

Critical and Creative Thinking

Dranesville ES Parent Coffee
October 30, 2024

Tracey Jenkins, Advanced Academic Resource Teacher
Paulina Hidalgo, DES Parent Liaison/Interpreter
Carla Falconi, FCPS Spanish Interpreter



Outcomes



Deepen
understanding around
critical and creative
thinking strategies in
FCPS



Benchmark Advance
Critical and Creative
Thinking Integration
and using the
strategies across
content areas



Connecting the critical
and creative thinking
strategies from school
to home

Critical and Creative

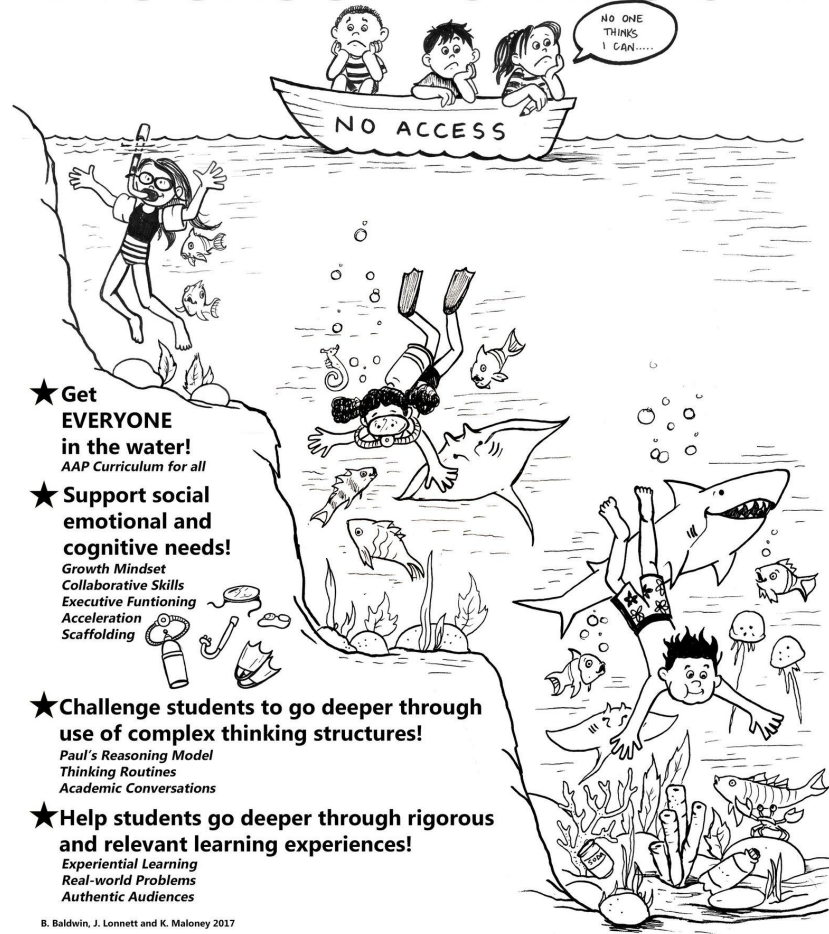


All students can learn to think critically and creatively.

We need to explicitly teach the strategies and provide opportunities for practice.



ACCESS TO RIGOR



- ★ **Get EVERYONE in the water!**
AAP Curriculum for all

- ★ **Support social emotional and cognitive needs!**
*Growth Mindset
Collaborative Skills
Executive Functioning
Acceleration
Scaffolding*

- ★ **Challenge students to go deeper through use of complex thinking structures!**
*Paul's Reasoning Model
Thinking Routines
Academic Conversations*

- ★ **Help students go deeper through rigorous and relevant learning experiences!**
*Experiential Learning
Real-world Problems
Authentic Audiences*

Rationale

- Creative problem solving is an essential skill for successful global citizen in the 21st century.
- Higher order thinking skills help students construct meaningful understandings of the curriculum.
- Students need explicit instruction and exposure to thinking strategies in context in order to be able to apply them.
- Strategies are engaging for students and teachers!
- Connection to Portrait of a Graduate



Communicator



Ethical and
Global Citizen



Creative and
Critical Thinker



Collaborator



Goal-Directed and
Resilient Individual



AAP Critical and Creative Thinking Strategies

ANALOGIES

Comparing two items in order to perceive similarities

NAME:

Words, idea or concept:

Pictures:

IS
LIKE

Words, idea or concept:

Pictures:

BECAUSE:

Portrait of a Graduate connections: Students can focus on one, or many reflective questions.



