Depth & Complexity

a FRAMEWORK for academic exploration to help raise thinking skills

The Depth and Complexity framework is a set of tools that allow teachers to differentiate for any grade level or content area in a way that is straightforward to implement and effective.

It is composed of eleven elements represented by a set of icons or pictures, along with several other components that teachers use to raise the thinking level in the classroom.

The Depth and Complexity framework is primarily a differentiation tool. It adjusts how students approach the content they are learning about.
The Depth and Complexity prompts are actually part of a longer equation:

\[ \text{DIFFERENTIATION} = \text{THINKING SKILL} \times \text{CONTENT} \times \text{RESOURCES} \times \text{PRODUCT} \]

**Why it's so great**
- Differentiation made easy
- Standards alignment
- All ages & content areas
- Robust thinking toolbox

**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.
Why We Use Emoji

second part: The Pick Four

Values • What is Right?

What are the problems you run into when adding three numbers?

Rank those problems in order from most important/common to least.
The most important/common issue in adding three numbers is ____ because it impacts ____ in this way _______________.

Would it be fair to give $3.00 change back if someone paid you $10 for all of these items?

Would it be fair to give $3.17 change back if someone paid you $10 for all of these items?

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.]
Patterns occur in all domains.

Plot is Pattern

Outline the plot of your story.

Could you ask them to describe the pattern?

Could you ask them to evaluate the pattern's importance?

Could you ask them to compare the pattern to another pattern?
Could you ask them to identify primary and secondary patterns?

Could you ask them to recognize when/where a pattern breaks?

Could you ask them to see the pattern out of sequence and fix it?

RULES INCLUDE:
- standards
- directions
- methods
- organization
- usual behavior

Say: What does the 8 stand for in this number? It's 8 what?
Say: How could we make this say 600? What would have to add?

Differentiate (dep. upon ability):
Create a 6-digit number, following these rules:
1) At least one number must be odd.
2) The number must be able to be skip-counted by 3.
3) The number must end in with a digit that was not used in the number before.

Differentiate (dep. upon ability):
What rule of Roman numerals are these numbers breaking? Fix them.

19 = XVII
100 = VV

Differentiate (dep. upon ability):
What rule about Roman numerals do you see in both of these statements?

XL = 40
IX = 9

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

19 = XVII
100 = VV

Differentiate (dep. upon ability):

Research how to write "96" in both Mayan and Babylonian numerals.
Which one does not belong?

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How is the behavior of Stuart Little different from that of real mice?

Tree Map +

Multiple Perspectives
Perspective is everything.
Let's go even deeper

What are the essential details of a forest?

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?
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.

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?

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.

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

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?

Name FOUR words mathematicians would use to solve this problem.

Does making multiplication the first step mean it's more important than the other steps?

What is the Big Idea of this type of problem?

What would happen if you moved the blue whale up one level in the food chain?

What animal is the closest land animal to the blue whale in size AND personality?

What do you think is a blue whale's favorite number and why?

Why is it a good idea or not for one animal to be so much bigger than the other animals in the ocean?
Lisa’s example...

An item that was really important to ______ was ______ because ____________________.

Another way to solve the problem of ______ might have been to _____________.

By the end of the story, __________ learned that ________ _______________.

It seemed unfair that ____________________________ ____________________________

Wrapping It Up