
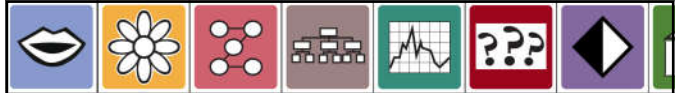



the Depth & Complexity *show*

with Ian Byrd & Lisa Van Gemert

first part: Intro to Depth & Complexity



DEPTH & COMPLEXITY

a **FRAMEWORK** for
academic exploration
to help raise thinking
skills

Why it's so great

- differentiation made easy
- standards alignment
- all ages & content areas
- robust thinking toolbox

Components of Depth & Complexity Framework

- Thinking Skills
- Icons of DC
- Universal Concepts
- Content Imperatives
- Disciplinarianism

DEPTH & COMPLEXITY

the icons are a path to understanding the thinking lens we're using for that experience | it's the signal | ELL

We are looking through a lens that pivots .

DEPTH & COMPLEXITY

The eleven elements are not in any particular order.

second part:
Our Pick Four



The perfectly puzzling mystery of a hidden masterpiece

Should great art belong to private owners or public institutions? Is it fair for such beauty to be owned by one person? Cite a character for each position and, using examples from the text, defend their point of view.

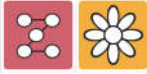
99 strange collective animal names

Whether it's a shrewdness of apes or a zeal of zebras, lots of animals have bizarre names when they cluster into crowds.

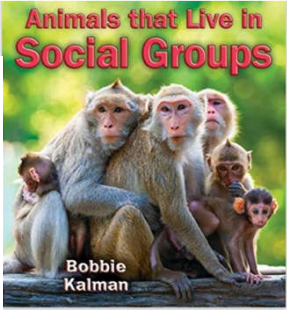
Ist, we'll have a little fun with crazy names for groups of animals.



I'll flip the classroom & have them watch this video at home.

Next, they'll come back to class & we'll read this book, looking for connections between it and the video.



Why Live in Groups

There are several major disadvantages to living in groups:

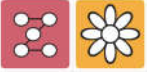
1. Greater competition for food, mates, sleeping sites
2. Increase parasite and disease load.

There is an incidental reason why some animals live in groups. E.g., birds don't nest on cliffs because they are attracted by a scarce resource: cliff swallows.

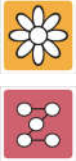
How do individuals benefit by living in groups?

1. **Cooperative food collection.** Wolves hunt together. By doing so each can more easily track and take down large game. Although the individual has to share meat, each still benefits from group hunting. Group hunting is less important in primates. Chimps hunt some but meat is not a major part of their diets. Group hunting is important in many human societies, however.
2. **Sleeping together to conserve warmth.** This explains why individuals form groups at night but it does not explain why groups are maintained during the day.
3. **Shared information.** By forming groups, individuals can share information. For example, frugivores let each other know where fruit trees are (reciprocity).
4. **Protection from predators.** There are three reasons why animals form groups to avoid predation.

My advanced learners will read a scholarly article instead.



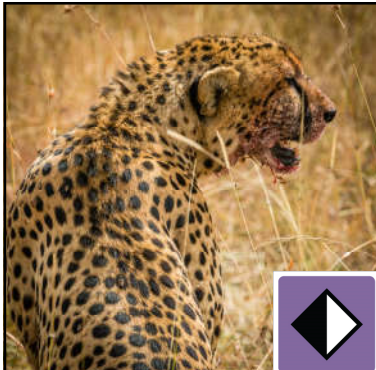
Next, the on level students will create a tree map classifying animals by the reasons they group.