Critical and Creative Thinker

Who created a solution that was unique? When?
Who used the arts to express themselves? How?

Goal Directed and Resilient Thinker

Who took responsibility for completing their work? When?
Who sought feedback from others to improve their work? How?



- Encourages students to think about **many possibilities** and to *explore the positive and negative* aspects of ideas, events, or activities.
- PMI encourages students to look **beyond the polarity** of “yes or no,” “wrong or right,” and “my answer or your answer.”
- The goal of PMI is to develop *independent thinkers who consider a range of ideas and possibilities* to **see beyond the obvious.**

PMI

Dranesville ES is currently under building renovation. What would be the plusses, minuses, and interesting aspects of this building renovation process?

Plus	Minus	Interesting



Animal Adaptations, pp. 12–16 “Animal Coverings”

Learning Targets

- Answer questions about a text, and use text evidence to support answers.
- Describe the relationship between ideas and concepts in a scientific text.
- Describe compare-and-contrast connections between parts of a text.
- Share ideas with peers.
- Demonstrate understanding by writing an answer to a question about animal adaptations.

Additional Materials

- Model Close Reading Question Speaking and Writing Response Frames
- Speaking and Listening Protocols
- Guided Practice Close Reading Question
- Grade 3 Comprehension Quick Checks, pp. 76–77
- Response Notebooks or e-Notebooks

Observation Checklist for Constructive Conversation

As peers engage in close reading, use the questions below to evaluate how effectively they communicate with each other. Based on your answers, you may wish to plan future lessons to support the constructive conversation process.

Do peers...

- ☐ stay on topic throughout the discussion?
- ☐ listen respectfully?
- ☐ build on the comments of others appropriately?
- ☐ pose or respond to questions to clarify information?
- ☐ support their peers to participate?

Close Reading: Describe Compare-and-Contrast Relationships and Connections in a Text (15 min.)

Engage Thinking

In this first unit, discuss the meaning and purpose of close reading, and establish a focus for today's lesson. For example:

When we read a selection for the first time, we mostly use our strategies—such as asking questions or creating mental images—to understand what the text is mostly about. When we reread a text, we want to dig deeper to pull even more meaning out of the text. We call this close reading. We read to find specific evidence that helps us draw inferences, draw conclusions, and synthesize new information.

Remind students that when they read “Animals’ Tools for Survival,” they used compare-and-contrast connections to describe the different ways webbed feet and claws help animals survive.

Today, I’m going to show you how I read closely. I’ll pose a close reading question and show you how I draw on the compare-and-contrast text connections we explored last week to help me answer it.

Model

Display and read aloud a Close Reading question:

Reread paragraphs 5–6. Compare and contrast the fur of Arctic foxes and cheetahs. Would a cheetah’s fur help it survive a winter in the Arctic? Why or why not? Cite specific text evidence to support your answer.

DOK 3

Model how you answer the question. For example:

In paragraph 5, I see that the Arctic is covered in white snow in winter but has many bare, brown patches in summer. I’ll underline this information in the passage because it relates directly to words used in the question.

In paragraph 6, I see the signal word “unlike,” which lets me know that the author is making a contrast. I’ll circle that in the text. I see that unlike the fur of the Arctic fox, which changes color to match the ground, the cheetah’s fur stays the same all year. Since this fur is gold with black spots, the cheetah would not have camouflage it normally uses to hunt. So, I can conclude that a cheetah’s fur would not help it survive in the Arctic.

Model in writing using the Speaking and Writing Response Frames.

