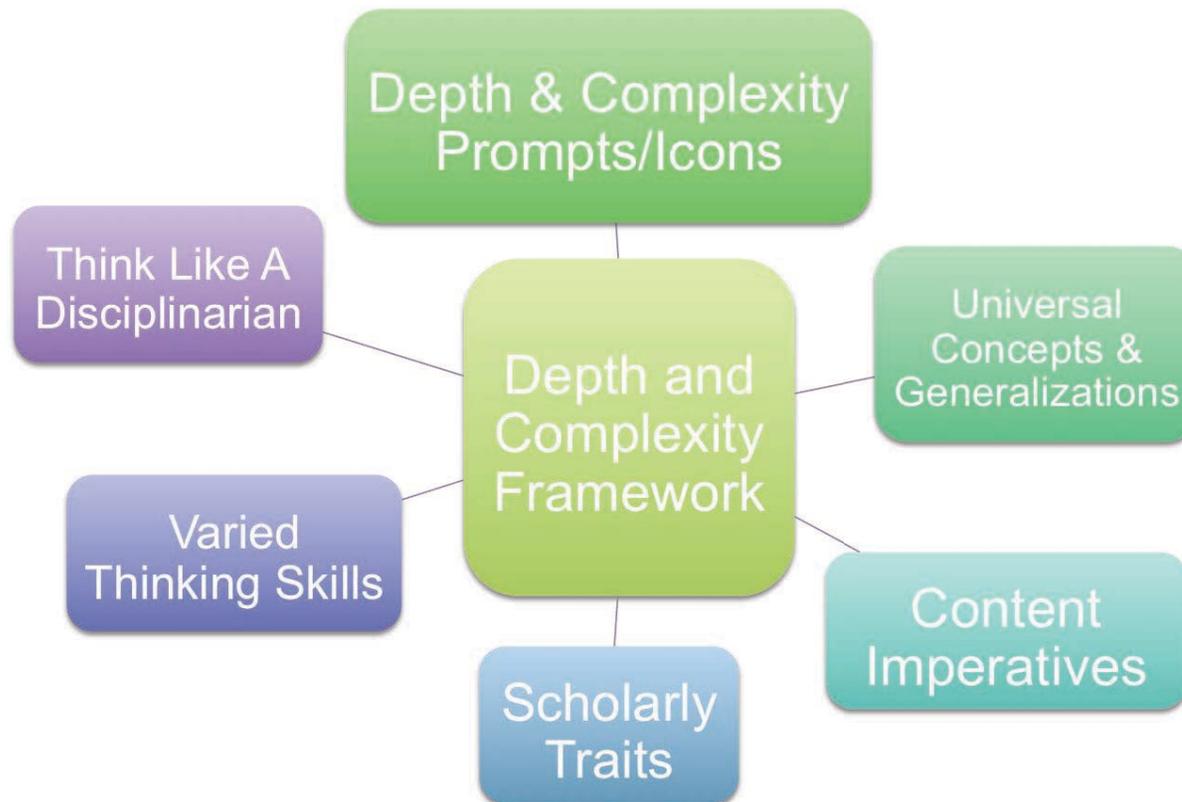
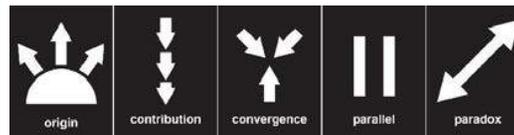


## Depth & Complexity Framework - Understanding the pieces



# Depth & Complexity Framework

## Understanding the parts...



### Think Like A...

- Geographer
- Historian
- Economist
- Anthropologist
- Geologist
- Physicist
- Political Scientist

### Universal Concepts & Generalizations

- Power: Power may be used or abused.
- Change: Change is inevitable.
- Systems: Systems follow rules.
- Structure: Structures have parts that interrelate.
- Conflict: Conflict is composed of opposing forces.

**Depth & Complexity Framework insists that educational culture....**



## Why use the Depth & Complexity Framework?

Tests are a means, not an end...  
Focus on teaching strategies, not just lessons...  
Teach students how to think, not what to think...

Depth & Complexity's foundation, the "Differentiation Equation" already accounts for Bloom's varied thinking skills as well as DOK's four levels.

$$T/S + C (D/C) + R + P$$

Depth & Complexity creates a renewed excitement in the classroom.

It's the "how to" for eliciting complex thinking and applying knowledge to real-world experiences.



As DOK is a tool to ensure teachers are teaching to certain levels of cognitive demand, Depth & Complexity is a conceptual "toolbox" that prompts students to think in abstract, high-level ways similar to disciplinarians.

The Depth & Complexity "toolbox" extends through and across all four levels of Depth-of-Knowledge (DOK).

Depth & Complexity bridges the gap between describing levels of cognitive rigor (DOK)

and

designing appropriately differentiated instruction that demands and ensures challenging, rigorous learning experiences.

- 
1. How should future leaders be taught in today's classrooms?  
2. How can educators increase the number of students that achieve at the highest levels?

These *"frameworks"* for describing cognitive rigor and necessitating high-level thinking are synergetic.

## Blooms

What type of thinking is needed to answer question or perform a task?

## DOK

What skills are required to complete a task from beginning to end?

How do students demonstrate their levels of understanding with relation to thinking processes AND content?

## Depth & Complexity

How is curriculum differentiated to benefit and appropriately challenge all levels of learners?

What tools can teachers use to empower students to demonstrate a deep & complex understanding of content through application of skills and knowledge?

# Layering the Curriculum for the All Learners

**Concrete**

**Abstract**



**Depth**

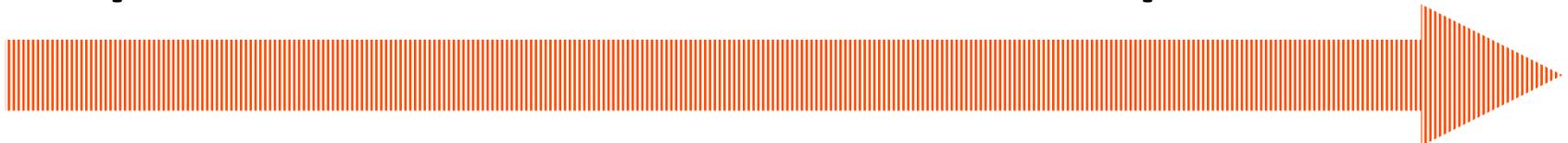
**Complexity**

**Novelty**



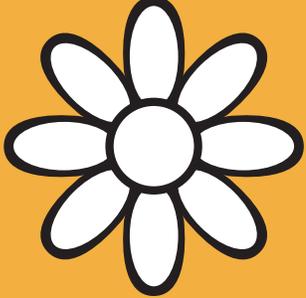
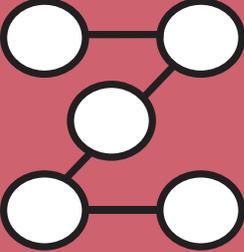
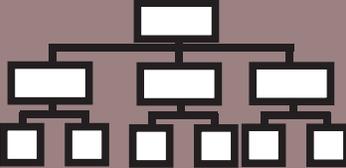
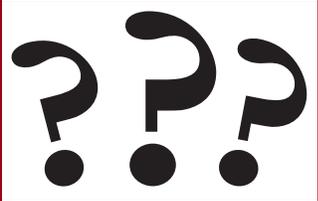
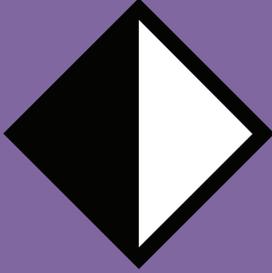
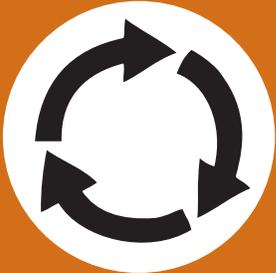
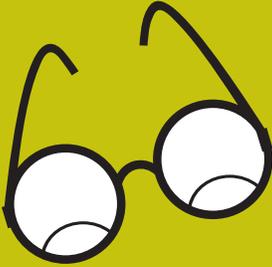
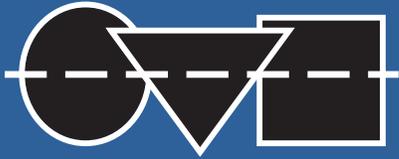
**Dependent**

**Independent**



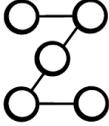
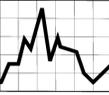
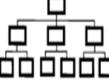
**Reflective Learners**

# Dimensions of Depth & Complexity

<b>Dimensions of Depth and Complexity</b>	 <b>Language of the Discipline</b>	 <b>Details</b>
 <b>Patterns</b>	 <b>Rules</b>	 <b>Trends</b>
 <b>Unanswered Questions</b>	 <b>Ethics</b>	 <b>Big Idea</b>
 <b>Over Time</b>	 <b>Multiple Perspectives</b>	 <b>Across Disciplines</b>

Acknowledgments: Definitions of dimensions of depth and complexity are from "Differentiating the Core Curriculum and Instruction to Provide Advanced Learning Opportunities," California Department of Education and California Association for the Gifted, 1994. Symbols for dimensions of depth and complexity developed under the auspices of OERI, Javits Curriculum Project T.W.O., 1996.