safety	food	social
_____	_____	_____
_____	_____	_____
_____	_____	_____




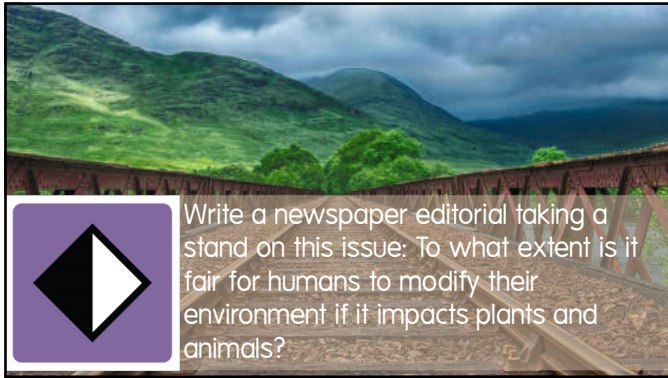
My advanced students will create a persuasive piece (brochure or commercial) encouraging the polar bear to begin living in groups.


Students will debate:

Resolved: It is fair for packs of animals to hunt in order to kill a solitary animal.







Write a newspaper editorial taking a stand on this issue: To what extent is it fair for humans to modify their environment if it impacts plants and animals?



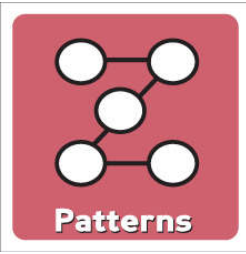
What are the problems you run into when doing long division?



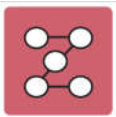
Rank those problems in order from most important/common to least.



The most important/common issue in long division is _____ because it impacts _____ in this way _____.





















Patterns



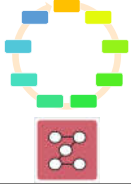
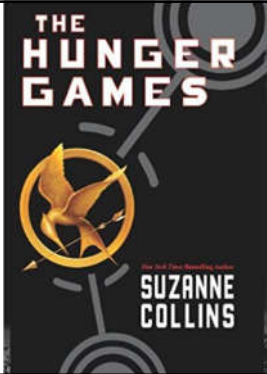
How does this pattern allow you to solve the problem?

Multiplication Arrays

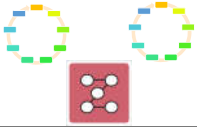
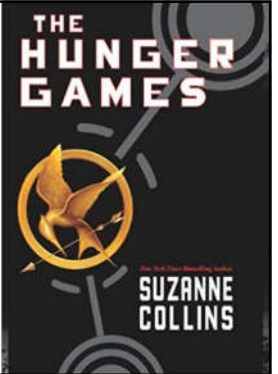
Directions: Circle the problem shown by the array.

 $4 \times 5 = 20$	 $5 \times 7 = 50$
 $6 \times 3 = 18$	 $7 \times 7 = 49$
 $4 \times 6 = 24$	 $5 \times 7 = 35$
 $5 \times 3 = 15$	 $4 \times 5 = 20$
 $6 \times 5 = 30$	 $5 \times 5 = 25$
 $4 \times 6 = 24$	 $5 \times 5 = 25$
 $8 \times 2 = 16$	 $4 \times 7 = 28$
 $9 \times 2 = 18$	 $8 \times 4 = 32$
 $9 \times 2 = 18$	 $4 \times 8 = 32$

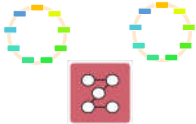
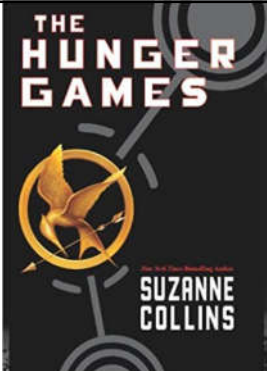
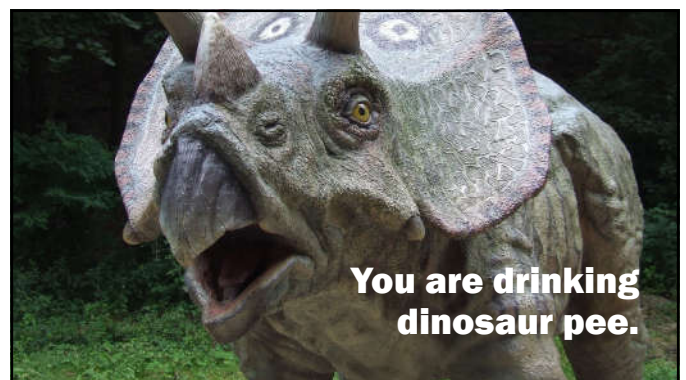
How does/does not Katniss follow the pattern of the heroic archetype?

