# Integrating Depth & Complexity Into Your Classroom Using Frames





11 essential elements needed to master a subject & understand a concept in a deeper, more complex way.

<u>Depth</u>: Language of the Discipline, Details, Patterns, Rules, Trends,
Unanswered Questions, Ethics, & Big Idea

<u>Complexity</u>: Change Over Time, Multiple Perspectives, & Across the
Disciplines

#### Depth

- Refers to approaching or studying something from the concrete to the abstract, from the known to the unknown.
- Requires students to examine topics by determining the facts, concepts, generalization, principles and theories related to them.

















#### Complexity encourages students to

- Relate concepts and ideas at a more sophisticated level
- See associations among diverse subjects, topics or levels
- Find multiple solutions from multiple perspectives







### Introducing the Elements & Their Icons

How do I teach my students the elements & icons?

- Rapid fire lessons (a few days)
- Over the course of several weeks
- As it fits into your curriculum
- Up to you!

























#### Elements vs. Icons

- There are 11 elements of Depth & Complexity.
- Each element is <u>represented</u> by an icon.
- We are not teaching the icons. We are teaching the elements to be used as thinking tools.
- The icons are to help us remember the elements.



















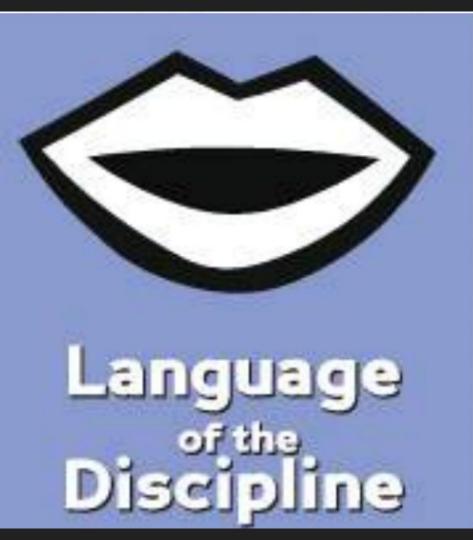




#### Important First Step:

- ✓ Post the icons in your classroom.
- ✓ This shows students that you value the elements of Depth & Complexity as learning tools.





## specialized language related to a discipline or topic

- Why lips?
- Think like... a biologist, an archaeologist, a mathematician
- What words would students need to know to master/discuss: addition... multiplication... the Great Depression
- School subjects
  - ✓ Science, Social Studies, Math journals
- Careers/fields/disciplines
- Words associated with a period in history
- Multiple meaning words
- Preview text to predict word meanings



### Language of the Discipline Mini-Lesson

- On a post-it note, draw the icon for Language of the Discipline.
- Label it with a career (i.e. doctor, firefighter, lawyer)
- List specialized language associated with the career, which may include:
  - ✓ Words
  - ✓ Phrases
  - ✓ Abbreviations
  - ✓ Symbols
- Share out! See if the group can guess your field/discipline!

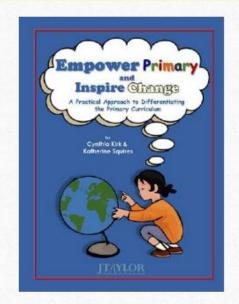


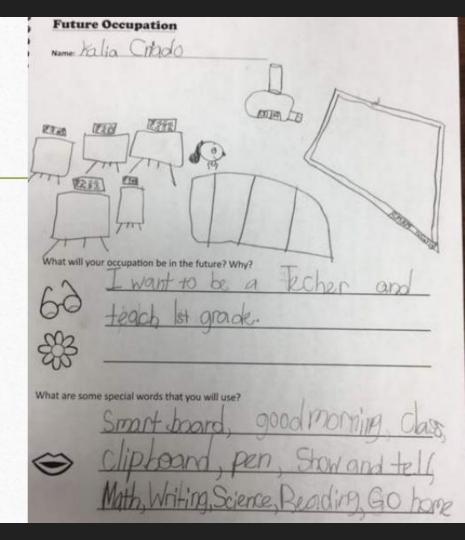


Language of the Discipline Mini-Lesson (Primary)

#### Page 93









#### Curriculum Connection

Ideas:

#### Word Walls or Lists for Content

#### Areas:

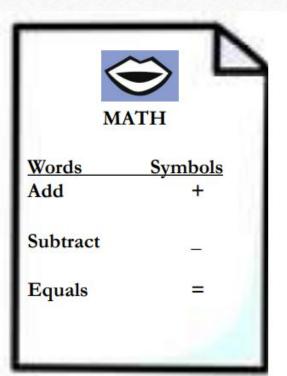
Math Science

Social Studies ELA...

#### **Topics:**

Matter Reptiles

Multiplication





#### **MATTER**

solid liquid gas

container

mass



## parts that make up the whole, the information that enhances understanding

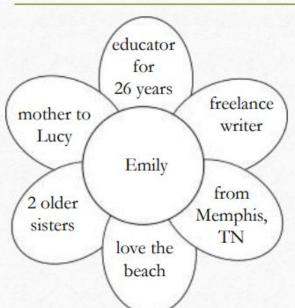
Why a flower?



- Natural connection to BIG IDEA
- What details support:
  - your answer?
  - the main idea of the story?
- Observations
- Compare/Contrast



#### Details Mini-Lesson



Create a

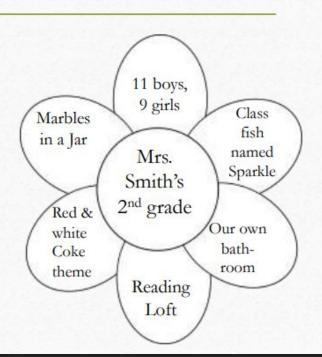
"Details Flower"

about:

✓ yourself OR

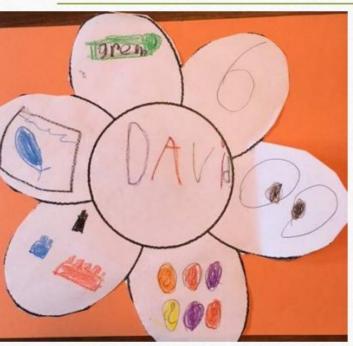
✓ your class

Share out!





