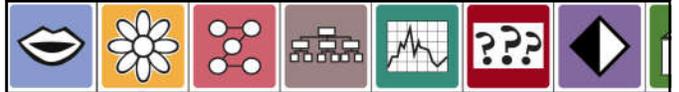


*the* Depth & Complexity *show*

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.*

**I<sup>st</sup>, we'll have a little fun with crazy names for groups of animals.**

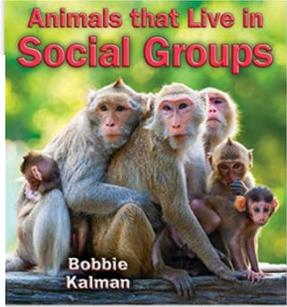


I'll flip the classroom & have them watch this video at home.






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.




```

graph TD
    Root[ ] --- Safety[safety]
    Root --- Food[food]
    Root --- Social[social]
    Safety --- S1[ ]
    Safety --- S2[ ]
    Safety --- S3[ ]
    Food --- F1[ ]
    Food --- F2[ ]
    Food --- F3[ ]
    Social --- Soc1[ ]
    Social --- Soc2[ ]
    Social --- Soc3[ ]
  
```



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

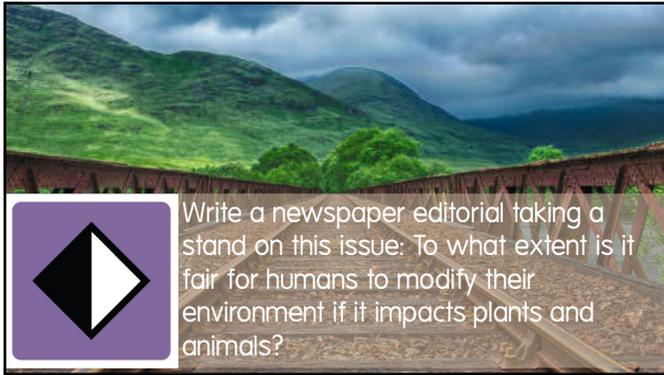




Students will debate:

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?



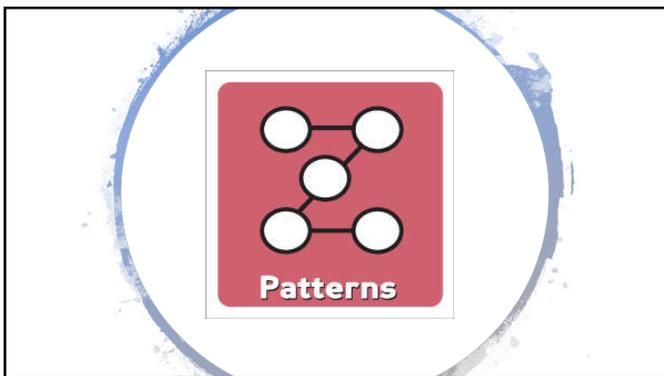
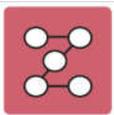
What are the problems you run into when doing long division?



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 \_\_\_\_\_.

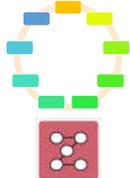
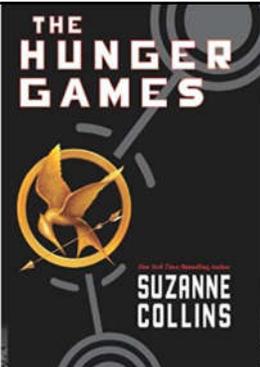
How does this pattern allow you to solve the problem?

**Multiplication Arrays**

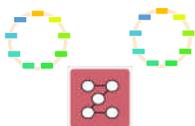
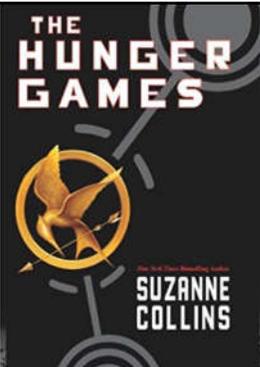
Directions: Circle the problem shown by the array.