# Depth and Complexity

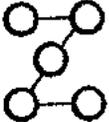
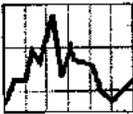
Icon	Definition	Prompt
	<u>Language of the disciplines</u> - the specific specialized and technological terms associated with a specific areas of study	specialized vocabulary; tools used by disciplinarians; names of skills or tasks particular to people working within the discipline
	<u>Details</u> - specific characteristics that describe a concept, theory, or even a fact.	parts; attributes; factors; variables
	<u>Patterns</u> - recurring events represented by details	repetition; predictability; recurring events; cycle; repeated features
	<u>Trends</u> - refers to factors that influence events	influences; forces; direction; course of action; fads
	<u>Unanswered questions</u> - the ambiguities and gaps of information recognized within an area or discipline under study	dilemmas; ambiguities; unclear ideas; discrepancies; yet unknown; not understood; lacking in explanation; incomplete ideas
	<u>Rules</u> - the natural or person-made structure or order of things that explains the subject in study	Structure; order; explanation; organization; laws
	<u>Ethics</u> - the controversial issues that plague an area of study	different opinions; judging; bias; controversial issues; problems; morals; prejudice; discrimination
	<u>Big Ideas</u> - the generalizations, principles, and theories that distinguish themselves from the facts and concepts of the area or discipline under study	overarching ideas; broad idea that can be supported with evidence; generalization; universal concept to connect all learning
	<u>Over time</u> - the understanding of time as an agent of change and recognition that the passage of time changes our knowledge of things	looking at past; present; and future; relationships within a time period; applying from the past to the present
	<u>Perspective</u> - the concept that different points of view alter the way ideas and objects are viewed and valued	different points of view; ways of seeing and reporting things; opposing viewpoints; outlooks; interpretation
	<u>Across the disciplines</u> - connections made within, between, and among various areas of study or disciplines	connections among disciplines; touching on many subjects all at once; relationships within the disciplines; relationships between the disciplines

## ICONS -- How to Begin

Remember, the icons are tools to challenge learners to venture deeper and to broaden their understanding of the areas of study.

- Post all of the icons in your room to show that you value the icons as intellectual tools.
- Look for appropriate icons within your lessons.
- Integrate 1 or 2 icons into your lessons.
- Add icons to worksheets.
- Use icons as graphic organizers.
- Use the Big Idea icon  to summarize or end lessons.
- When you "brainstorm" during a lesson, use the icons to label the information on the chart.
- Allow the students to choose their own icons to develop their own questions for study.
- Use the icons in center activities and to differentiate the tasks at the centers.
- Frame anything: teacher, student, story, concept, chapter, lesson, poem, art, etc.
- Use icon cards/blocks for discussion purpose.
- Use Unanswered Questions icon  for the "W" part of a "K, W, L" chart.

# RELATIONSHIP BETWEEN DEPTH & COMPLEXITY AND READING SKILLS

DIMENSIONS OF DEPTH		READING SKILLS	RELATED SKILLS
 language of the discipline		<ul style="list-style-type: none"> <li>figurative speech</li> </ul>	<ul style="list-style-type: none"> <li>multiple meaning of words</li> <li>technical vocabulary</li> </ul>
 details		<ul style="list-style-type: none"> <li>define facts</li> </ul>	<ul style="list-style-type: none"> <li>describe</li> <li>note synonyms</li> </ul>
 patterns		<ul style="list-style-type: none"> <li>sequence</li> <li>relate events</li> </ul>	<ul style="list-style-type: none"> <li>hypothesize</li> <li>guess, predict</li> <li>identify main idea</li> </ul>
 trends		<ul style="list-style-type: none"> <li>sequence</li> <li>relate events</li> <li>identify cause and effect</li> </ul>	<ul style="list-style-type: none"> <li>forecast</li> <li>note influences, forces</li> <li>compare and contrast</li> </ul>
 unanswered questions		<ul style="list-style-type: none"> <li>differentiate fact from opinion</li> </ul>	<ul style="list-style-type: none"> <li>note ambiguity</li> <li>guess, predict</li> <li>identify discrepancies</li> </ul>
 rules		<ul style="list-style-type: none"> <li>identify cause and effect</li> <li>provide reasons</li> <li>explore why</li> </ul>	<ul style="list-style-type: none"> <li>determine relevance</li> <li>note order</li> <li>identify stated/unstated learnings</li> <li>order</li> </ul>
 ethics		<ul style="list-style-type: none"> <li>state reasons why</li> <li>determine bias</li> </ul>	<ul style="list-style-type: none"> <li>draw conclusions</li> <li>argue</li> <li>prove with evidence</li> <li>infer</li> </ul>
 big ideas		<ul style="list-style-type: none"> <li>state/make generalization</li> </ul>	<ul style="list-style-type: none"> <li>identify theory</li> <li>state principle</li> </ul>
DIMENSIONS OF COMPLEXITY		READING SKILLS	RELATED SKILLS
 over time		<ul style="list-style-type: none"> <li>sequence</li> <li>relate events</li> </ul>	<ul style="list-style-type: none"> <li>predict, guess</li> <li>order</li> </ul>
 points of view		<ul style="list-style-type: none"> <li>describe perspective</li> <li>determine bias</li> <li>infer</li> </ul>	<ul style="list-style-type: none"> <li>identify stereotype</li> <li>assume multiple and varied ideas</li> </ul>
 establish interdisciplinary connections		<ul style="list-style-type: none"> <li>relate events</li> </ul>	<ul style="list-style-type: none"> <li>connect</li> <li>associate</li> <li>integrate information</li> <li>link ideas</li> </ul>

## LANGUAGE OF THE DISCIPLINE



How would \_\_\_\_\_ be best described by people working in this area/field/discipline?

## RULES



Define the consequences of intended and unintended rules governing \_\_\_\_\_.

## BIG IDEA



Describe all of these ideas regarding \_\_\_\_\_ in one brief statement.

## ETHICS



Prove with evidence that there were and still are ethical considerations involved in the treatment of \_\_\_\_\_.

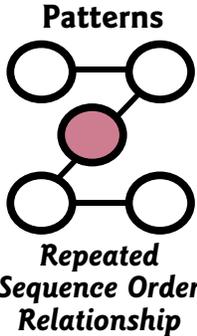
## MULTIPLE PERSPECTIVES



Compare \_\_\_\_\_ from the perspectives of an historian, anthropologist, sociologist, and psychologist.



# A Deep and Complex Look at \_\_\_\_\_



Describe the patterns or repetition you find.

---

---

Predict what might come next.

---

---

List things that are repeated over time.

---

---

---

---

---

Draw a pattern or cycle from this topic.



# LEVEL ONE SAMPLE PAGES



## A Deep and Complex Look at Literature: Lon Po Po

### Big Idea



Conclusion  
Summary  
Global Theme

What is the main idea of this topic?

- Listen to your parents when they are trying to protect you.
- Think before you act.

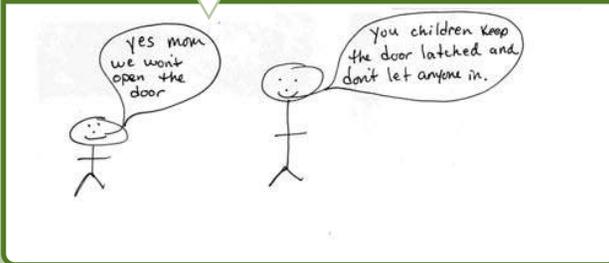
Why is this main idea important?

Because it will keep you safe.

Write the smaller ideas that support the bigger idea.

- work together to solve a problem
- be creative
- be certain before you make a decision
- get more information

Draw the big idea. ⋮



### Unanswered Questions



Unsolved, Unexplained, a Dilemma

What did you learn?

It can be easy to be fooled.

If we think carefully before we act, it might prevent us from getting hurt or being fooled.

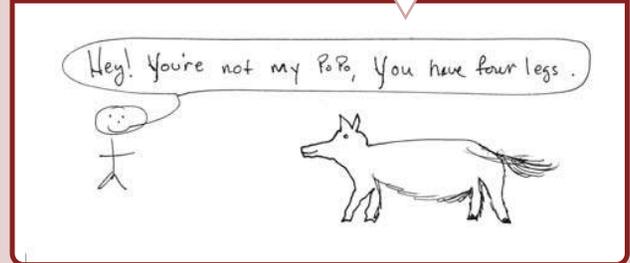
What questions remain about this topic?

- Why would a wolf want to hurt children?
- How would you be able to be certain it was your PoPo?
- Why were the mother and children living alone?
- What happened to the father?
- Is PoPo a common nickname for Grandmother in China?

What resources can help you answer these questions?

- other books
- National Geographic
- Wolf experts
- Grandmas & Grandpas
- teachers
- write to the author

Create a drawing about this question. ⋮

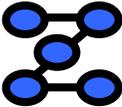
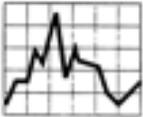
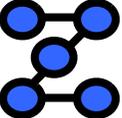


## Intentional Teaching Considerations:

### Big Ideas & Unanswered Questions with Literature

While most elementary-aged children have heard the classic story about Red-Riding Hood, *Lon Po Po* provides an opportunity for the students to see the story from a different cultural perspective. Viewing both stories through Main Ideas allows students to see how the global themes remain the same despite the differences in details. The Unanswered Questions might relate to both stories, such as “Why would a wolf want to hurt children,” while another question might be specific to *Lon Po Po*, “Is Po Po a common nickname for Grandmother in China?” A cross-cultural study using children's literature and the icon of Unanswered Questions can encourage students to develop more curious minds.