Guided Practice (ELD)

Tell students they will now work in pairs to use compare-and-contrast text connections to help them answer another question related to animal coverings. Because this is your students’ first close reading experience of the year, spell out your expectations for their close reading conversations. All students should annotate their own texts. Their conversations should focus on the question, and they should respectfully work together to help each other find and analyze evidence.

Display and read aloud a second Close Reading question:

Reread paragraphs 7–10. Compare and contrast the skins of poison dart frogs and salamanders. Which amphibian’s skin would allow it to survive in a dry forest? Why? Cite specific text evidence to support your answer.

DOK 3

Give students a few minutes to reread the paragraph and answer the question. Then invite partners to share and discuss their answers and evidence with the class. See the Possible Response sidebar for a sample student response. Use the Annotate, Pair, Share, protocol found in the Additional Materials Bank.

Share and Reflect

Ask partners to reflect on how thinking about these questions has expanded their understanding of the advantages and limitations of different animal coverings.

Apply Understanding

Tell students that during independent time, you would like them to use their notebooks or e-notebooks to write their answer to question 1 on page 18 of *Animal Adaptations*. The answer should be 1–2 paragraphs in complete sentences. You may wish to share a sample answer or evidence from the Answer Key in Additional Resources as a model of expectations.

Reread paragraph 12. Compare and contrast the adaptations of crocodiles and iguanas. Which animal do you think would be better able to survive on a hot, sandy beach? Why? Cite specific text evidence to support your answer.

DOK 3

Use students’ writing to help you evaluate their ability to use the logical connection between sentences and paragraphs in a text to describe relationships in a scientific text.



You may wish to have students complete Describe Connections in a Comparison Text in Grade 3 Comprehension Quick Checks. If necessary, have someone read aloud the selections to the students and record students’ responses to the questions.



SMALL-GROUP READING INSTRUCTION AND INDEPENDENT READING AND CONFERRING

See the provided resources and instructional options on the unit foldout.

Possible Response

A salamander would be better able to survive in a dry forest than a poison dart frog would. While they are both amphibians (paragraphs 7, 10), frogs need moisture to breathe through their skin (paragraph 8), while salamanders release a mucus that keeps them moist (paragraph 10). Unlike the poison dart frog, the salamander has spots that can help it hide from predators.

ELD Integrated ELD

Light Support (Bridging, Reaching)

1. Allow students to ask questions about vocabulary.
2. Display the chart. As partners read, help them complete it.

Poison dart frogs	Both	Salamanders

3. Provide the sentence frames to help students compare and contrast:

A _____ could survive in a dry forest because _____, while a _____.

Moderate Support (Developing, Expanding)

1. Allow students to ask questions about vocabulary and difficult concepts they do not understand.
2. Display the chart. Help partners read the paragraph and complete the chart.

Poison dart frogs	Both	Salamanders

3. Provide the sentence frames to help students compare and contrast:

A _____ could survive in a dry forest because _____, while a _____.

Substantial Support (Entering, Beginning)

1. Explain the following words using visuals, examples, and gestures as appropriate:

Grade 3, Unit 1: Animal Adaptations

Week 2 Lesson 8

8. Close Reading:
Describe Compare and Contrast Relationships and Connections in a Text
TRS p.68

Students will compare and contrast the adaptations of iguanas and crocodiles. To help them think critically about each animal, they can use a PMI chart to organize their thoughts about the positives, negatives, and interesting aspects of each reptile.

CO: Plus, Minus and Interesting

Framing the consideration of positive, negative, and interesting aspects of an idea into one picture.

