seed for creative productivity



**My Vision**

To develop activities that encourage critical and creative thinking for families.

This family edition was inspired by the Table Topics found at Chck-fil-A.

# The structure

**A-Synch Mondays (September 28, 2020)**  
**Critical and Creative Thinking**

→ Directions: Look over these activities and choose one (or more) that seem interesting to you.

Questioning	Visualization						
<p>The answer was 24. What might the question have been? How many different questions can you invent?</p> <p><b>Try these:</b></p> <ul style="list-style-type: none"> <li>The answer was a jumpkin.</li> <li>The answer was the laundry room.</li> <li>The answer was, honestly.</li> <li>The answer was, a snowstorm.</li> <li>The answer was Mickey Mouse.</li> </ul>	<p>When we visualize things, we picture things in our mind.</p> <p><i>When you close your eyes and think of the word <b>calm</b>, what do you see? What do you feel? What do you think?</i></p> <p><b>Other things to visualize could be:</b> When you close your eyes and think of...</p> <ul style="list-style-type: none"> <li>a mountain lake</li> <li>a bike ride in the woods</li> <li>impassioned words</li> <li>waves falling from trees</li> </ul>						
Plus, Minus, Interesting	Fluency, Flexibility, Originality, Elaboration						
<p><b>+</b> <b>-</b> <b>I</b></p> <p><b>Create a PMI chart about Fall.</b></p> <ul style="list-style-type: none"> <li>What are some good things about this season?</li> <li>What are some bad things about this season?</li> <li>What makes Fall interesting?</li> </ul> <table border="1"> <thead> <tr> <th>P</th> <th>M</th> <th>I</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Can you come up with 3 ideas for each category?</p> <p><b>Here are some other options for PMI charts to create:</b></p> <ul style="list-style-type: none"> <li>Calculators</li> <li>Pods</li> <li>Board Games</li> <li>Teaching Styles</li> </ul>	P	M	I				<ol style="list-style-type: none"> <li>Leaves can turn orange during Fall. Make a list of things that are orange.</li> <li>What are some other uses for a rake?</li> <li>We often notice the trees during Fall. Design a Distance Learning treehouse with 10 (or obviously) that you would enjoy.</li> <li>Use words, diagrams, labels, measurements, etc. to elaborate on the unique and original treehouse you made in Step 3.</li> </ol>
P	M	I					

**Questioning**  
 Effective questions can support learners' efforts to explain, interpret, and apply what they know. Open-ended questions can increase interest and support the development of a range of critical and creative thinking skills.

**Visualization**  
 Used simply, visualization is a technique that involves forming images in our mind. Visualizing helps us imagine situations, events, or ideas even when what we are thinking about is not actually present.

**Plus-Minus-Interesting**  
 Learners use the PMI structure to keep an open-minded attitude and consider an issue from multiple perspectives. Younger learners may consider what would make a certain idea interesting (i.e. What if books were round?), older learners may use the "I" to consider implications.

**Fluency, Flexibility, Originality, Elaboration (FFOE)**  
 These thinking strategies and processes help students brainstorm, make connections, and develop creative ideas.



**Fluency** – The ability to generate numerous ideas or alternatives to solve a problem that requires a novel solution.  
**Flexibility** – The ability to consider a number of different perspectives in an effort to generate a wide variety of ideas or alternatives.  
**Originality** – The ability to generate novel, unique, and rare ideas or alternatives to solve a problem that requires an innovative solution.  
**Elaboration** – The ability to generate a large number of details or descriptions that explain a specific and novel solution to a problem.

**SCAMPER**  
 SCAMPER is a model that helps us create unique thoughts, explore relationships, and search for new or different combinations. SCAMPER involves a variety of techniques: **S**ubstitute – **C**ombine – **A**djust or **A**dapt – **M**odify – **P**ut to Other Uses – **E**liminate or **E**laborate – **R**everse or **R**eorganize that help to change and improve something by changing one or more parts of the original idea.

**Remember, you can SCAMPER any of these activities on the first page. This might make them more interesting and enjoyable to work on.**

There are four major categories of activities created around the strategies in the APS Critical and Creative Thinking Framework. In each category, you will find a prompt/activity to do as well as additional ideas if the first idea does not interest your family. You will also get a brief explanation of the thinking strategy used to frame the activity and another CCT strategy, SCAMPER that can be used with any activity to add a bit more depth and complexity to the activity.