# Use *Depth and Complexity* concepts to elaborate any topic or unit.

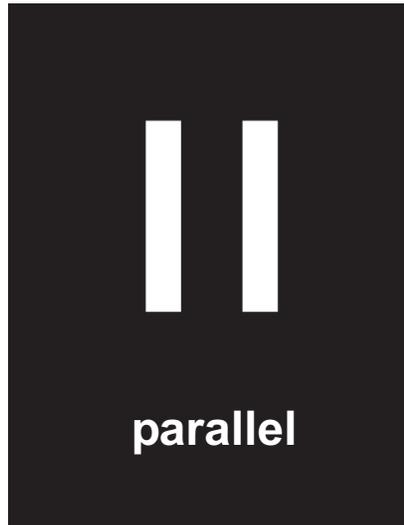
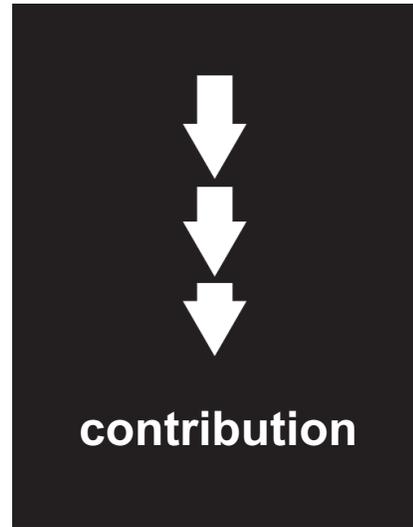
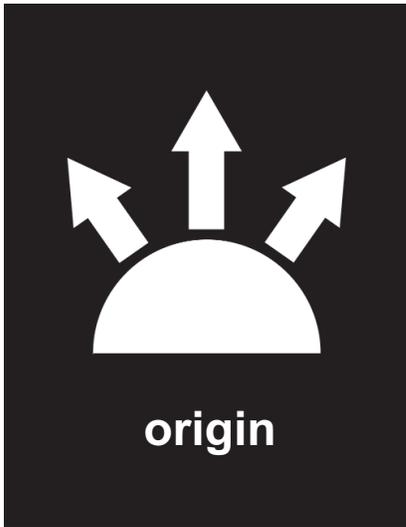
- Give  of this .
  - Look  .
  - Use  to shed light on .
  - Pull apart the  you encounter.
  - Discover if  are due to insufficient , , .
- Explain.

# But remember,

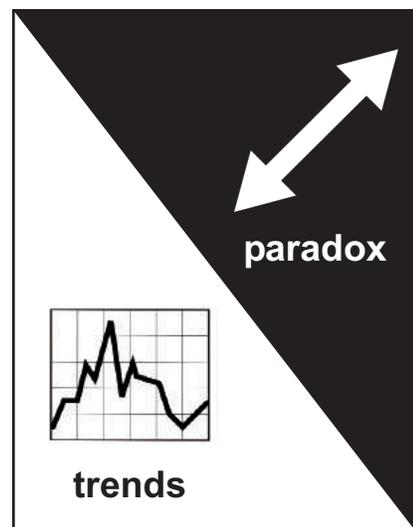
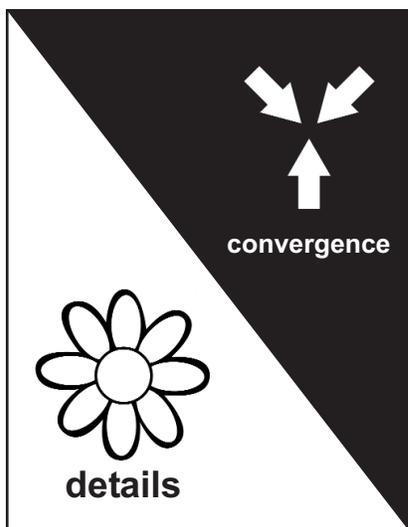
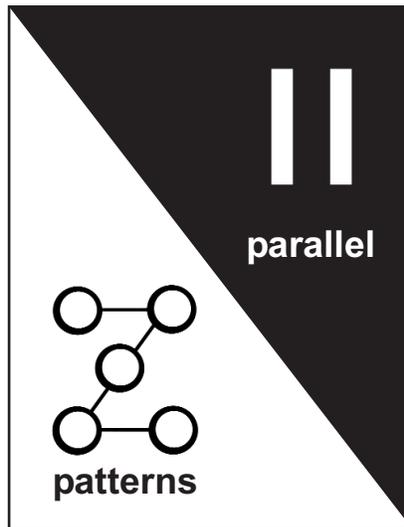
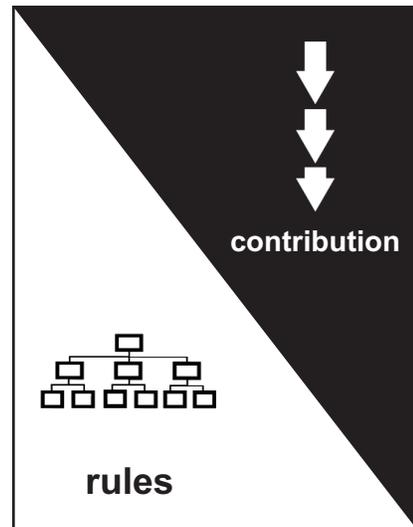
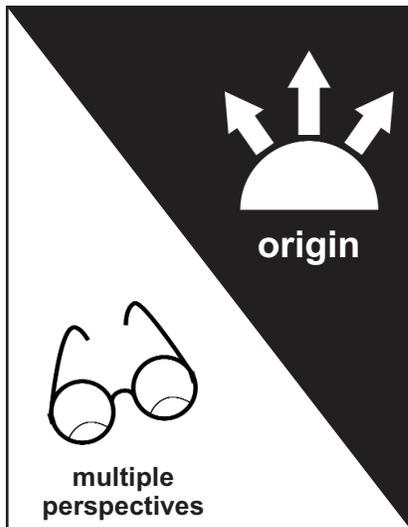
*we are not teaching the icons, we are teaching concepts to new levels of depth and complexity using pictures to stand for the thinking strategies. Depth & Complexity is not a program.*



# Content Imperatives



# Content Imperatives with Depth & Complexity

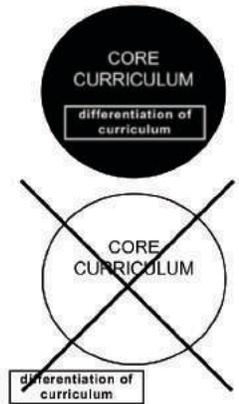


**CONTENT IMPERATIVES:**  
**RE-EXAMINE WHAT YOU HAVE LEARNED**

CONTENT IMPERATIVE	ICON	DEFINITION	LIT. CIRCLE APPLICATION
<b>ORIGIN</b>		THE BEGINNING, ROOT, OR SOURCE OF AN IDEA OR EVENT	<ul style="list-style-type: none"> <li>▪ How did this begin?</li> <li>▪ What was the cause?</li> <li>▪ What was the stimulus?</li> <li>▪ Etymology</li> <li>▪ Cause of conflict</li> <li>▪ Comprehension/Thinking Skills: note ambiguity; identify missing information; test assumptions; prove with evidence</li> </ul>
<b>CONTRIBUTION</b>		THE SIGNIFICANT PART OR RESULT OF AN IDEA OR EVENT	<ul style="list-style-type: none"> <li>▪ How long did this build/formulate?</li> <li>▪ What things came together to cause this?</li> <li>▪ What was the value?</li> <li>▪ Effect of a character's actions, impact of setting, contributing factors of accelerating the conflict/rising action</li> <li>▪ Effect of literary devices</li> <li>▪ Comprehension/Thinking Skills: differentiate from relevant from irrelevant; judge with criteria; prioritize; prove with evidence</li> </ul>
<b>CONVERGENCE</b>		THE COMING TOGETHER OR MEETING POINT OF EVENTS OR IDEAS	<ul style="list-style-type: none"> <li>▪ How did this all come together?</li> <li>▪ How did things merge?</li> <li>▪ What were the meeting points?</li> <li>▪ Factors that create the climax</li> <li>▪ Realization/Key Moment for the character</li> <li>▪ Author's use of language to develop tone, imagery, style; genre</li> <li>▪ Comprehension/Thinking Skills: drawing conclusions, predicting, inferring</li> </ul>
<b>PARALLEL</b>		IDEAS OR EVENTS THAT ARE SIMILAR AND CAN BE COMPARED TO ONE ANOTHER	<ul style="list-style-type: none"> <li>▪ What is similar?</li> <li>▪ What is comparable?</li> <li>▪ What seems the same as...?</li> <li>▪ Synonyms</li> <li>▪ Connections</li> <li>▪ Comprehension/Thinking Skills: identify attributes; compare and contrast; judge with criteria; support/prove with evidence</li> </ul>
<b>PARADOX</b>		THE CONTRADICTIONARY ELEMENTS IN AN EVENT OR IDEA	<ul style="list-style-type: none"> <li>▪ What are the opposing ideas?</li> <li>▪ What are the inconsistencies?</li> <li>▪ What is the dilemma?</li> <li>▪ Internal conflict</li> <li>▪ Irony</li> <li>▪ Comprehension/Thinking Skills: differentiate fact from fictions; determine relevant from irrelevant; judge with criteria; judge authenticity</li> </ul>

Adapted from *Flip Book, Too*, Sandra Kaplan and Bette Gould and *Content Imperative Cards*, Educator to Educator

# Where do I find the time?



## 1. Embed introduction into what you already teach

*Use language, display Icon, make students familiar.*

## 2. Does not need to be used with EVERY item you teach

*Resist forcing D/C into everything, all the time, but when introducing D & C, provide a relatable experience. Students will begin looking for the concepts in new areas of study.*

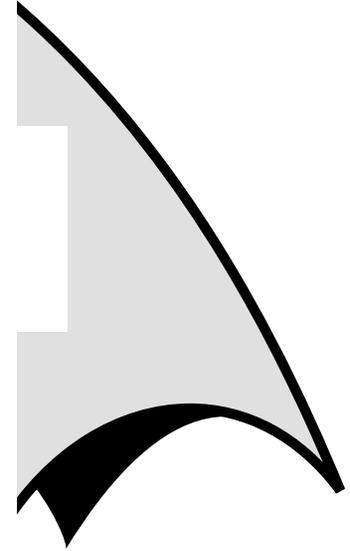
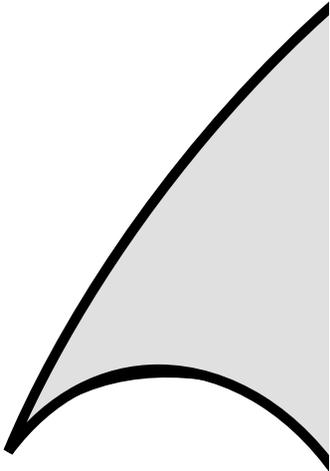


# Depth and Complexity Framework

Depth & Complexity Prompts/Icons



Content Imperative Prompts/Icons



**Think Like A...**

*Geographer*  
*Historian*  
*Economist*  
*Anthropologist*  
*Astronomer*  
*Geologist*  
*Physicist*  
*Political Scientist*

**Universal Concepts & Generalizations**

Power: Power may be used or abused.  
 Change: Change is inevitable.  
 Systems: Systems follow rules.  
 Structure: Structures have parts that interrelate.  
 Conflict: Conflict is composed of opposing forces.