Additional Resources:
[CCT PMI Google Site](#)

Thinking with Both Sides of the Brain



CRITICAL

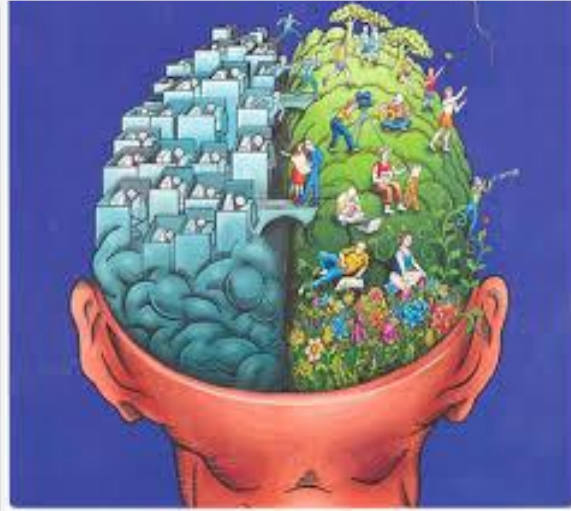
reason

analyze

synthesize

judge

use logic



CREATIVE

generate

innovate

elaborate

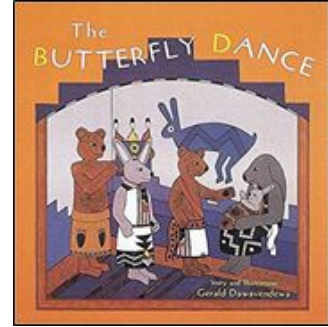
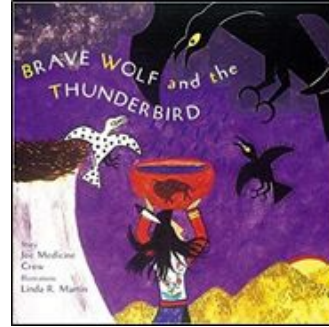
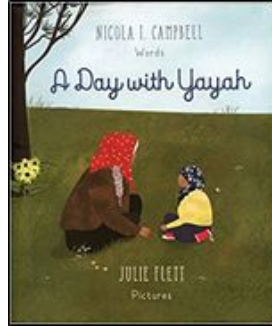
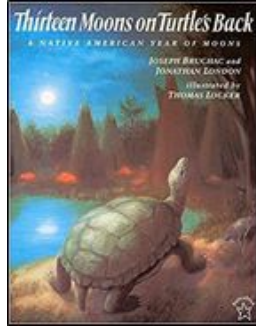
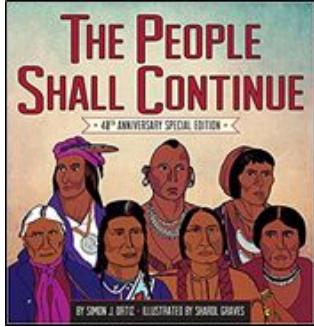
imagine

create



- Opens student's thinking by **stimulating the imagination** with words, images, and/or simulated experiences.
- Helps students **plan** out an experience, **set goals** and decide how to handle potential roadblocks before encountering them to build resiliency and increase organization.

Visualizing through Storytelling - Social Studies



Share any of the above books, written by various Native authors, with students. Prior to the lesson, **choose 6 points in the story** in which you will stop and have students sketch what they are visualizing.

Close the lesson by discussing the relationship the Native people had with nature and/or what we learned about Native cultures from the story that was told in the book.

You may choose to also discuss the feelings people have about what the land is now like, particularly in suburban and urban environments. How do people utilize natural resources in the 21st century? Discuss the changes, and how the Indians might feel about it.

Before reading - have students *make predictions* about the story based on the title and cover illustration.

During reading - have students *visualize* what they are listening to by drawing a picture or symbol in each box at the designated stopping points throughout the book.

After reading - have students share their illustrations.