## Details Mini-Lesson Examples (1<sup>st</sup> – 3<sup>rd</sup> grade, varied ability levels)



1st grade

On Level



1st grade

Advanced

Level



#### Good questions/phrases to use are:

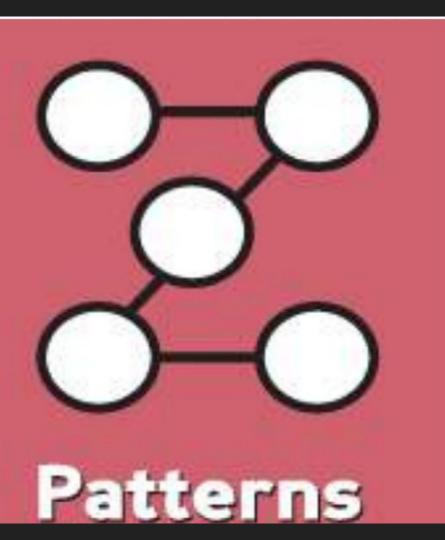
- "Tell me more (details) about that."
- · "Can you prove that with evidence?" (details from the text)
- · "Please elaborate."
- · "Look for the details today in our study of plants and their parts."
- "Look for the details that show us (character name) is angry." (sad, nervous, curious, etc. – character's feelings)
- "What detail do you find important?"
- · "What are the essential details? The non-essential details?"
- · "What details support our main idea?"
- "Look for the detail you forgot. If you find it, you will then be able to solve the problem correctly."

  (math)



### Application in the Classroom

- Some ideas.... Refer to the DETAILS icon when:
  - ✓ asking students to elaborate artwork or writing
  - ✓ examining the details that make up similarities or differences
  - ✓ identifying main idea and supporting details
  - √ describing a process
  - ✓ Consider the details that contributed to the event or the plot of a story

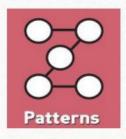


## recurring (repeating) elements or factors

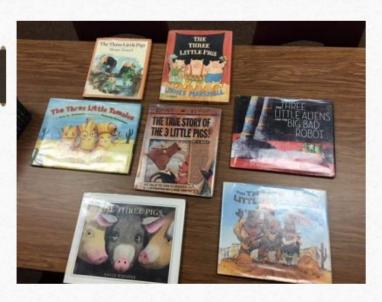
- Why this icon?
- Patterns are found in:
  - ✓ objects
  - ✓ stories
  - √ history
  - ✓ Behavior
- Identify patterns
   But also...

Why do the patterns occur?
Did the pattern change OVER
TIME?

- Cause & Effect
- Relationships among Patterns



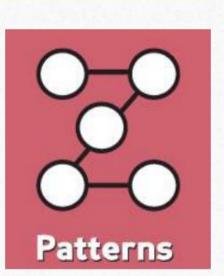
#### Patterns Mini-Lesson

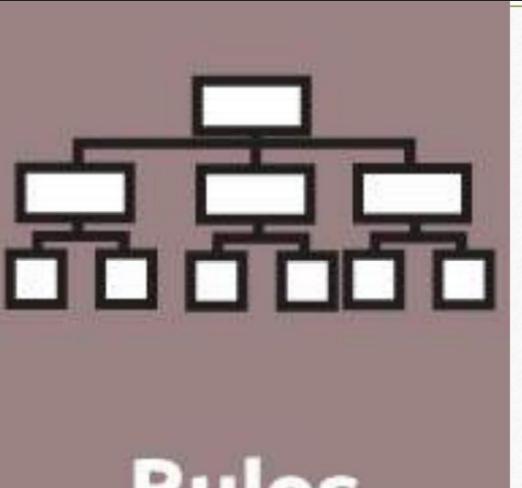


- Read <u>Three Little Pigs</u>. Together, identify patterns in the story.
- Compare/contrast with other versions of the fairytale.
- Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures.
- Do any of the same patterns exist? Are there new patterns?
- Extension Find other patterned books.

#### Where can you address PATTERNS in your curriculum?

- Mathematical patterns
- Seasons of the year
- Life cycles
- Patterns of behavior
- Recurring themes in novels
- Patterns throughout history (i.e. times of war)

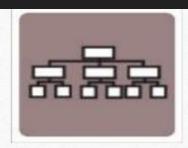




#### Rules create/provide structure. They represent organization & hierarchy.

When do we use/teach/examine RULES?

- ✓ Structure of a sentence, paragraph, or story
- ✓ Mathematical rules
- ✓ Grammar rules
- ✓ Rules for Behavior
- ✓ Scientific classifications
- ✓ Stated vs. Unstated Rules
- ✓ Laws
- ✓ Cultural or societal "rules"



#### Rules Mini-Lesson

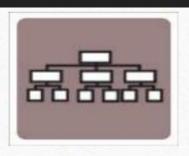
#### MOVIE THEATER

#### STATED RULES

#### UNSTATED RULES

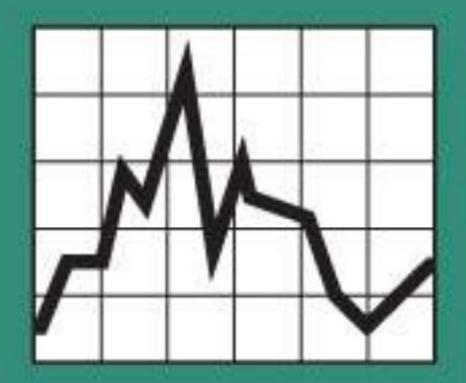
- 1. Turn off cell phones.
- 2. Take crying babies out.
- , ,
- 3.
- 4.