Differentiate It: Compare and contrast the heroic journey of Katniss with that of Theseus.

Where and how does Katniss break the heroic archetypal pattern? Why does Collins not follow the pattern exactly? Does this make Katniss more or less heroic?

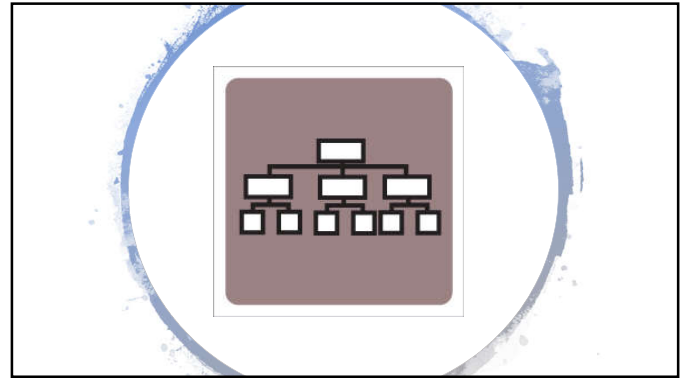






Identify five steps in the pattern all civilizations follow as they rise and fall.

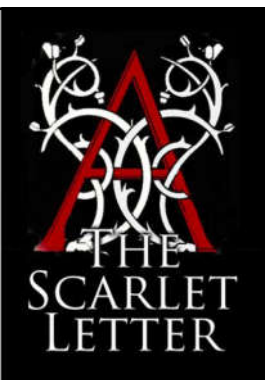
Choose two civilizations and compare them against this pattern.

Do they benefit or suffer from breaking the pattern?




RULES INCLUDE:


- standards
- directions
- methods
- organization
- usual behavior



In *The Scarlet Letter*, are the rules society imposes on women fair?

How does it punish the breaking of those rules?

Who else is punished besides the rulebreaker and how?



Differentiate it:

Compare the rules society imposes on women in *The Scarlet Letter* to contemporary mores. Argue either that a) the rules have changed or b) the punishments are more subtle.



What rule of Roman numerals are these numbers breaking? Fix them.

19 = XVIV




100 = LL




Which is more affected by gravity, the moon or Earth?

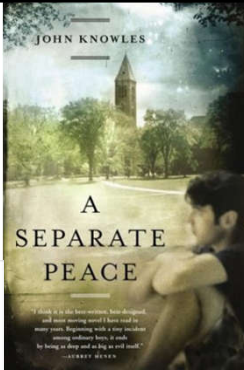
Debate: Because of gravity, planets with large masses are bossier than planets with a smaller mass.



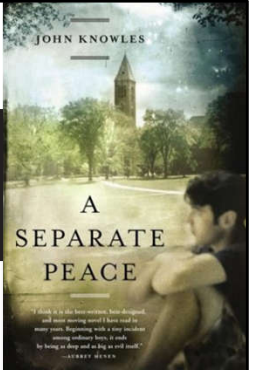
Describe the rules of baseball from the perspective of the ball.




Analyze two conflicts in the story from the perspectives of Finny and Gene.




Create a cause and effect chain that traces the origins of those conflicts.






Which one does not belong?






31	28
23	29


Which one does not belong?