Grade 4 - The Native Peoples of Virginia - Lesson 7: Daily Life of Early Native Peoples

Visualizing My Way Through Text

1	2
3	4
5	6

[Click here to access this graphic organizer.](#)

It is not the answer that enlightens, but the question. Decouvertes



- Students who take responsibility for asking their own questions become more *productive and engaged* in their learning.
- *Metacognition*, or thinking about thinking, involves questioning our individual learning processes.
- *Questioning* helps us solve problems by developing, implementing, and evaluating plans of action.
- Active learners are always questioning

Higher Level Questioning Resources

- [Reading Above Bookmarks](#)
 - Jacobs Ladder
 - Project M2 and M3
- Think Deeply Questions

Character	Character
<p>Tell about a part of the book in which a character's thoughts differed from his or her actions. Why do you think this happened?</p> <p>How does the setting of the book influence the characters' actions and decisions?</p> <p>Compare and contrast two characters in this book. Which one do you think is a more interesting character? Why?</p> <p>Put the major characters in the story in order from your favorite to least favorite. Explain your decisions.</p>	<p>How might the characters act differently if the story were set in a different place or time? Why?</p> <p>Is the main character someone you would want to "hang out" with? What do you know about the character that affected your answer?</p> <p>Which character's point of view is used to tell the story? Tell one event from a different character's point of view. How did you decide what to change in describing the event?</p>

Plot

Choose one scene from the book that you would like to illustrate. What kinds of colors and materials would you choose? Why?

Summarize a chapter from the book in...

- 25 words or fewer;
- 10 words or fewer;
- 5 words or fewer.

At the beginning of the book, how does the author “set the stage” for what is going to happen next?

Tell about a *suspenseful* moment in the story. How did the author build the suspense?

Plot

What feelings do you think the author wants readers to have during and at the end of the book? How do you know?

What is one thing you would ask the author to change about the plot if you could?

If you made a timeline or diagram of the events in the book, what do you think it might look like? Would a straight line or another shape show the sequence of events best?

Choose a chapter of the book and give it a new title. Explain why this is a good title for the chapter.

Plot

What are the main problems so far for the characters in the book? At this point in the story, which is the biggest or most important problem? Why?

If you could only choose one event from the story to tell a friend, what event would you choose? Do you think you could convince your friend to read the book based only on this one event?

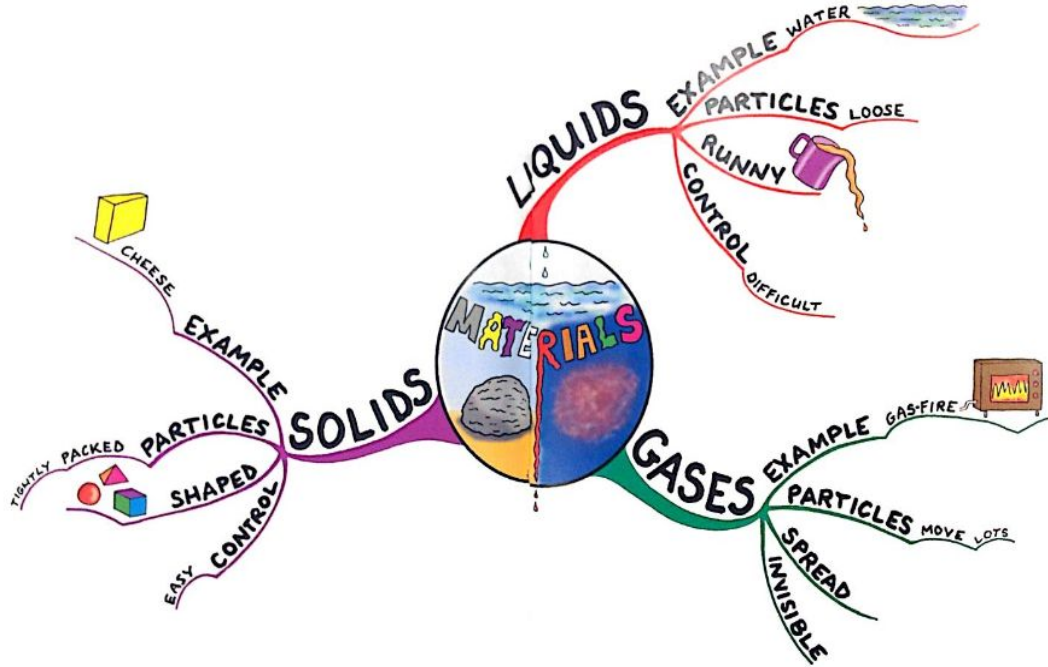
Tell about a point in the story at which you didn't want to put the book down. What made that moment so interesting?