#### Application in the Classroom

- What are rules associated with hurricanes?
- What rules (laws) contributed to the Civil Rights Movement?
- What are the rules for using a comma?
- What rules must you follow in order to solve a long division problem?
- Compare & contrast rules of social etiquette in the US with those of another country/culture.
- Is this character a rule follower or rule breaker? Prove with textual evidence.
- What ethical issues are associated with the rules of \_\_\_\_\_\_? (cell phone use)



#### represent the general direction of change

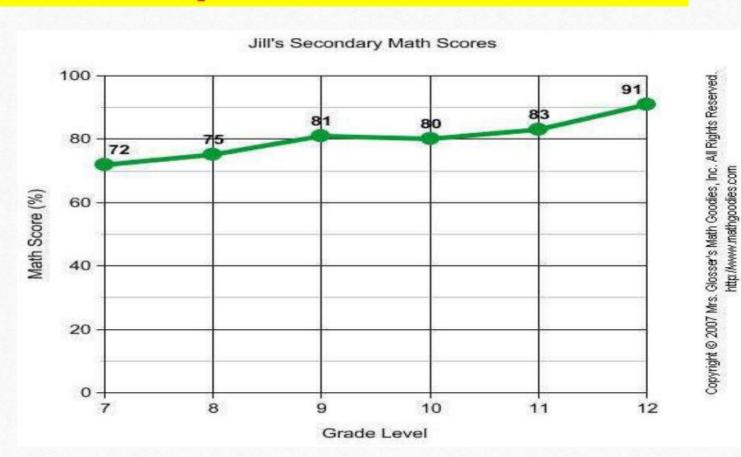
Cause & effect.... Spikes

- ✓ For a trend to occur, one thing has to replace, or compete with, another.
- ✓ Combination of PATTERNS & CHANGE OVER TIME

**Example:** Hardback books to E-books in schools... What is *causing* this *TREND*?

## Trends

#### What is the trend? Proposed reasons?





#### Trends Mini Lesson

- Analyze trends as a whole group using line graphs.
- TRENDS higher level concept
- You can still introduce it to elementary students.
- Track trends in the weather... Discuss the CAUSE of the weather changes.



## Unanswered Questions

#### Questions about anything that is:

- Unsolved
- Unclear
- Unproven

#### Ideas that are:

- ✓ yet to be explored
- √ incomplete
- ✓ not answered quickly
- ✓ may not have answers (yet)

Not "fill in the bubble" type questions/answers.

They generate thinking & discussion.

Pursue answers as a class and as individuals!



### Unanswered Questions Mini Lesson

#### What do school children eat



for breakfast





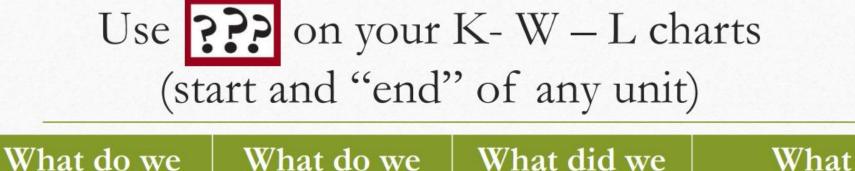




## Unanswered Questions Mini Lesson

## What do school children eat for breakfast





HERE.

Know? Want to Learn? know?

LIST UNANSWERED

THE START OF ANY

UNIT.

**QUESTIONS HERE AT** 

LIST WHAT STUDENTS

ALREADY KNOW

HERE.

ABOUT THE TOPIC

LIST WHAT STUDENTS SAY THEY LEARNED DURING THE UNIT

do we have now? **TOPICS FOR** INDEPENDENT RESEARCH OR GT EXTENSIONS NATURALLY COME FROM THIS SECTION!



#### Curriculum Connections

- Writing Use a hook to interest your readers by asking your readers a
  QUESTION that appeals to them.
- Science Lead to:
  - science fair projects
  - > science experiments
  - independent study for gifted or advanced students -- Allow them to become "experts" and share out with the class.



Principles, right vs. wrong (gray area)

conflicting points of view on events, ideas or issues

involves bias, values, or judgments

Natural Connection: ETHICS with MULTIPLE PERSPECTIVES







#### "Take a Stand"

- Strongly Agree and Strongly Disagree
- Students form a human continuum (rank themselves between the extremes).
- Make a strong statement and call on individuals to "take a stand" and share their reasoning.
- Allow movement on the continuum.
- Students share out how their <u>perspective</u> on the <u>ethical issue</u> stayed the same or <u>changed</u> over time. Ask: "What caused your perspective to change?"
- Discuss how ETHICS often goes together with MULTIPLE PERSPECTIVES.
- Remind students to look for ethical issues in studies and books.



#### main idea, a generalization, principle, or theory about the content (the focus)

- Purpose for learning (learning objective)
- ✓ What is the "big idea" of today's lesson?
- ✓ Themes, Generalizations
- Main idea of a story or paragraph (in the roof) -- supported with evidence/details (pillars).



#### What's the BIG IDEA?



- Ringmaster
- Acrobats
- Lions
- Trapeze
- Tightrope
- Clowns

- Acts
- Elephants
- Costumes
- Concessions
- Show
- Traveling



### Big Idea Mini Lesson

THE

- Read *The Important Book* by Margaret Wise Brown
- "Beep" out the answers and have the class guess!
- Students generate details about the big idea of "self."
- Later in the year, use this with topics, characters, etc.