**TEKS**

**21st Century Learner**

**Universal Design**

**Depth of Knowledge**

# Depth and Complexity Framework



## Think Like A...

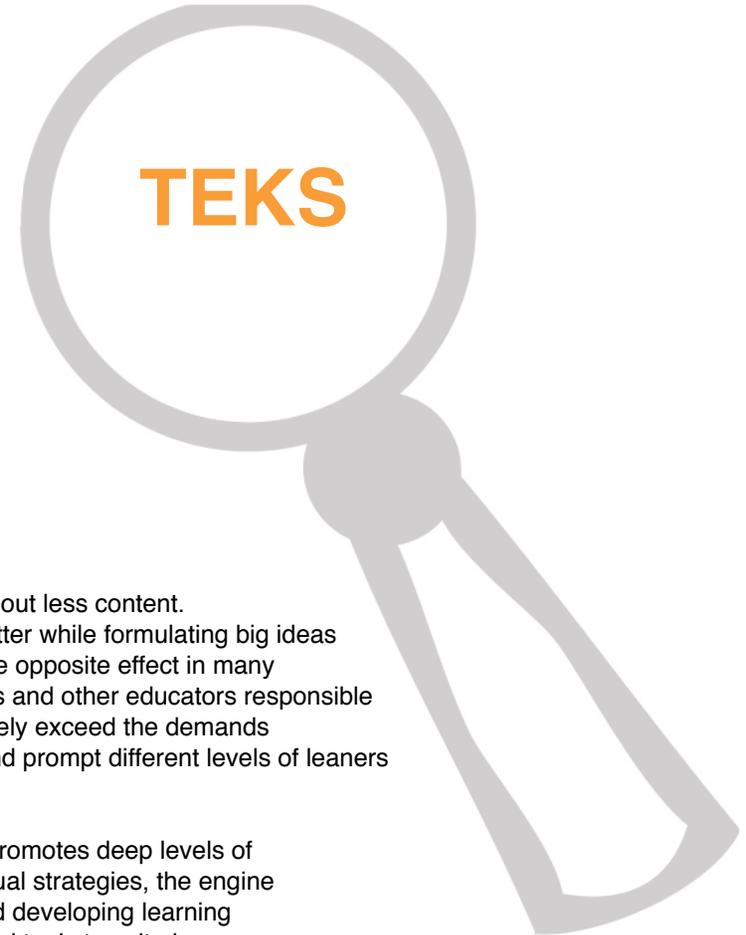
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*Physicist*  
*Political Scientist*

## Universal Concepts & Generalizations

**Power:** Power may be used or abused.  
**Change:** Change is inevitable.  
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**Conflict:** Conflict is composed of opposing forces.

&

TEKS

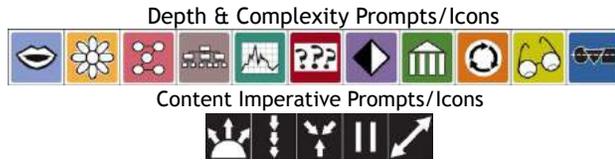


One of the paramount goals of the TEKS are that they demands students think in deeper ways about less content. The idea of having less to teach but challenging students to think in a more complex, abstract matter while formulating big ideas related to learning sounds appealing and rewarding. However, we unfortunately are witnessing the opposite effect in many Texas schools. Teachers are not being given enough autonomy and both the classroom educators and other educators responsible for creating curriculum and lessons within a district are often times struggling to meet, and ultimately exceed the demands of the TEKS. Depth & Complexity provides concrete tools for them to do just that...differentiate and prompt different levels of learners to think from multiple perspectives and at much deeper levels about any content.

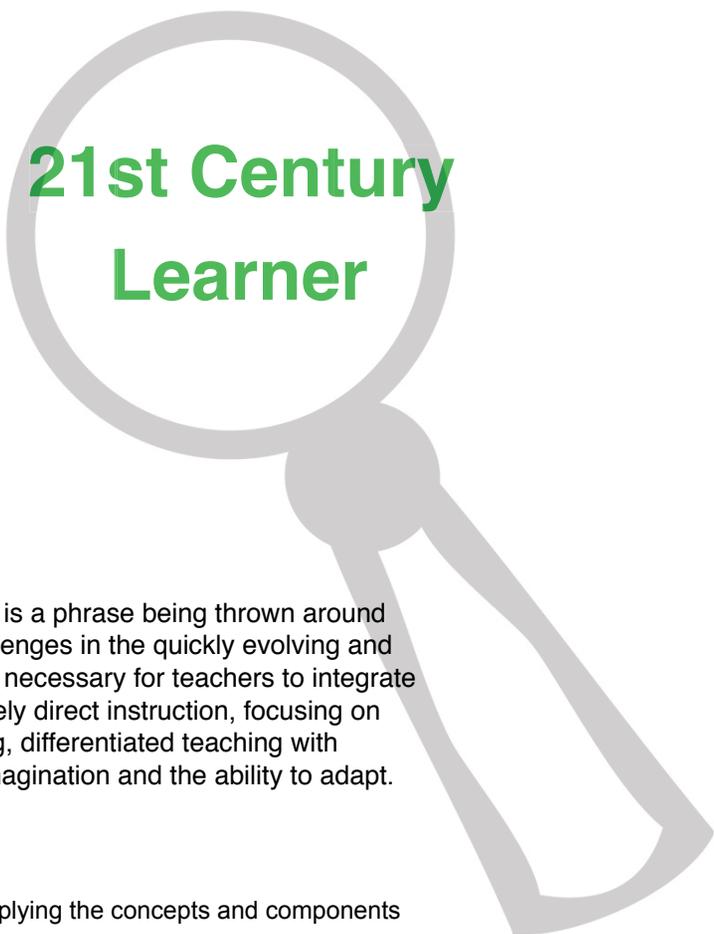
**Depth & Complexity** is the perfect match to the TEKS and their intended outcomes. The TEKS promotes deep levels of problem solving and thinking. The Depth & Complexity Framework provides practitioners with actual strategies, the engine that powers the car so to speak, that moves them from simply discussing higher-level thinking and developing learning opportunities that necessitate broader layers of thinking. That is what has been missing - the actual tools to write lessons that meet all demands of the TEKS while creating a rigorous and appropriately challenging learning for all students. Depth & Complexity...

- 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.
- Depth & Complexity prompts (icons) help students better understand the curriculum by **eliciting levels of reasoning** as a means to acquire and apply knowledge.
- **These prompts were defined as the common features to each discipline. (Burker, 2003)**
- **Referred to as "Thinking Curriculum" because it increased the level of challenge for all students. (CDE, 2005)**

# Depth and Complexity Framework



&



**Think Like A...**

- Geographer
- Historian
- Economist
- Anthropologist
- Astronomer
- Geologist
- Physicist
- Political Scientist

**Universal Concepts & Generalizations**

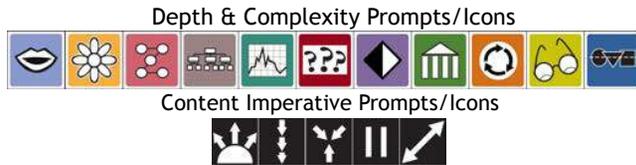
Power: Power may be used or abused.  
Change: Change is inevitable.  
Systems: Systems follow rules.  
Structure: Structures have parts that interrelate.  
Conflict: Conflict is composed of opposing forces.

The 21st Century Learner (aka as 21st Century Learning, College and Career Ready, etc) is a phrase being thrown around in hopes that the educational system better prepares young people for the numerous challenges in the quickly evolving and internationally competitive workplace. While there are many descriptions of what skills are necessary for teachers to integrate “21st Century Skills” into instruction, the common themes include: shifting away from solely direct instruction, focusing on critical thinking & problem solving skills, working successfully in a group/community setting, differentiated teaching with emphasis on varied learning styles, effective communication skills, technological savvy, imagination and the ability to adapt.