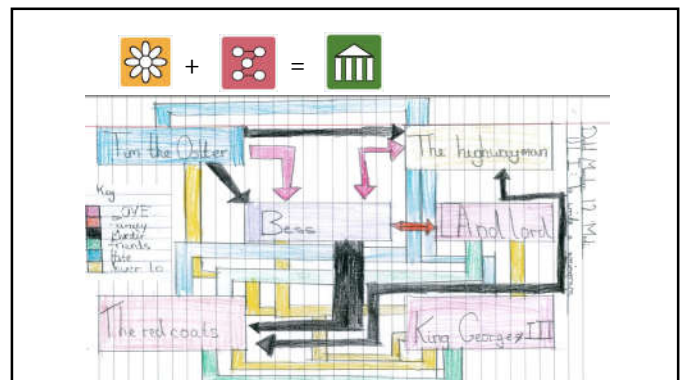


NATO	Treaty of Versailles
Truman Doctrine	Marshall Plan

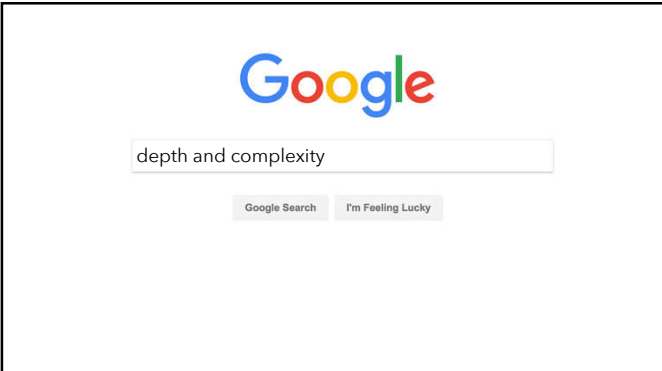
 What are the similarities between this and pre-WWI US policy?

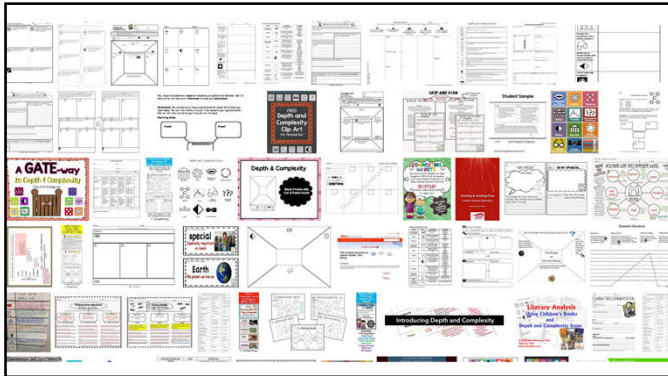
Using  details from the story, show the  patterns of the relationships between the characters.

 Analyze those patterns to determine what they say about the difference between the bonds of friendship and family.




third part:
Let's go even deeper



Depth	Icon	Definition	Example
Language of the Discipline		What vocabulary terms are specific to the content or discipline?	Terms, acronyms, special phrases, abbreviations, jargon, slang
Details		What are the defining features or characteristics? Find examples and evidence to support opinions and ideas.	Parts, factors, attributes, variables, distinguishing traits
Patterns		What elements reoccur? What is the sequence or order of events? Make predictions based on past events.	Predictability, Repetition
Unanswered Questions	???	What information is unclear, missing, or unavailable? What evidence do you need? What has not yet been proven?	Missing parts, incomplete ideas, discrepancies, unresolved issues, ambiguity, structure
Rules		What structure underlies this content? What are the underlying or hidden patterns or organizing principles in it?	
Trends		What trends or general characteristics are there? How do they change over time? What are the underlying or hidden patterns or organizing principles in it?	
Ethics		What moral or ethical issues are revealed in this content? What are the underlying or hidden patterns or organizing principles in it?	
Big Ideas		What are the big ideas or essential details of this content? What are the underlying or hidden patterns or organizing principles in it?	
Across the Disciplines		How are concepts, ideas, or information related to other disciplines? What are the underlying or hidden patterns or organizing principles in it?	
Changes over Time		How has this content or information changed over time? What are the underlying or hidden patterns or organizing principles in it?	
Different Perspectives		How does this content or information look from different perspectives? What are the underlying or hidden patterns or organizing principles in it?	