The important thing about matter is that everything has it.

It can be solid, liquid, or gas.

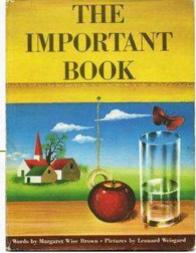
It sometimes takes the shape of its container (liquid!).

It may have a great or a small mass.

It ....

But the important thing about matter is that everything has it.

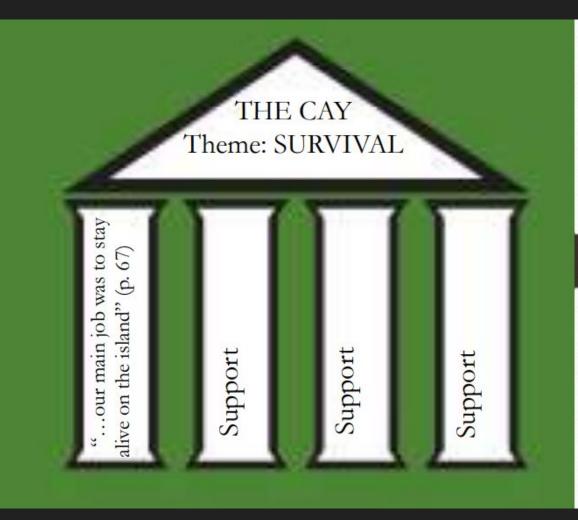
Create an "Important Thing" page about yourself OR about a topic you will teach soon!

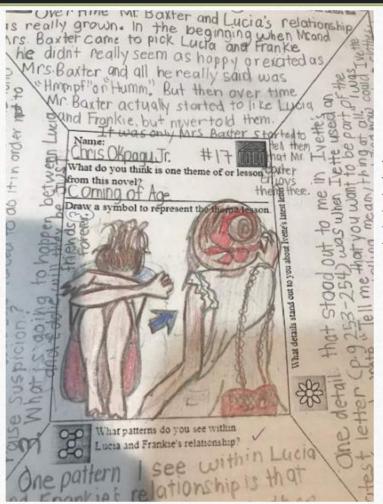


## May use as a graphic organizer...

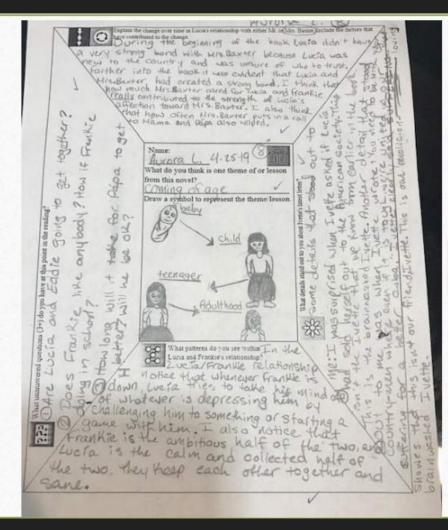
## i.e. Determine the theme of a piece of literature.

- Use the "roof" for the theme a student or group proposes (i.e. Survival).
- Use the pillars for quotes or pg. numbers that support their belief that a theme is Survival.





FRAMES: BIG IDEA



LVERYOFIE VOUCE P the millionaire busness owners. Create a symbol that you feel represents the Great Depression. Write an explanation of the symbol I drew money blowing in the \$ 8 % wind because after the & & Stock Market crashed 250 it was like all the money just blew away



## Over Time

#### Over Time Past, Present, Future

How something changed <u>or</u> stayed the same over a period of time?

- ✓ Natural
- √ Man-made
- ✓ Characters, settings
- ✓ Rate or speed of change
- ✓ Consequences of change
- ✓ Past influencing present or future

Examining the "why" the change occurs is critical to take students to higher levels of thinking.



#### Over Time Mini-Lesson



- Create a timeline of your life.
- Make it one that you could share with students during a mini lesson on change over time.
- Include a small picture or icon as well as a few words for each entry.
- What has stayed the same? What has changed over time?

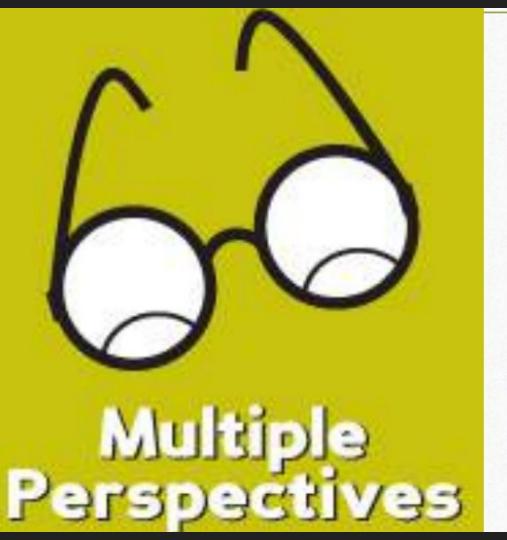


#### Curriculum Connections

- · Landforms/Erosion
- Forms of Government, Economic Systems
- Animals (Life Cycles, Adaptations…)
- Characters, Settings
- Inventions/Technology
- Where can your students analyze (Change) Over Time



in your curriculum?



## different points of view on ideas, events, people, and issues

- someone else's "glasses" or "lenses"
  - ✓ Characters
  - ✓ Famous Inventors, Leaders, Explorers
  - ✓ Conflicts in novels/history
  - ✓ Cultural/Global
  - ✓ Empathy/conflict resolution

Combines well with the other icons.