**Depth & Complexity** is an ideal partner for the 21st Century Learner as it:

- prompts students to think and problem solve like disciplinarians and professionals. When applying the concepts and components of Depth & Complexity to the study of disciplines, students are being prompted to think in similar ways as disciplinarians do when engaging in research and scholarly behavior. What better way to prepare students for the 21st Century workplace than to approach their learning in the same way that successful professional do. Furthermore, disciplinarians that were introduced to, and familiarized with Depth & Complexity communicated that the Framework is a “conceptual toolkit.”
- provides several techniques for teachers to differentiate content, process, and product.
- creates a **student-centered** learning environment where students look at unanswered questions within ethical dilemmas as they justify their Big Idea related to a topic of study. They are asked to analyze information from different perspectives and are required to problem solve from various standpoints.
- enables interdisciplinary instruction, solidifying that optimal learning is not discipline specific. Disciplines often taught independently in the classroom are not a realistic sample of how professionals approach problems and process information.

# Depth and Complexity Framework



## Think Like A...

*Geographer*  
*Historian*  
*Economist*  
*Anthropologist*  
*Astronomer*  
*Geologist*  
*Physicist*  
*Political Scientist*

## Universal Concepts & Generalizations

**Power:** Power may be used or abused.  
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&

Depth of  
Knowledge

In the past few years, Depth of Knowledge (DOK) has received much attention as it is being lauded as one of the engines that shapes the development of Texas assessment questions. While it has been around for many years, DOK's new-found popularity is related to its supposed focus on having students demonstrate levels of understanding with both process and content. More importantly,, administrators are being told DOK "language" will be similar to what is students test questions will look like. There is nothing to fear however... as the often confusing and misinterpreted **four levels of Depth & Knowledge all fall under the Depth & Complexity Framework umbrella.** Understanding of DOK is often vague from district-to-district and state-to-state and a common confusion is arising with respects to DOK's role in instruction. Educators do not seem to fully grasp how to create lessons and learning experiences that seamlessly include the hierarchal levels of DOK. Instead, we are witnessing a "back-dooring" of looking at DOK levels and then crafting a learning objective based on, frankly put, those "levels" that administrators are being told will be found within an assessment test. **This confusion and misuse of DOK ends when, instead, the Depth & Complexity Framework is used as the foundation for lesson creation.**

**Depth & Complexity** trumps DOK in flexibility, ease of incorporation, and richness/complexity of learning opportunities, as it :

- provides a simple, yet concrete way for both student and teacher to exhibit their mastery of DOK's four levels (using DC Icons, Content Imperatives, Disciplinarian Thinking, Universal Concepts & Generalizations).
- bridges the gap between simply describing levels of cognitive rigor (DOK) and actually designing instruction that demands and ensures rigorous learning experiences.
- acts as the students' "Toolbox," eliciting abstract, high-level thinking skills similar to those used by disciplinarians.
- focuses on learning connecting to real-world experiences, where DOK prompts real world connectivity in only its highest tier. Depth & Complexity was not created with assessments in mind, but instead as a deep, exciting way to **think!**

# DOK levels and Geology

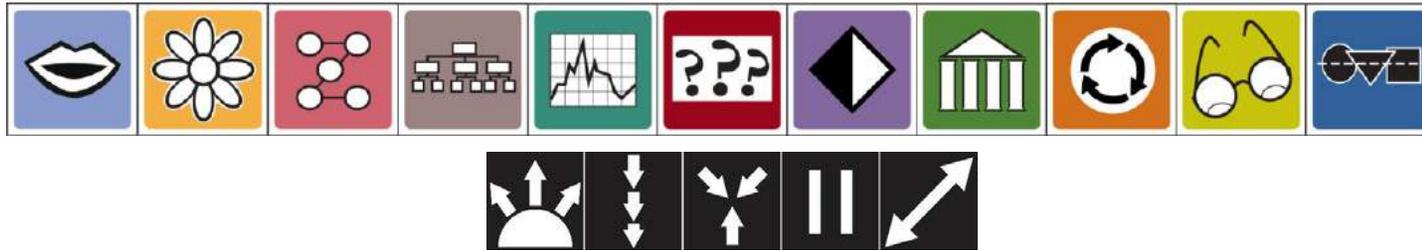
**DOK 3- Describe** a model that you might use to represent the relationships that exist within the rock cycle. **(Requires deep understanding of rock cycle and a determination of how best to represent it)**

**DOK 2- Describe** the difference between metamorphic and igneous rocks. **(Requires cognitive processing to determine the differences in the two rock types)**

**DOK 1- Describe** three characteristics of metamorphic rocks. **(Simple recall)**

Same verb—used at all three DOK levels

# Now Use Depth and Complexity!



## Think Like A...

*Geographer*  
*Historian*  
*Economist*  
*Anthropologist*  
*Astronomer*  
*Geologist*  
*Physicist*  
*Political Scientist*

## Universal Concepts & Generalizations

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# Depth & Complexity and Geology

- DOK 4 - From the 🧐 of a conservationist, economist, and geologist, analyze the ⚡ of digging a quarry near a residential neighborhood to extract igneous rocks for building highways. Write a persuasive opinion article for your local paper in favor of opening the quarry, while critiquing how 🧐 have been influenced by 🌸, 🤔 and 📊🔄.
- DOK 3 – Gather evidence to support the 🏛️ that the rock cycle can lead to the rise or decline of civilizations. 📺 Make a flow chart prioritizing the 🌿 🌸 of the rock cycle that supports the generalization that “one change leads to another.” 🔄
- DOK 2 – Compare and contrast metamorphic and igneous rocks by describing 🧱 and 🏠.
- DOK 1 – State three 🌸 of metamorphic rocks. 🗨️

# Depth & Complexity Framework

Depth & Complexity Icons/Prompts



Content Imperative Icons/Prompts



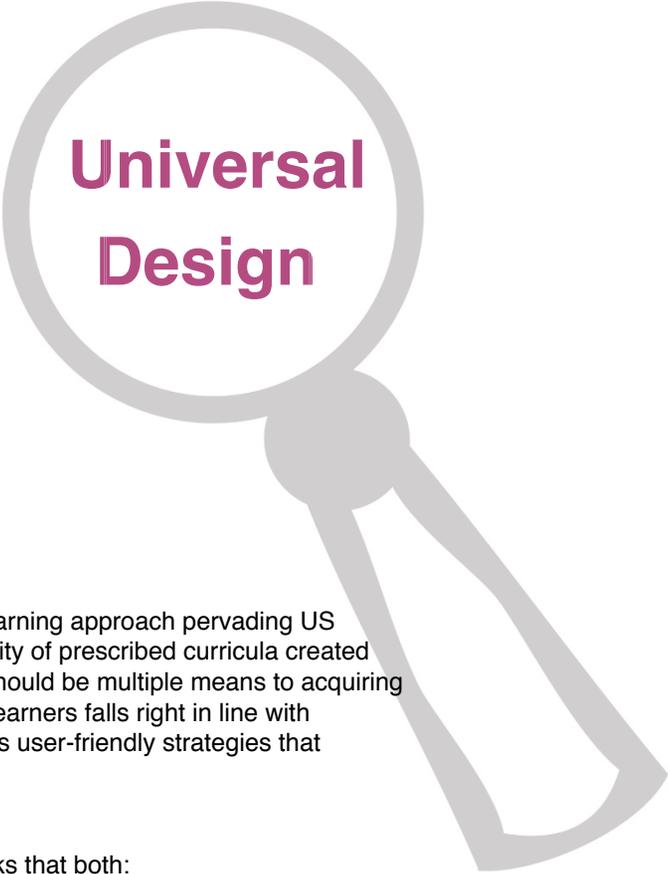
Think Like A...

- Geographer
- Historian
- Economist
- Anthropologist
- Astronomer
- Geologist
- Physicist
- Political Scientist

Universal Concepts & Generalizations

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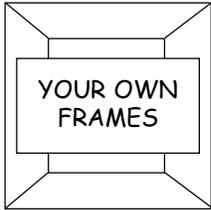


Universal  
Design

Universal Design for Learning (UDL) was developed to counteract the “one size fits all” learning approach pervading US Schools over the past several years. The obsession with assessment results and inflexibility of prescribed curricula created boundaries to appropriate individualized learning opportunities. The concepts that there should be multiple means to acquiring and processing content and that instruction can be tailored to meet the needs of various learners falls right in line with the tenants of Depth & Complexity. Depth & Complexity provides educators with numerous user-friendly strategies that both enhance the UDL experience and ensure the principles of UDL are being met.

**Depth & Complexity** and UDL are synergetic and complement one another as frameworks that both:

- move learning away from “assessment driving instructional practices” and towards a student focused, exciting learning environment.
- are founded with the base understanding that all students learn differently and that they deserve differentiated learning without sacrificing the authenticity of standards and core curriculum.
- promote tiering for students so they may be challenged at appropriate levels that inspire them to delve deeper into an area of study.
- provide multiple ways for students across the spectrum, from Special ED, EL, and Gifted Students, to become engaged and express/share their learning while exhibiting they have a rich understanding of a particular area of intrigue or study.

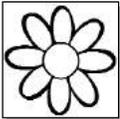
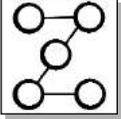
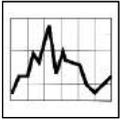


## Designing Your Own Frames

Two empty frames are located on pages 43 and 44. These frames are for teachers and students to duplicate and use to develop a frame or set of frames to meet particular teaching and learning needs.

### **GUIDELINES FOR TEACHERS DEVELOPING A PERSONALIZED SET OF FRAMES**

- The purpose of a frame is to differentiate the content, processes or products of the core curriculum for gifted and advanced students.
- The four panels of a frame should either relate to the same objective or reinforce each other in attaining a particular goal which includes several objectives.
- Introduce a new frame in a teacher-directed lesson so that students know how and when to use it.
- Monitor students' progress as they work with the frame.
- Build a collection of frames to support and differentiate the core curriculum during a unit of study or over a semester or year.
- Teach students how to develop their own frames to enhance and extend their independent research.