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

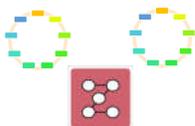
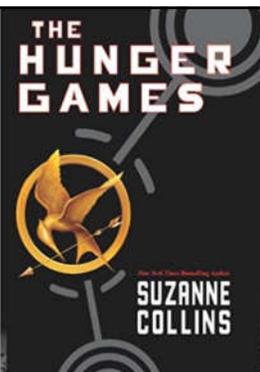
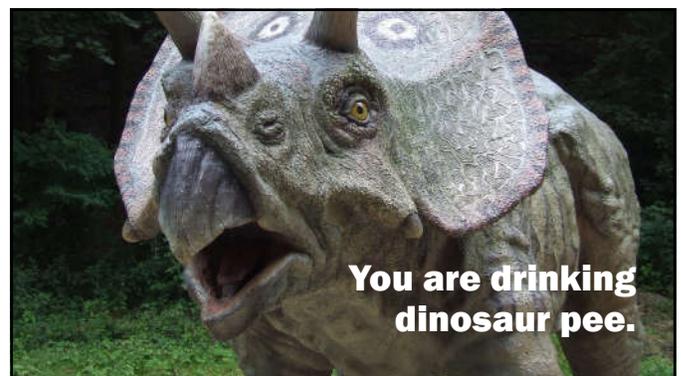
How does/does not Katniss follow the pattern of the heroic archetype?

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

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

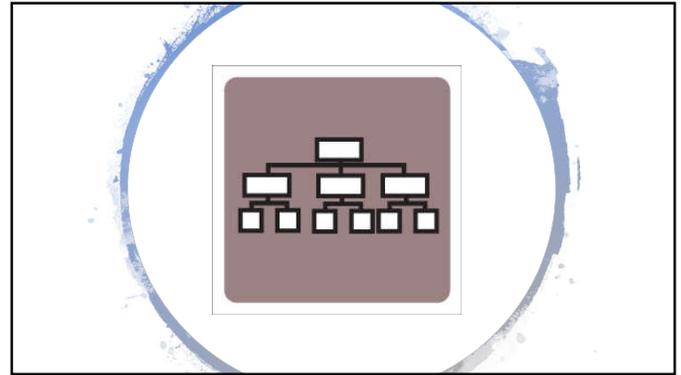






Identify five steps in the pattern all civilizations follow as they rise and fall.

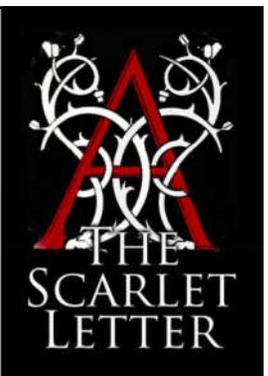
Choose two civilizations and compare them against this pattern.

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?



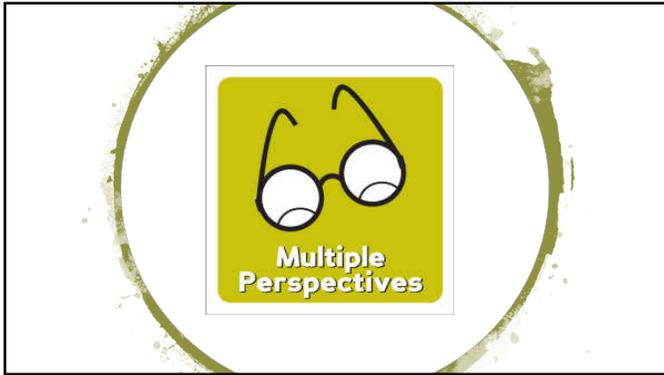
Differentiate it:

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.

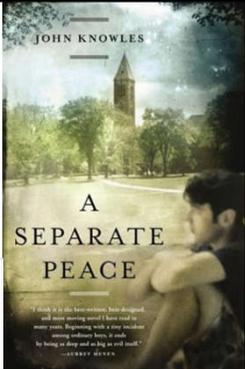




Describe the rules of baseball from the perspective of the ball.

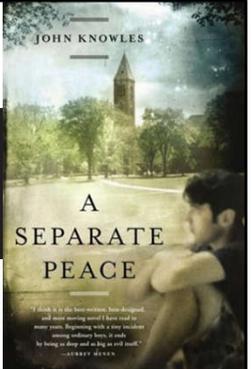


Analyze two conflicts in the story from the perspectives of Finny and Gene.