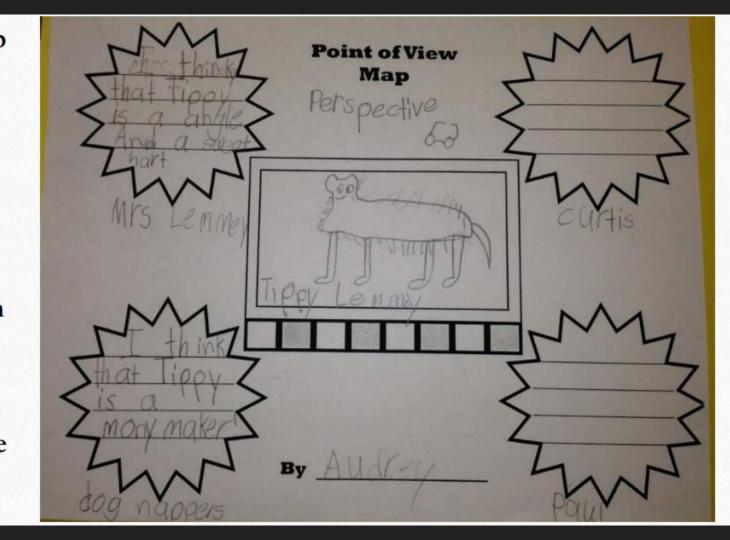
Did \_\_\_'s perspective CHANGE OVER TIME? Perspectives regarding ETHICAL ISSUES

#### Point of View Map

Center = Any object, setting, character, or statement

Four "thought bursts" or "speech bursts"

4 different perspectives on the center item





# how an area of study is related to other subjects or disciplines

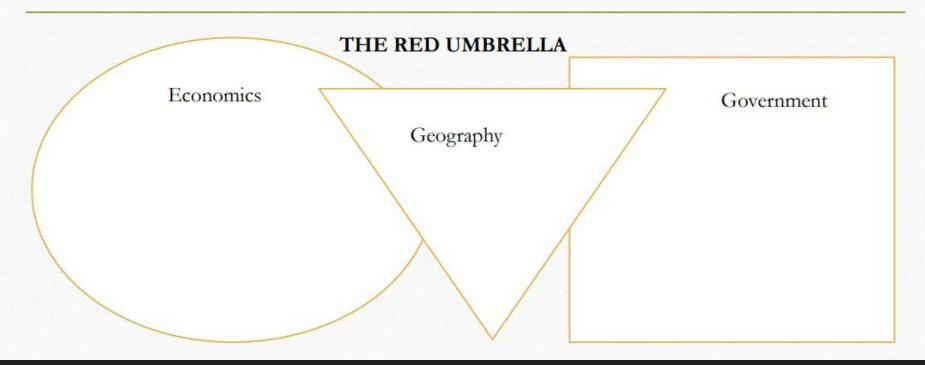
- ✓ How does (content) relate to math, science history?
- ✓ Integrated studies
- ✓ Text to Self, Text, or World Connections

When studying an artist:

- √ where he/she lived (geography)
- ✓ style (art)
- √ influences (history)



### Across Disciplines Mini-Lesson



#### Mini Lessons

They may be used to introduce the 11 elements of depth & complexity (as well as the icons).

How do you present them?

- Rapid fire lessons in a couple of days
- Over the course of several weeks
- Up to you!



## **FRAMES**

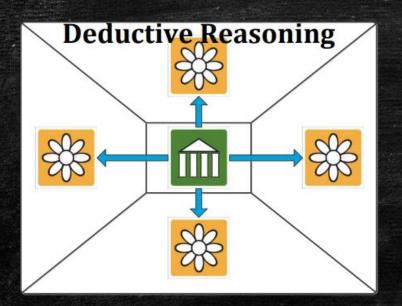
#### What Is a Frame?

- A graphic organizer
- An easy way to incorporate the Depth and Complexity Icons into your curriculum

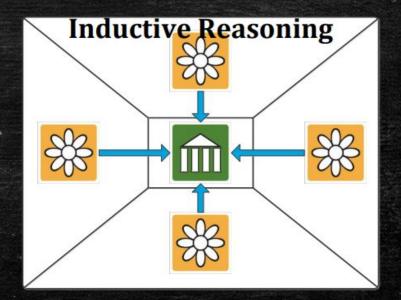


#### Types of frames

#### **DEDUCTIVE REASONING**



#### INDUCTIVE REASONING



#### Using frames

- Identify concept or content to be covered.
- Identify DC or CI Icons to use.