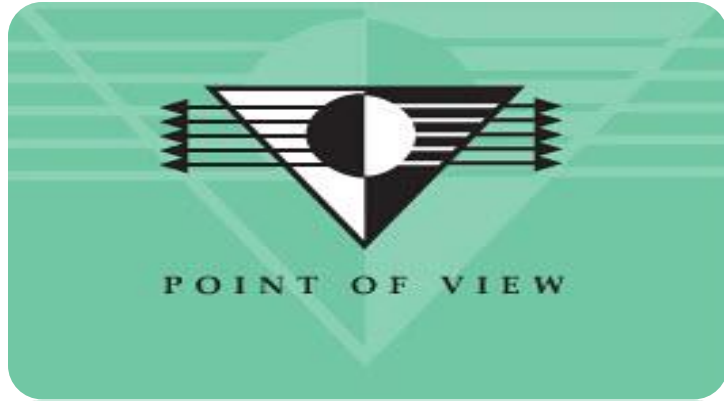
- Visual note taking that helps students **organize information**
- Helps students retain, remember, recall information, see the **big picture**, and make **connections**.
- As students begin to work with more information in the content areas, mind mapping is especially important **for visual and global learners**.

What is a mind map?

- Like webs and maps!
- Use colors, pictures, and words to show ideas.
- Big idea is in the center.
- Around it are the “roads” that show how smaller ideas connect to the big idea!



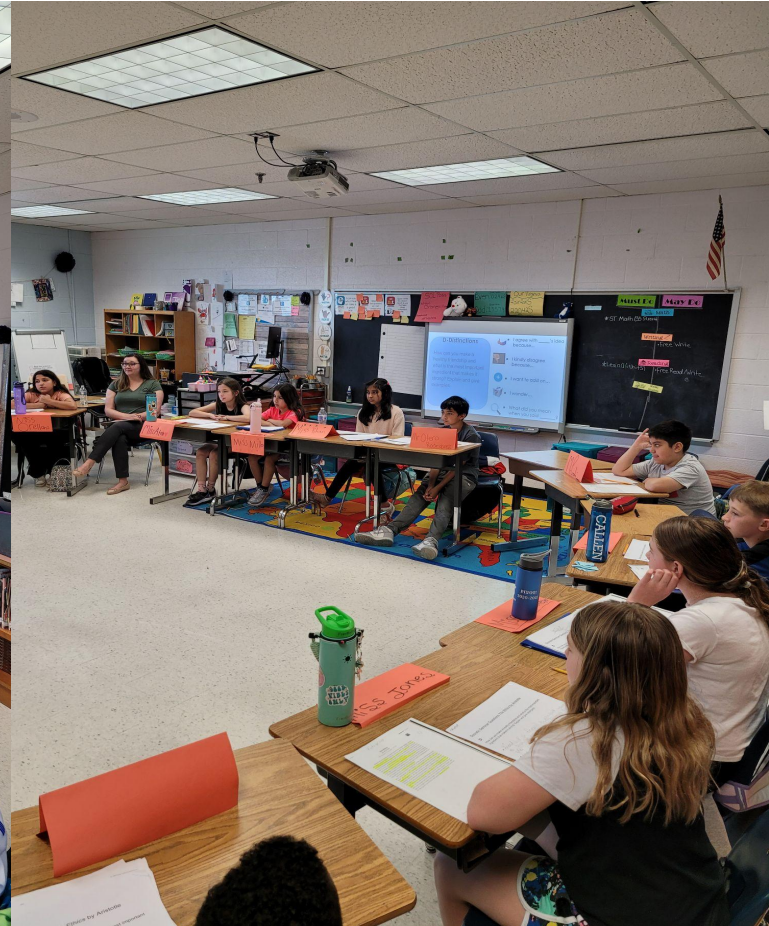




- Asking students to explore an idea from **multiple points of view** helps to broaden students' thinking and demonstrates that an idea should be examined from many angles before an opinion is formed.
- The discipline of examining an issue from many perspectives provides students with a good model for open-ended receptive thinking and **empathizing** with the opinions of others.