Based upon the work of Sarah Kaplan

	What vocabulary terms are specific to the content or discipline?	Tools Jargon Icons Acronyms Special phrases Terms Slang Abbreviations
	What are the defining features or characteristics? Find examples and evidence to support opinions and ideas.	Parts Factors Attributes Variables Distinguishing Traits
	What elements reoccur? What is the sequence or order of events? Make predictions based on past events.	Predictability Repetition
???	What information is unclear, missing, or unavailable? What evidence do you need? What has not yet been proven?	Missing Parts Incomplete Ideas Discrepancies Unresolved Issues Ambiguity Structure
	What structure underlies this	

What are the rules of multiplication?

What are the patterns in Shakespeare's sonnets?

What is the big idea of the War of 1812?

What are the essential details of a forest?

Book Title: _____
 Author: _____

What is the main theme of this story?

What special writing techniques does the author use? Give examples.

Do you notice any patterns in this book?

What moral or ethical issues are revealed in this book? What are the underlying or hidden patterns or organizing principles in it?

Are you left with any unanswered questions?

How would this book or story be different if you written from a different point of view?

What changes over time? What does this suggest? What impact might this story have on the future?





Book Title: _____
 Author: _____



Name: _____

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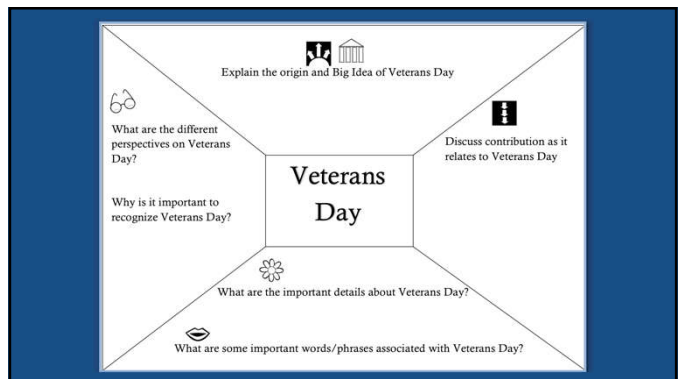
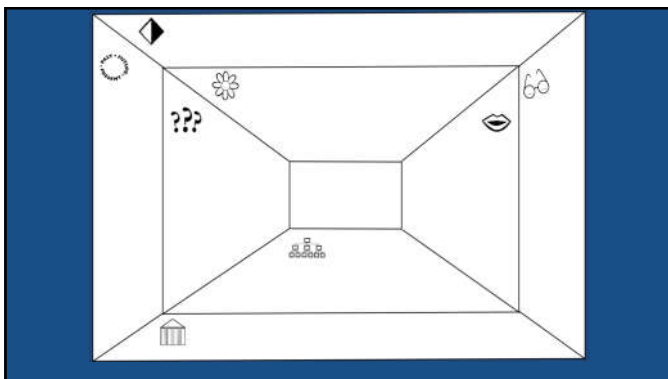
	<p> What moral or ethical issues are raised in this book? What controversies exist?</p>
<p> Are you left with any unanswered questions?</p>	
<p> What changes over time? What doesn't?</p>	<p> How would this book or story be different if it were written from a different point of view?</p>