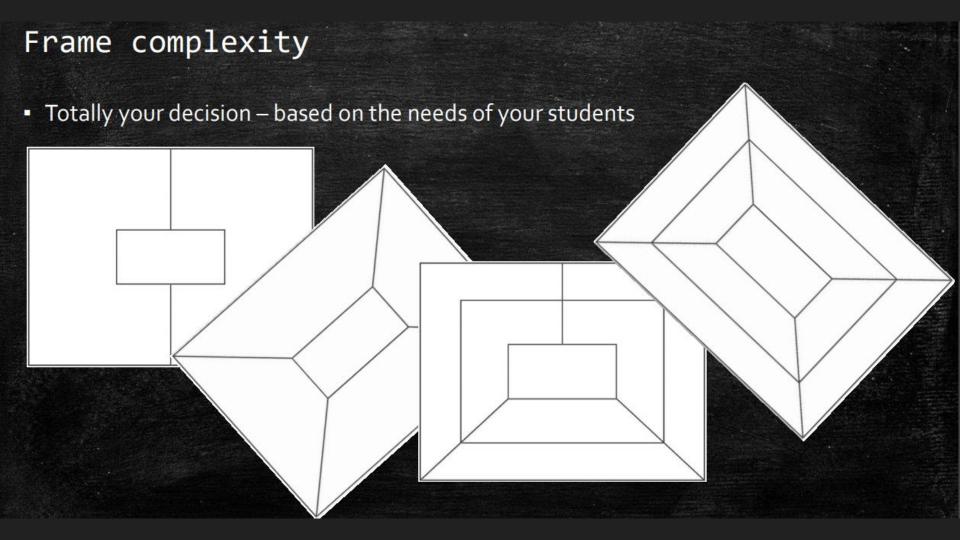








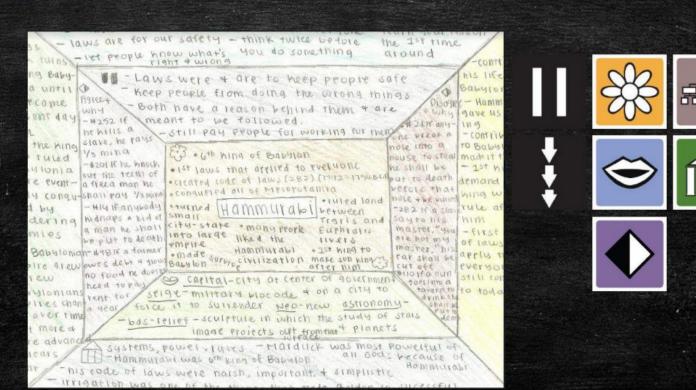




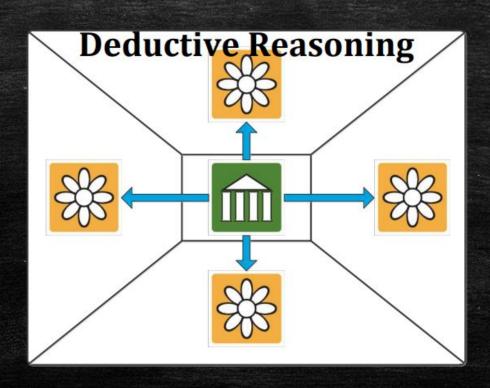
#### Frame example

Topic: Hammurabi

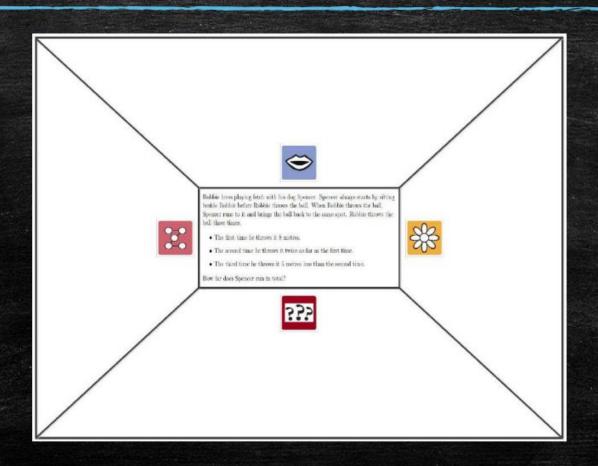
Icons used:

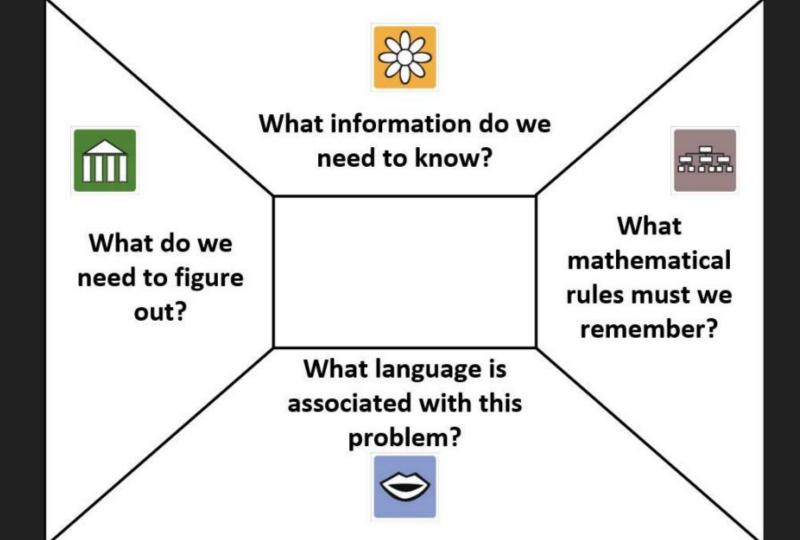


#### Deductive frames

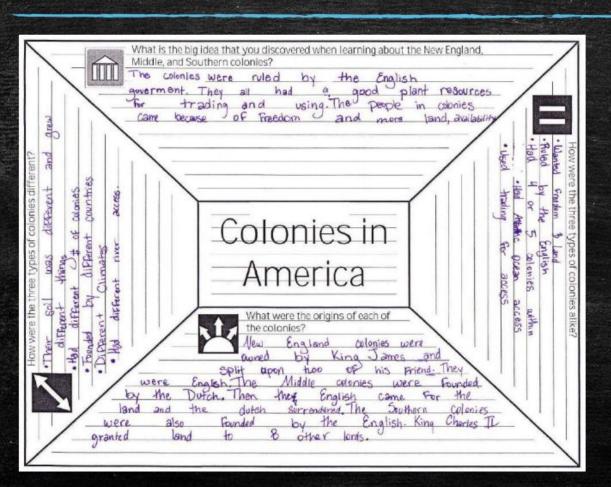


#### Math



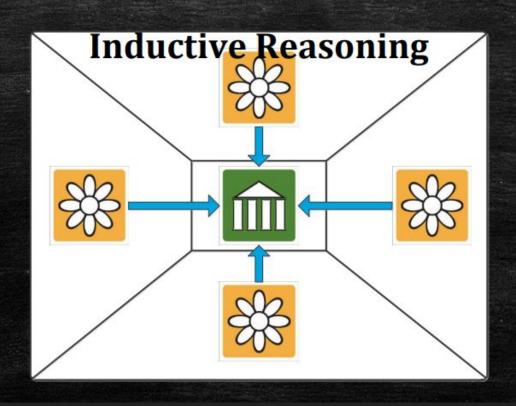


#### Colonies in America



Student Sample

#### Inductive frames





water due to location on a swamp and lack of flowing water.