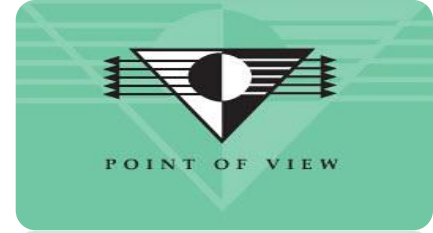


Socratic Seminar and Debate



Great Debate Teams

Debate Topic: Should elementary schools have recess?



PRO (AFFIRMATIVE) YES

- Helps you learn better
- Increases energy and oxygen flow
- Lowers stress; gives nice break in the day and gives teachers a break
- Increases social skills; gain more friends
- Use creativity; time to problem solve
- Learn from other people; observe nature

CON (NEGATIVE) NO

- Less time to learn in school
- Tired and sleepy; decreases energy
- Stress is higher; schedule changes, more work on weekends
- More colds in the winter months; more allergy risks in the spring
- Increased risk of injuries
- No break for teachers; teachers are monitoring kids
- May cause social issues



Students who practice FOFE are more able to make **inventive or creative connections** between ideas.

Fluency

Thinking of and listing many ideas

Flexibility

Thinking from different perspectives

Originality

Coming up with unique ideas

Elaboration

Building upon an existing idea – adding details



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

SCAMPER is a useful list of words to help us think differently about a problem, idea, concept or issue.

Substitute

What can you substitute? What or who could you use instead?

Combine

What can you combine or bring together?

Adapt

What can you adapt for use as a solution?

Modify

Can you modify or change the item in some way?

Put to other uses

What other or new ways could this be used?

Eliminate

What can you get rid of?

Rearrange

What could you rearrange or change around?



FLUENCY, ORIGINALITY
FLEXIBILITY &
ELABORATION

SCAMPER a ladybug (3rd grade)