# Critical and Creative Thinking Tasks

Questioning	Visualization
<p>The answer was 24. What might the question have been? How many different questions can you develop?</p> <p><b>Try these:</b></p> <ul style="list-style-type: none"><li>• The answer was: a pumpkin.</li><li>• The answer was: the laundry room.</li><li>• The answer was: honesty.</li><li>• The answer was: a snowstorm.</li><li>• The answer was: Mickey Mouse.</li></ul> 	<p>When we visualize things, we picture things in our mind.</p> <p><i>When you close your eyes and think of the word <b>calm</b>, what do you see? What do you feel? What do you think?</i></p> <p><b>Other things to visualize could be:</b> When you close your eyes and think of...</p> <ul style="list-style-type: none"><li>• a mountain lake</li><li>• a bike ride in the woods</li><li>• a mysterious castle</li><li>• leaves falling from trees</li></ul> 

Here you will see two of the four categories of activities: Questioning and Visualization.

# Critical and Creative Thinking Tasks

## Plus, Minus, Interesting



### Create a PMI chart about Fall.

- What are some good things about this season?
- What are some bad things about this season?
- What makes Fall interesting?

P	M	I

Can you come up with 3 ideas for each category?

### Here are some other options for PMI charts to create.

- Calculators
- Pets
- Board Games
- Taking Risks

## Fluency, Flexibility, Originality, Elaboration

1. Leaves can turn orange during Fall. Make a list of things that are orange.
2. What are some other uses for a rake?
3. We often notice the trees during Fall. Design a Distance Learning Treehouse (with Wi-Fi obviously) that you would enjoy.
4. Use words, diagrams, labels, measurements, etc. to elaborate on the unique and original treehouse you made in Step 3.



The next two are around the strategies: Plus, Minus or Interesting or PMI and Fluency, Flexibility, Originality and Elaboration or FFOE.

# Skills Overview



## Questioning

Effective questions can support learners' efforts to explain, interpret, and apply what they know. Open-ended questions can increase interest and support the development of a range of critical and creative thinking skills.



## Visualization

Stated simply, visualization is technique that involves forming images in our mind. Visualizing helps us imagine situations, events, or ideas even when what we are thinking about is not actually present.



## Plus-Minus-Interesting

Learners use the PMI structure to keep an open-minded attitude and consider an issue from multiple perspectives. Younger learners may consider what would make a certain idea interesting (i.e. What if books were round?), older learners may use the "I" to consider implications.

Here is a quick definition of the strategy and why it is good for students to be engaged in these critical and creative strategies.

# The Value of S.C.A.M.P.E.R.



## **S.C.A.M.P.E.R.**

S.C.A.M.P.E.R. is a model that helps us create unique thoughts, explore relationships, and search for new or different combinations. SCAMPER involves a variety techniques (**S**ubstitute – **C**ombine – **A**djust or **A**dapt – **M**odify – **P**ut to Other Uses – **E**liminate or **E**laborate – **R**everse or **R**earrange) that help to change and improve something by changing one or more parts of the original idea.

**Remember, you can S.C.A.M.P.E.R. any of these activities on the first page. This might make them more interesting and enjoyable to work on.**

This is a suggestion that SCAMPER can be used to change any activity in a variety of ways to make them more interesting to your family.



# CCTs At School

**The 16 Habits of Mind**

- Persisting
- Managing Impulsivity
- Listening with Understanding & Empathy
- Thinking Flexibly
- Thinking about Thinking
- Striving for Accuracy
- Thinking and Communicating Clearly and Precisely
- Gathering Data Through All Senses
- Taking Responsible Risks**
- Finding Humor

**Kevin Trainor, NBCT @McK\_Trainor - Sep 10**  
So much fun co-teaching with @MissVWeiss during Math Workshop. We used the Sums to 100! from @openmiddle and kept 20+ learners engaged for nearly 40 minutes. Can't say enough about these types of math tasks!  
@APSGifted @APSMath @APSMcKCardinals

**SUMS TO 100**  
Directions: Using the digits 1 to 9 at most one time each, fill in the boxes to sum to 100.

+

Dexter had waited over a month to  the Top Secret File. He sat at a small wooden table that resembled a student's desk. He  examined the satellite images of the mysterious buildings; they were  any structure he had ever seen.

Although he was alone in a cramped room in the building's basement, Dexter  had the  that he was being watched. He stood up slowly and pecked into the hallway. Empty. He needed to .

Word Bank:  closely  suddenly  sensation  unlike  review  telephone  responsible  refocus

DONE

This slide is showing you that CCT strategies are happening in schools all the time and we thought it would be a great home-school connection to share ways your family can do this too.

# Planting a Seed