Disease in the

"Position at the salt freshwater transition, where filth introduced into the river tended to fester rather than flush away."

To eat you must work.

Many of the settlers were "gentlemen" who did not know how to work with their hands.



Smith became a virtual military dictator, instituting a brand of martial law that helped save the colony. He became an expert forager and was a successful

Indian trader

Colonists were not from professions that could help with survival.

Second wave of colonists did not have that many more people who had useful professions.



died



#### Interacting with Text before the summary

Octopuses' ability to change shape

has been copied by scientists

ouses are better at camouflage than any other animals. They can change their shape and a look like other creatures.

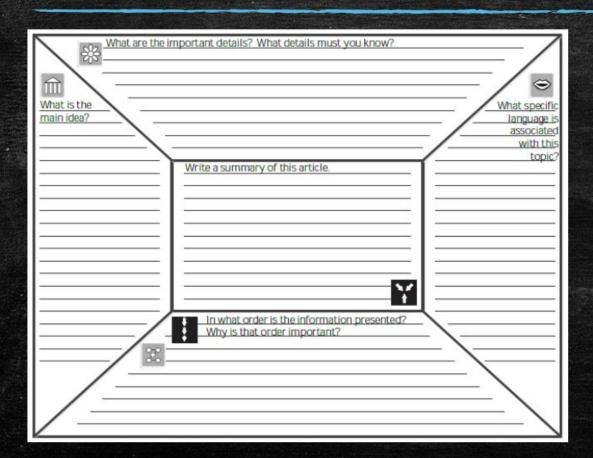
of these morphing creatures is the mimic octopus. It adopts the colors of a poisonous and changes its body into a thin ribbon to scare predators away.

seen mimic octopuses look like lion fish, sea stars and other animals. When topus takes the form of a crab. Crabs fooled by the display end up eaten.

ngineers are impressed by the octopuses. A team of Cornell University the mimic using sheets of rubber and mesh. The scientists got help t Roger Hanlon.

study published Thursday in the journal Science, they created a thin , uke skin, that changes into 3-D shapes. It is like the shape-changing skin of an Jpus. The membranes can blow up in seconds to the shapes of everyday objects. They can look like plants or stones.

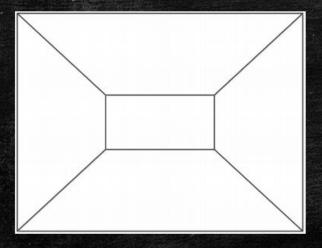
#### Iconic pathways

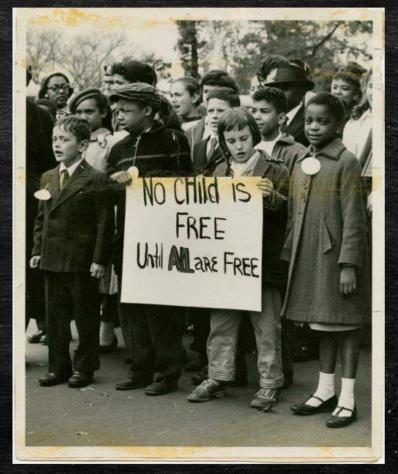


 Select icons used to create a pathway – one leads to the next leads to the next.

#### Analyze image

- ★ Blank frame
- ★ Choose our icons





Schomburg Center for Research in Black Culture, Photographs and Prints Division, The New York Public Library. "Mixed race group of children carrying sign: "No Child is Free Until ALL are Free" The New York Public Library Digital Collections. http://digitalcollections.nypl.org/items/7440da66-529d-6ag6-e040-e00a18064902



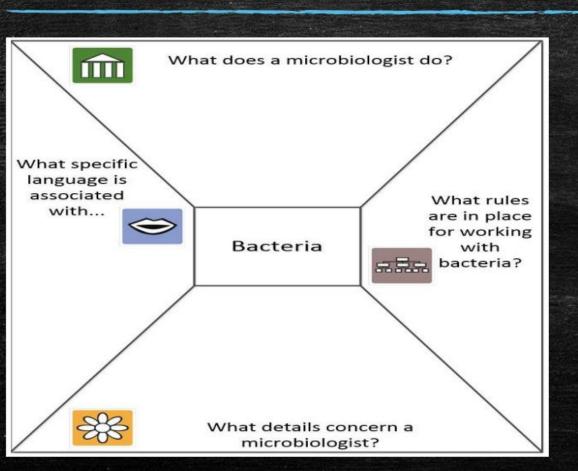
Petronski- funny name Warda is quiet - obsent - sot in the back Does -no friends - wore a blue dress wanda -lived on Boggin Heights - didn't talk much/poor have pets: -brother named Jake -tracks in dirt/mud /-courton - have 100 -desk dusty - poor - Billy Byron sits /- dresses dresses show - lonely - no one noticed absent behind hy derisively family like? Old Man Svenson's - Why does she tairly don't believe "Hundred Drosen/mistreated always wear blue Maggie's poor - 60 shoes in all color Boggins Heights dress? - Why doesn't Silk/velve/Bill Byron how old? She wear 100? Wando Petronski - not ironed? Pegax / Maddie how old Jake? ~-parish Hundred Why is she poor?? sternt /quiet why is Svensen No Good? teasina Dresses Chi what grade? incredialously how too if poor? radmir inaly Wonda: -where's her Mom? - Dad's name? Why are the teasing me tobviously - Why does she put -being mean CONTRACTOR OF THE PARTY OF THE up with Stuff - funny that I have 100 dressins garable - did mom die - hurt my teelings invented properly Why doesn't She talk much - closen't like attention where was/ - wants to be noticed a little Exapplinit she horn I Does she Wear 100?