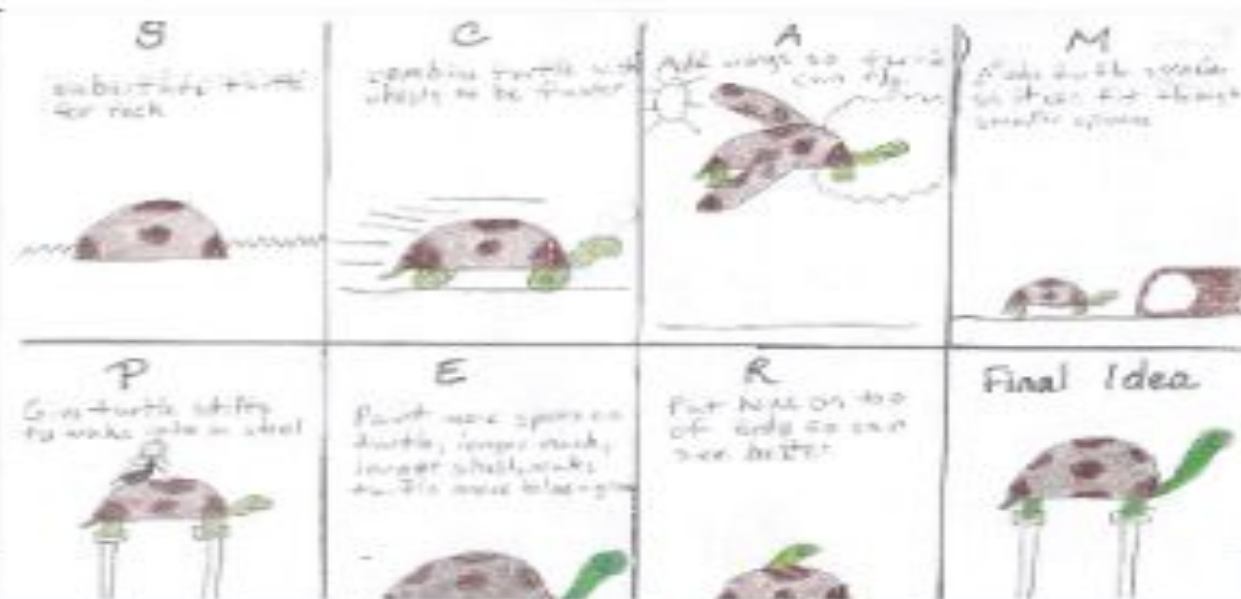
SCAMPER another animal

SCAMPER used to design a submersible (5th grade)

SCAMPER an invention from an ancient culture (3rd & 5th grades)

SCAMPER to find a solution for an environmental issue

SCAMPER solutions for the Jamestown settlers



FLUENCY, ORIGINALITY
FLEXIBILITY &
ELABORATION



- Understanding cause and effect
- Examining the result of actions
- Short and long term consequences
- Understanding Implications

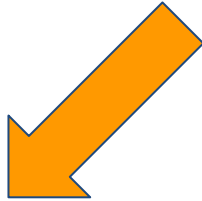
You have trash



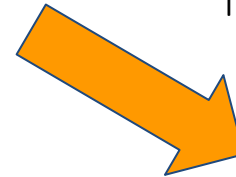
Possible decisions



Save your trash to throw out and/or recycle later.



Throw your trash into the ocean.



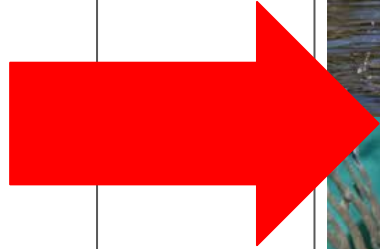
Decision

The **CHOICE** that you make.



Outcome

WHAT happens.





- A facility for working with analogies gives students a structure for generating creative ideas, seeing **complex relationships**, and **making unusual comparisons**.
- Analogies may be used to **deepen understanding** of topics or concepts.



ANALOGIES

Critical and Creative Thinking is like
a _____ because

_____.





Encapsulating is the process of stating ideas in a **concise, precise form.**

Encapsulation requires students to synthesize information and nuances in order to capture the essence of an idea, object, or activity.

Best Practices: Encapsulation in
Elementary School
<https://youtu.be/w6QRGMcMqKU>


Encapsulating Pollination and Photosynthesis

Encapsulation is stating ideas in a clear, accurate and brief format. Today you will design logos that encapsulate **photosynthesis** and **pollination**. Think about the important parts of photosynthesis and pollination and brainstorm how you can represent the elements, connections and processes without drawing the processes themselves.

Photosynthesis

DESIGN YOUR OWN APP ENCAPSULATION


There are many cell phone and iPad apps that people use for a variety of reasons. See if you can name these:



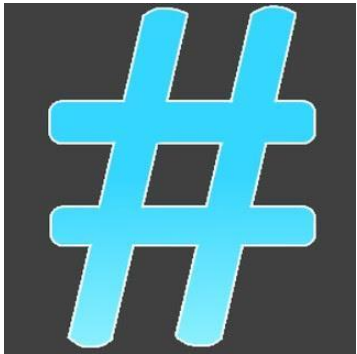
Think of a new idea for an app that would be useful or entertaining for a specific audience.

Write a few sentences about what your app would do below and then create a logo that encapsulates what your app stands for.


The new trends is a app to tell you all the news first thing! for exsple: The oscars! You need this app for different reasons. This app is only \$0.99! so get it now! No applications required! Try for 30 days. If there is any problems You can get your money back!



**Encapsulate what you'll take
away from this session into a
hashtag.**



Visit www.fcps.edu

1. Select SEARCH  on the home page.
2. Enter CCTs in the SEARCH bar.



A screenshot of a search bar with a teal border. Inside the bar, the text "CCTs" is entered after a magnifying glass icon. To the right of the input field is a teal button with the word "Search" in white.

3. Page available in all languages