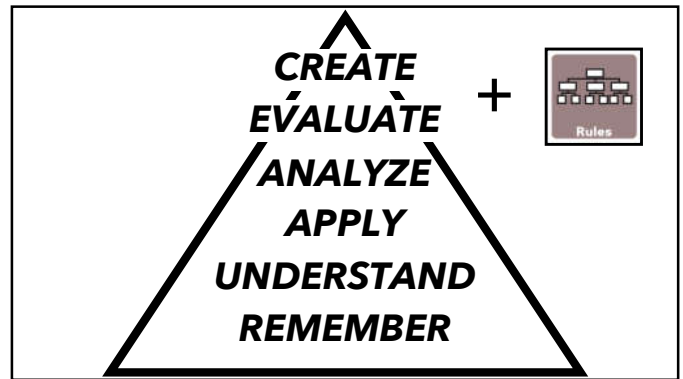
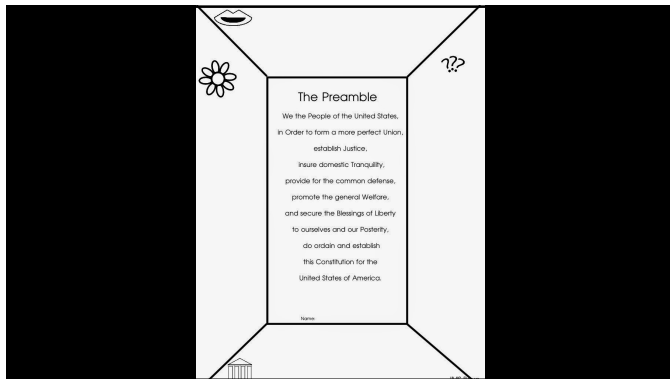
<p> What changes over time? What doesn't change? What impact might this story have on the future?</p>	<p> How would this book or story be different if it were written from a different point of view?</p>

Name: _____ Date: _____

Objective: _____

--	--	--





List the 🏛️ rules of the US Constitution.

Contrast the 🏛️ rules of the US Constitution with those of Japan's Constitution.

Apply the 🏛️ rules of Japan's constitution to the US. What would it be like?

Judge which 🏛️ rules in the US Constitution are least fair.

Create the 🏛️ rules for a new constitution.

What conflicts do you see in the story? 🌸


What conflicts do you see in the story? 🌸


What are the origins of conflict in the story? 🗑️



What conflicts do you see in the story? 🌸

What are the origins of conflict in the story? 🗑️




Using at least seven details 🌸 from the story, create a graphic organizer comparing the origins 🗑️ of the conflict in the story with those from ___ story.

What conflicts do you see in the story? 

What are the origins of conflict in the story? 

Using at least seven details  from the story, create a graphic organizer comparing the origins  of the conflict in the story.



Δ: Create a meme that reveals the Big Idea revealed by the origins of conflict in the story.

Pick **one** character from the story.

Identify **four** traits of that character:


For **two** of the traits, list **two** consequences of that trait. If the consequence is positive, put a + sign next to it.

  {



 } {


 }


Thinking of what you just identified and considered, do you think the character's traits were a hindrance or a help to him/her and why?

 **Big Idea**


Think of four reasons George Washington should have been a king instead of the president. Then, on the other side of the Thinking Map, think of four future consequences that would have happened if he had become a king.




 **Ethics**





Is it fair for one person to be the king or queen for life? Why would it be better or worse to take turns?








Differentiate it!

 **Unanswered Questions**

Is it possible for a truly free people to have a king or queen? If not, is England really free? Would the English agree they are less free?

 <p>Name FOUR words mathematicians would use to solve this problem.</p>	<p>Solve the problem.</p> 
<p>Does making multiplication the first step mean it's more important than the other steps?</p> 	<p>What is the Big Idea of this type of problem?</p> 

	<p>What would happen if you moved the blue whale up one level in the Food chain?</p>	
<p>What do you think is a blue whale's favorite number and why?</p>		<p>What animal is the closest land animal to the blue whale in size AND personality?</p>
	<p>Why is it a good idea or not for one animal to be so much bigger than the other animals in the ocean?</p>	

							
<p>Wrapping It Up</p>							
							

Find out more at
giftedguru.com/nagc18
& byrdseed.com/nagc18.