The Sunset lowers faced east even though the sunset was in the west. Barney Northrep lied to Sydelle Polaski that about 20 people wanted the apartment that was believe reserved for Sydelle. Crowne Wexler was that the really impressed with Sunset Towers while Westing Crame glassy luxurious, her husband, Jake Wexler, didn't like itself is similar his room in Sunset Towers. because just as the exclusive, breathtaking competitors get classy, gorgeous, elegant competitive in the game An unusual chain of events enthusiastic, trifle, kids like me get overjoyed, oshed, happens when sixteen competitive in any game. heirs are gothered together plast, plush, glittery, dim, joyous, approving, at the death of Sam Westing. " westing. Also, just as Chris The heirs compete for Som Westings Theodorakis has a wobbled, ashed, calm, fortune and although Sam Westing may be dead, that work stop him with he fossie, disability, I have known gasped, excellent, husband, celling, someone who also Why does Sunset lowers face chandeliers, has a mental disability, east? Why did Barney Northrup carpeting. chose those particular people? Who was the mistake! Was Grace Wexler as enthusiastic about her apartment afternard? How does Barney Northrup know the price of the heir's previous

#### Whole Class Example



#### Think like a disciplinarian



MICROBIOLOGIST

#### Curricular Uses

- Math
- English Language Arts
- Science
- Social Studies
- Art
- Music
- Etc.

#### Frames Uses

- Graphic organizer
- Follow-up to a lesson
- Reference
- Reinforce concepts
- Assessments

- Able to differentiate by using different icons
- Increase rigor or complexity with paired icons

#### Differentiating with Frames (Even More)

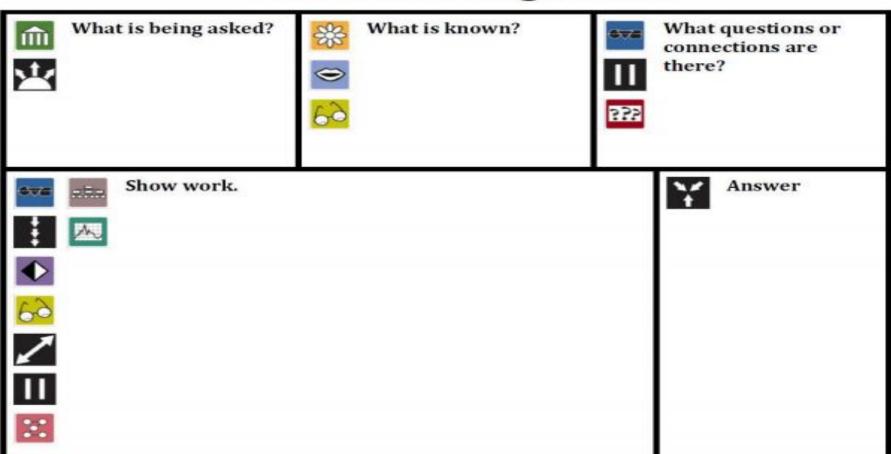
Level of Need	Frame To Use
Needs Help	Icon with question
On Level	Icon only (the student creates the question)
Needs Challenge	No icons or questions

#### Frame Maker

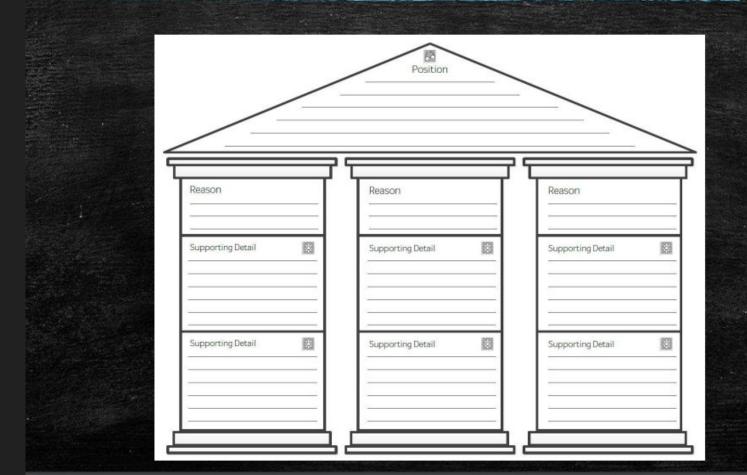
https://frames.jtayloreducation.com/login

# NON-STANDARD FRAMES

#### **Problem Solving Model**



#### Writing Graphic Organizer



#### Pros and Cons

hat are the points for one side?	What are the points for the opposing side	,
	<u> </u>	
	*	
	502	502
-		
	62	62
	00	00
-		
2		
	_	
	_	
that is your perspective?		
		62
8-		



#### Think & Plan

- How and when will you introduce the icons?
- How will you incorporate Depth & Complexity into a unit or lesson you plan to teach in the next two weeks?

"

Be not afraid of going slowly;

be afraid only of standing still.

-- Chinese Proverb

#### CREDITS

- Frames: Differentiating the Core Curriculum, Daniel Brillhart 13 June 2019
- An Introduction to the Depth & Complexity Prompts & Their Icons Presented by Emily Biggers