Identify the  in the  and  
the  affecting the pattern.

State the

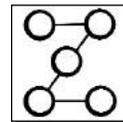


in the



Apply the  
dimensions  
of the frame to  
what you are  
studying.

Prove that  
the

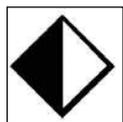


changes



Describe the  in

a situation involving



# Think like a **Geographer** or one who...

... “describes the Earth” in terms of its physical nature, interrelated spatial patterns, cultures, environments and results of human interactions.

They write about “ways of life” and variations among cultural groups.

Apply or use the language of the **geographer** to describe what you are studying.

- location
- distribution
- structures
- surfaces
- place
- regions
- movement
- scale

Apply the dimensions of the frame to what you are studying.

Use these products of a **geographer**:

• surveys

• maps



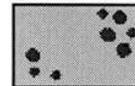
• graphs, charts



• models

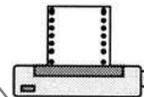


• aerial photos



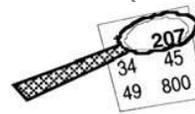
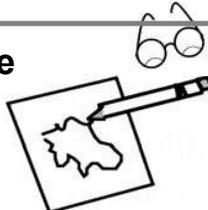
• satellite images

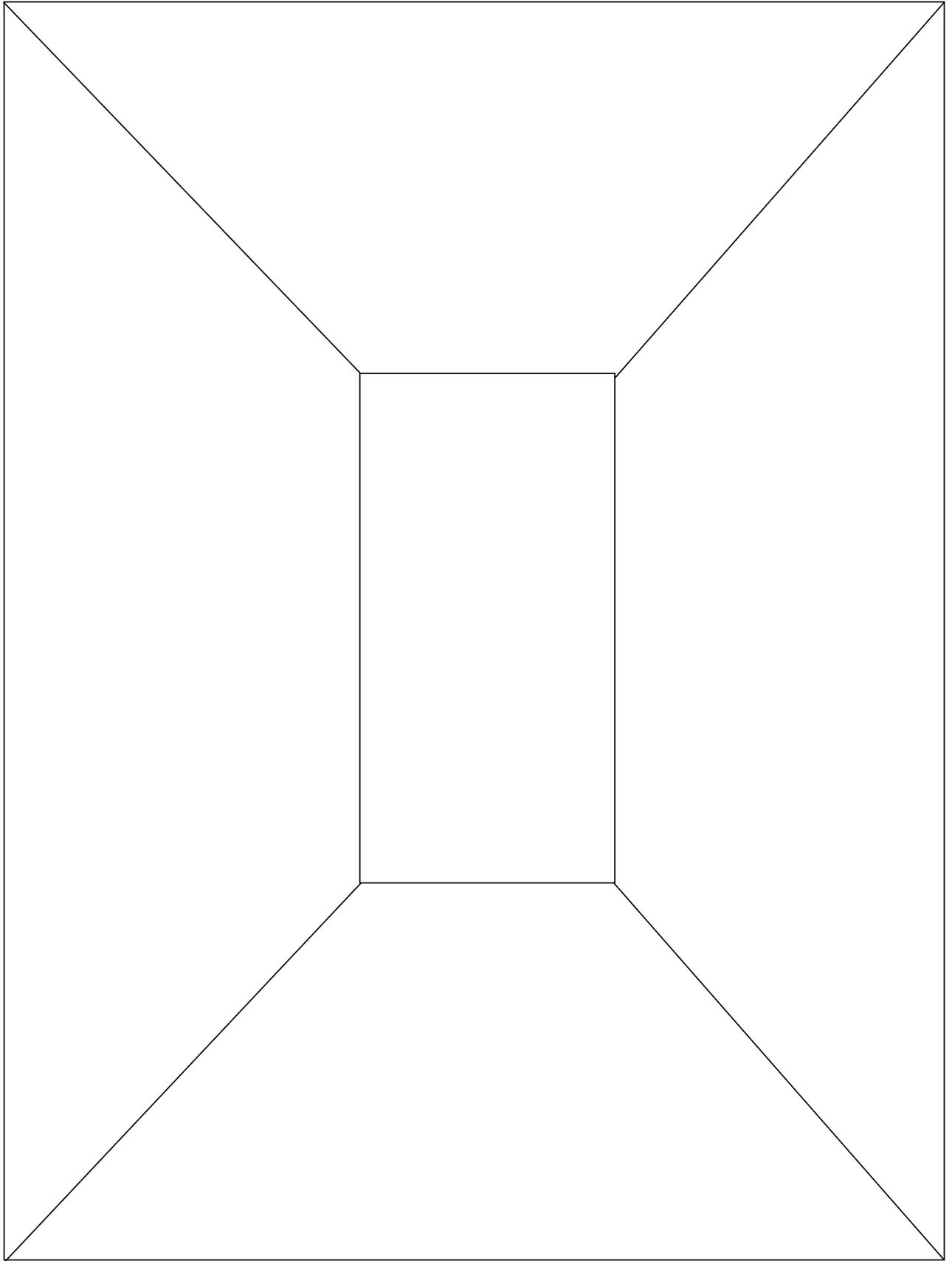
• GIS info



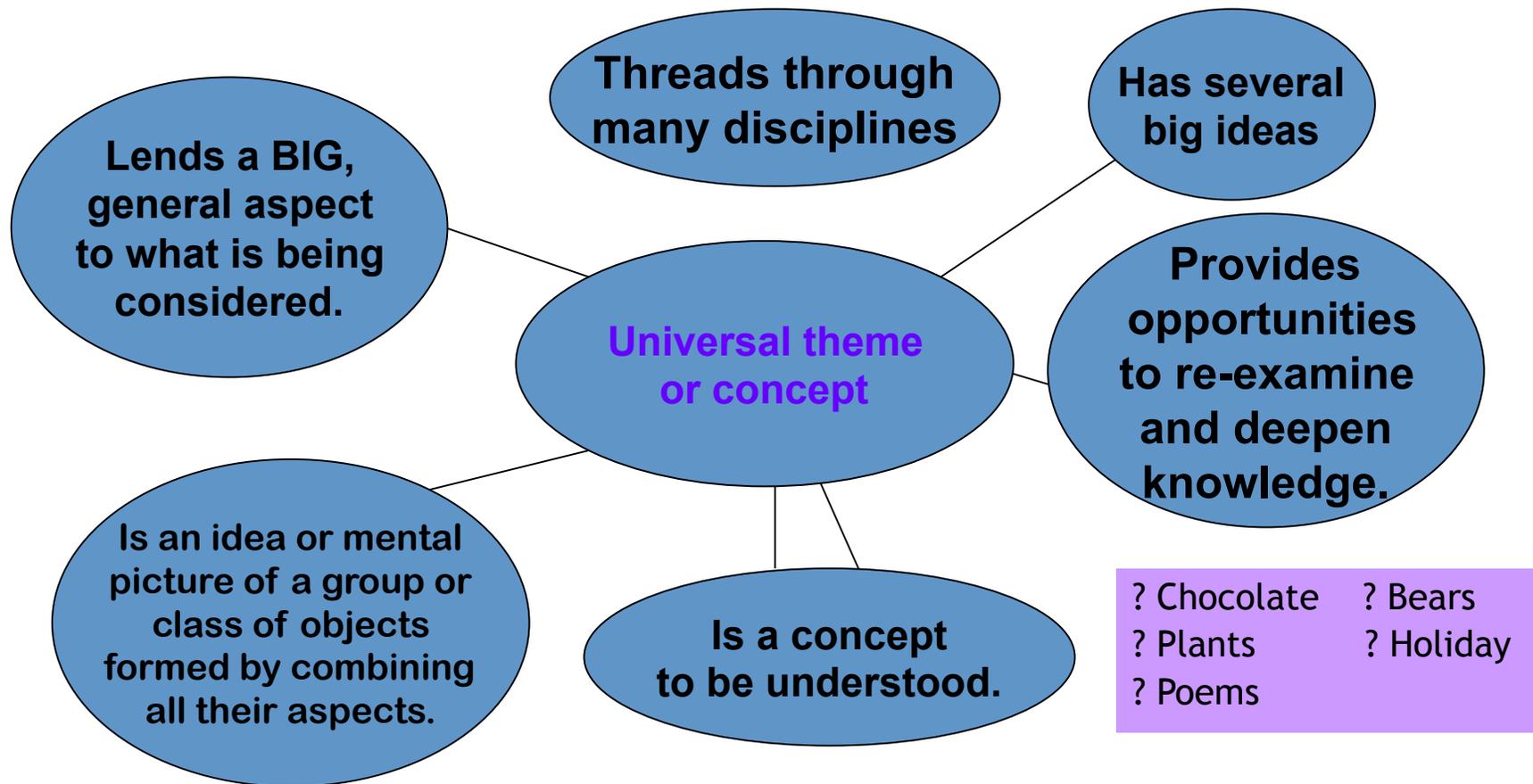
Use these skills of a **geographer**:

- observe
- survey
- map
- problem solve
- interpret data & statistics
- define patterns