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





Which one does not belong?

|                                                                                   |    |
|-----------------------------------------------------------------------------------|----|
|  |    |
| 31                                                                                | 28 |
| 23                                                                                | 29 |

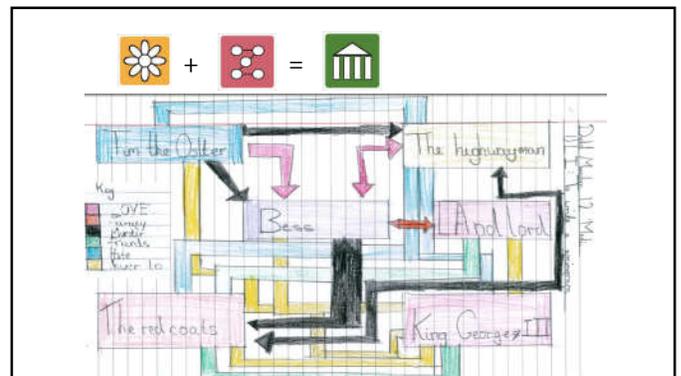
Which one does not belong?

|                                                                                   |                      |
|-----------------------------------------------------------------------------------|----------------------|
|  |                      |
| 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



|                                                                                                                                      |                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                      | <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> |

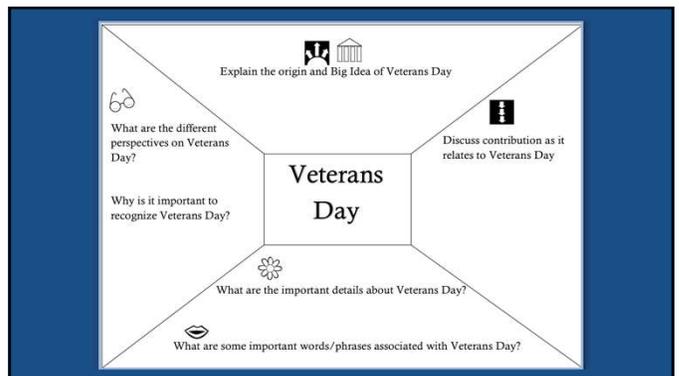
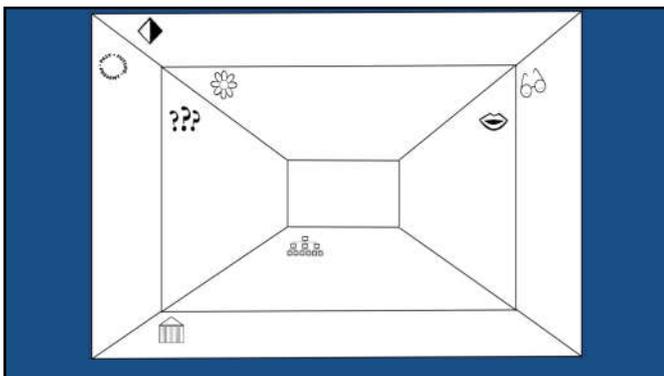
|                                                                                                                                                                                        |                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                        |                                                                                                                                                                                         |
| <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> |

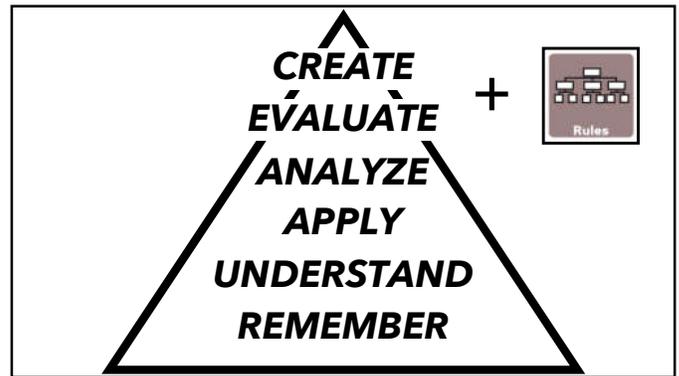
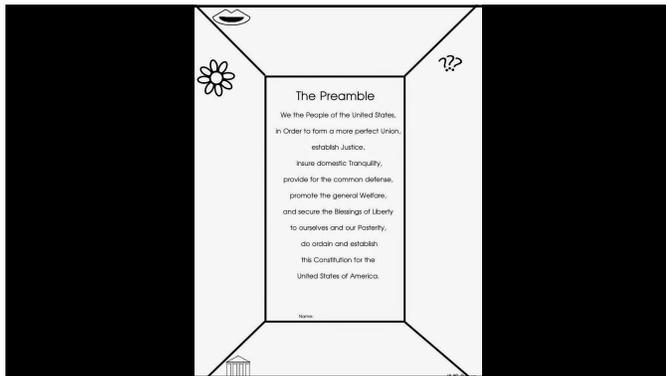
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|  |  |  |  |  |
|  |  |  |  |  |

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?

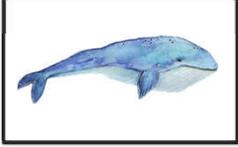


**Differentiate it!**

 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>                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|  |  |  |  |  |  |  |  |

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