# What is a universal concept? Which concepts/themes are not universal?

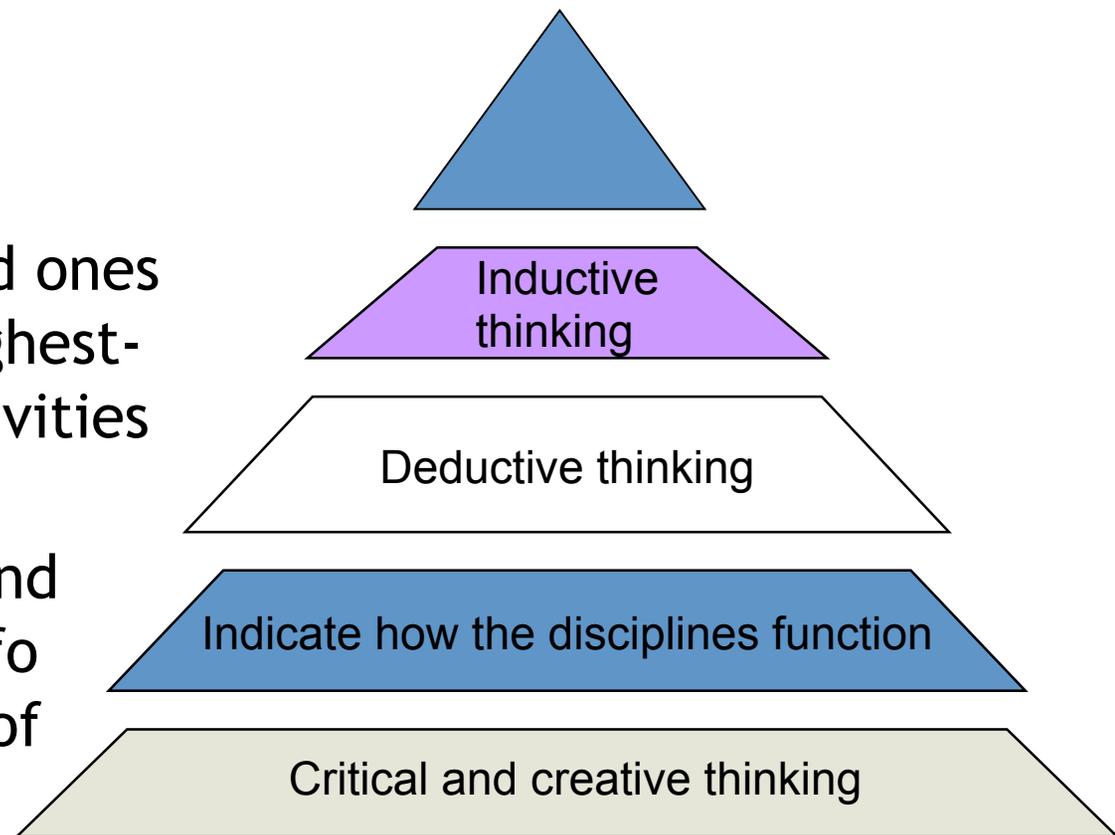


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J Taylor Education, 2016

# Kinds of Thinking Developed by Considering Generalizations

- Generalizations ... student developed ones are among the highest-level thinking activities
- Generalizations ... invite gathering and synthesizing of info from many areas of study



J Taylor Education

# UNIVERSAL CONCEPTS/THEMES

## UNIVERSAL CONCEPTS/THEMES

Teachers have so many standards to teach, it creates a challenge to cover all of them in the time allotted. Using thematic universal concepts is a more economical way to teach. Rigor is embedded in understanding universal concepts, as interdisciplinary connections are a logical result. Because many high ability/gifted children are global thinkers, using a universal concept is a much more natural way for them to learn. It is more abstract and complex. Universal concepts stimulate a sophisticated level of understanding and provide opportunities to differentiate in all curriculum content areas. Additionally, generalizations about universal concepts apply within and across disciplines over time.

### SAMPLE Universal Themes

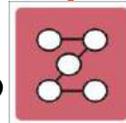
<b>Patterns Systems Structure</b>	<b>Relationships Change Force</b>	<b>Order Power Conflict</b>
<b>Patterns...</b> <ul style="list-style-type: none"> <li>✓ have segments that repeat.</li> <li>✓ are enablers.</li> <li>✓ allow for predictions.</li> <li>✓ have an internal order.</li> </ul>	<b>Relationships...</b> <ul style="list-style-type: none"> <li>✓ are purposeful.</li> <li>✓ are powerful.</li> <li>✓ change over time.</li> <li>✓ follow rules.</li> <li>✓ are in everything.</li> </ul>	<b>Order...</b> <ul style="list-style-type: none"> <li>✓ is a form of communication.</li> <li>✓ may be natural or constructed.</li> <li>✓ may have repeated patterns.</li> <li>✓ is a form of communication.</li> <li>✓ and chaos are reciprocals.</li> </ul>
<b>Systems...</b> <ul style="list-style-type: none"> <li>✓ have parts that work together.</li> <li>✓ follow rules.</li> <li>✓ may be influenced by other systems.</li> <li>✓ interact.</li> <li>✓ are made up of other systems.</li> </ul>	<b>Change...</b> <ul style="list-style-type: none"> <li>✓ can be positive or negative.</li> <li>✓ is inevitable.</li> <li>✓ can be natural or manmade.</li> <li>✓ is necessary for growth.</li> <li>✓ can be revolutionary or evolutionary.</li> </ul>	<b>Power...</b> <ul style="list-style-type: none"> <li>✓ is the ability to influence</li> <li>✓ may be used or abused.</li> <li>✓ may take many forms.</li> <li>✓ is always present in some form.</li> <li>✓ may be overt or covert.</li> </ul>
<b>Structure...</b> <ul style="list-style-type: none"> <li>✓ has parts that are interrelated.</li> <li>✓ may be combined to form larger structures.</li> <li>✓ is no stronger than its weakest component.</li> <li>✓ has parts that support and are supported.</li> </ul>	<b>Force...</b> <ul style="list-style-type: none"> <li>✓ influences or changes.</li> <li>✓ attracts, holds, or repels.</li> <li>✓ may be countered with equal or greater force.</li> <li>✓ and inertia are codependent.</li> </ul>	<b>Conflict...</b> <ul style="list-style-type: none"> <li>✓ may be natural or manmade.</li> <li>✓ may be intentional or unintentional.</li> <li>✓ is composed of opposing forces.</li> <li>✓ is progressive.</li> <li>✓ may allow for change and synthesis.</li> </ul>

J Taylor Education, 2016

# Connect to depth, complexity

- **Systems are made up of parts that work together to perform a function.**

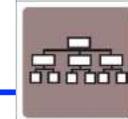
How do the patterns of the water cycle affect our lives?



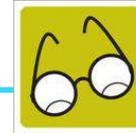
Evaluate the trends in the social media systems.



What are the rules of the base 2 number system?



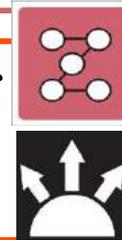
Draw plans to redesign a system in our school for a new use.



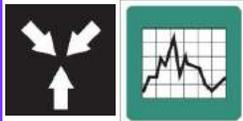
# Connect to content imperatives

- **Systems are made up of parts that work together to perform a function.**

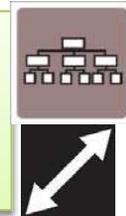
Investigate patterns of the origin of technological systems over time.



Review the convergence of fashion trends over the past 10 years.



Explain paradoxes in the rules of the base 2 number system.



Design a chart of parallels in systems terminology as used by different experts.



## Creating a Tiered Lesson

1. Identify the subject for the lesson
2. Identify the standard that you are targeting
3. Identify the key concept and generalization
4. Determine how many tiers you will need; tier according to:
  - Readiness (below, at, above grade level)
  - Interest
  - Learning style
5. Plan common initiating motivation/activity
6. Create a grade-level tier experience
7. Adjust the task, above-level or below-level, through:
  - Content
  - Thinking skill
  - Elements of differentiation
  - Resources
  - Processes
  - Product



# Tiered Lessons

Identify the standard, concept, of skill to be mastered.  
Create a grade-level task first then adjust.

Standard:					
	Content	Process			Product
		Thinking Skill	Elements of Differentiation	Resources/Process	
Above-level Tier					
Grade-level Tier					
Below-level Tier					

# MAKING INTERDISCIPLINARY CONNECTIONS WITH THE GRADE LEVEL CURRICULUM

Universal Theme: \_\_\_\_\_



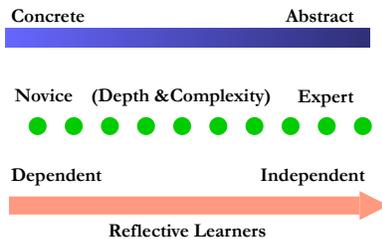
<b>Reading-Language Arts</b>	<b>Math</b>	<b>Science</b>	<b>Social Science</b>

## Depth & Complexity PD

Incorporating Depth & Complexity into Instruction to  
Inspire and Empower High-Level Thinking

### Depth & Complexity Promotes Reflective, Independent Thinking

#### Layering the Curriculum for ALL Learners



Educators using Depth & Complexity will:

- become the impetus for prompting in-depth, abstract thinking.
- address broad and overarching Big Ideas.
- oversee a student-centered classroom.
- move away from the traditional role of providing content and waiting for responses.
- learn and grow as practitioners from students' complex ideas and responses.

### Depth and Complexity Framework



#### Think Like A...

*Geographer*  
*Historian*  
*Economist*  
*Anthropologist*  
*Astronomer*  
*Geologist*  
*Physicist*  
*Political Scientist*

#### Universal Concepts & Generalizations

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The Depth & Complexity Framework is used in thousands of schools and districts to create appropriately differentiated and rigorous learning experiences for all students. While used originally within Gifted/Talented Education programs, Depth & Complexity has “spilled-over” as intended, into the heterogeneous classroom. With a renewed focus on college & career readiness and preparing the “21st-Century Learner,” educators are turning to Depth & Complexity as the pedagogical engine that ensures students are prompted to think in a deeper manner about less content. The Depth & Complexity Framework’s components:

- High-Level, Critical, Creative Thinking Skills
- Depth & Complexity Icons/Prompts
- Content Imperative Icons/Prompts
- Universal Concepts & Generalizations
- Disciplinarian Thinking and Scholarly Behaviors

are used in conjunction to make traditionally scripted curriculum and instruction more open-ended, triggering and stimulating all students’ abilities. •

Contact us at 951-837-0243 or [info@jtayloreducation.com](mailto:info@jtayloreducation.com) to set up your PD today!



## Educators attending Depth & Complexity Workshops are provided with:

- proven procedures for introducing and integrating the dimensions of Depth & Complexity and their related icons.
- access to J Taylor Education's best-selling products.
- specific examples of ways Depth & Complexity is used across the disciplines in other schools nationwide.
- best practices for developing a school-wide commitment.
- access to J Taylor Education's team of experts to assist in the Depth & Complexity learning and implementation process.

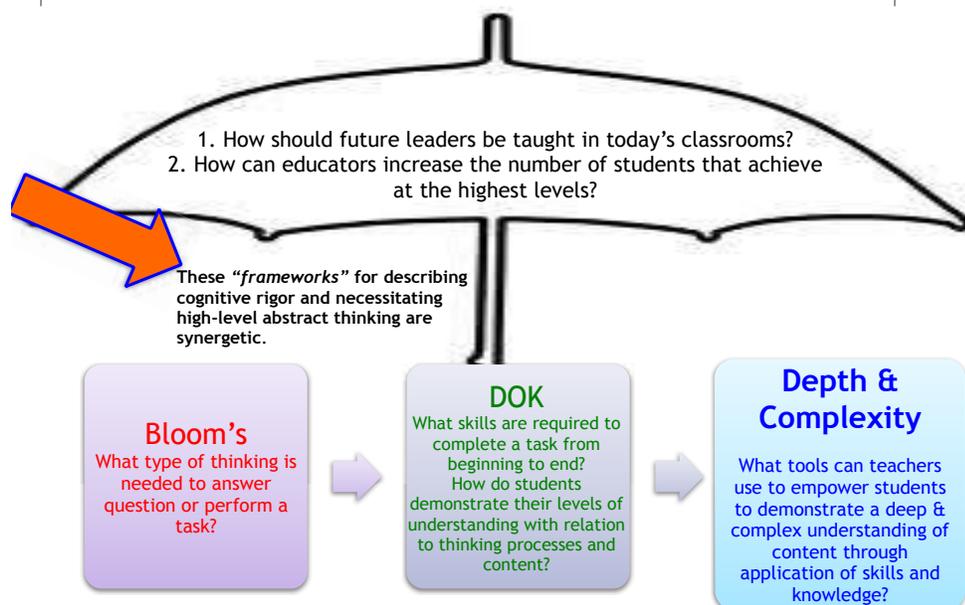
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951-837-0243 ; 866-729-4817 (f)  
[www.jtayloreducation.com](http://www.jtayloreducation.com)



## The Depth & Complexity Framework ...

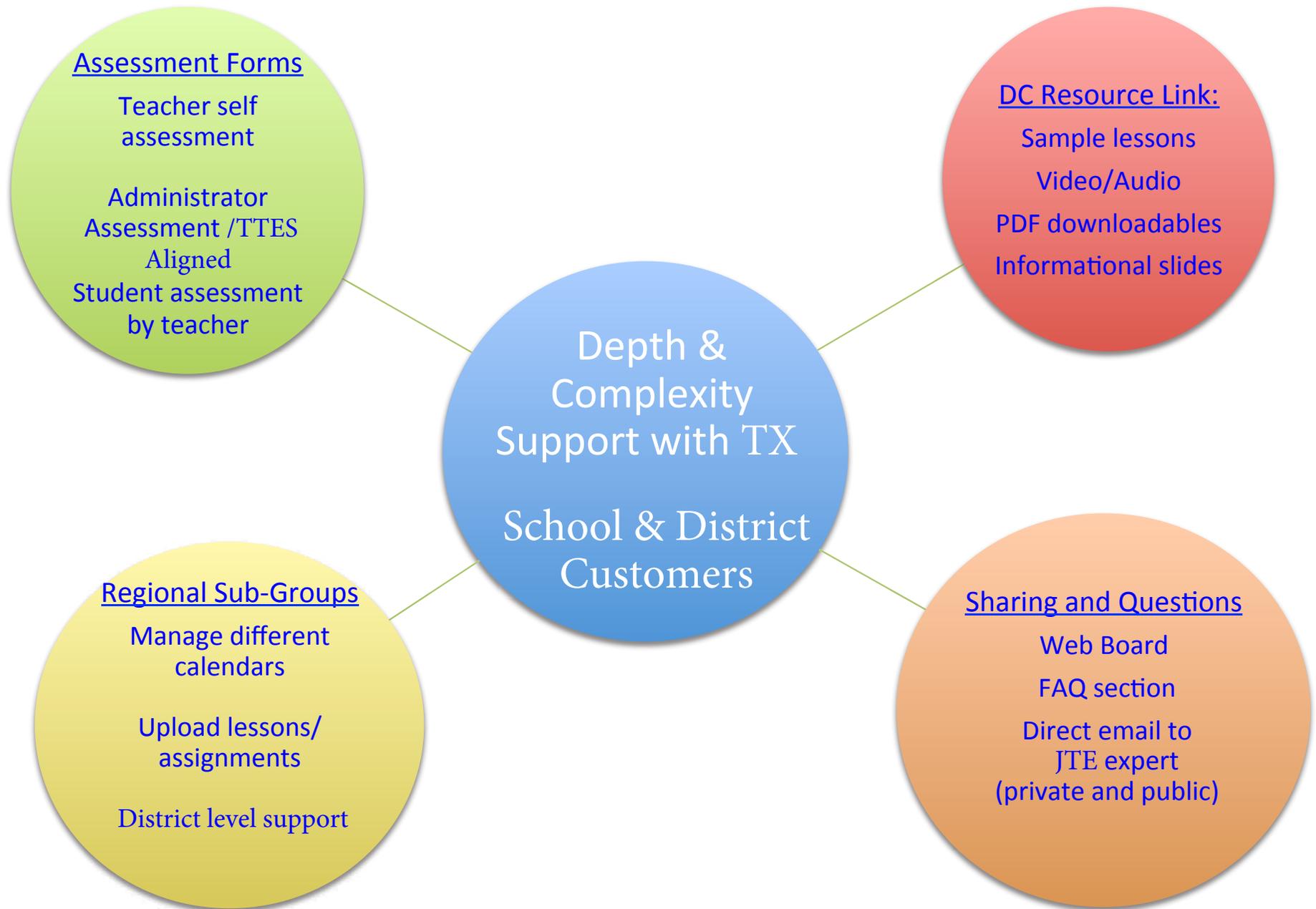
- ✦ is the “how to” for promoting complex thinking within the disciplines.
- ✦ focuses students on creative and critical thinking skills.
- ✦ creates renewed learning excitement in the classroom.
- ✦ guides students towards “how to think” not “what to think.”
- ✦ bridges the gap between simply talking about increased rigor and actually delivering challenging learning opportunities.
- ✦ demands students think like disciplinarians, solving problems as they apply knowledge and skills to real-world situations.
- ✦ focuses educators on interdisciplinary teaching.
- ✦ is referred to as the “thinking curriculum” because it increases the level of challenge for all students. (CDE, 2005)
- ✦ is not a program. Instead it shapes how educators approach their art and instruct students on an everyday basis.
- ✦ prepares students to be “Scholars.”



# Common Problems Hindering School-Wide Implementation of Depth & Complexity



- Not enough administrative knowledge or “buy-in”
- Lack of common “Depth & Complexity Language”
- Teachers feel overburdened and overwhelmed with “one more thing to do.”
- Inconsistent use from grade-level to grade-level as students progress through school
- Teachers have low expectations for their various levels of learners
- Administration & teachers unwilling to take risks and try something new
- Misconception of what Depth & Complexity Framework is
- Lack of collaboration and reflection



# What educators are writing about *Depth & Complexity Framework*

- As a means of increasing curricular challenges, GT Programs emphasized using depth and complexity using Kaplan's work (1999) *(A national View of Promising Programs and Practices for Culturally, Linguistically, and Ethnically Diverse Gifted and Talented Students Gifted Child Quarterly 2008 52: 131 Christine J. Briggs, Sally M. Reis and Erin E. Sullivan)*
- Depth and Complexity represented an approach to curriculum differentiation for gifted students, that originated from a California Department of Education document in 1994. (CDE, 2005)
  - Derived from 4 sources
    - 1) A review of Advanced Placement curriculum and assessment
    - 2) A study of California Golden State Exam requirements
    - 3) Conventional wisdom about the accelerated needs of gifted students and the nature of academic disciplines
    - 4) A review of historical and classic literature

*(Experts' perspectives on the Application and Relevancy of Depth and Complexity to Academic Disciplines of Study; Lauer, Joanna*

*L. A Dissertation Presented to the Faculty of the USC Rossier School of Education, University of Southern California, August 2010.)*

# Depth & Complexity



- It is concluded from myriad specific purposes that the disciplinarians communicated in this study that Depth and Complexity is a conceptual 'toolkit.'\*
- ...when applying concepts of Depth and Complexity to the study of disciplines, ...students are being prompted to think in similar ways that disciplinarians do when engaging in research and scholarly work.\*

\* from Lauer, Joanna, *Experts' Perspectives on the Application and Relevancy of Depth and Complexity to Academic Disciplines of Study*, c 2010



- Depth & Complexity - prompts (icons) that help students better understand the curriculum by **eliciting levels of reasoning** as a means to acquire and apply knowledge. This repetitive reasoning creates patterns in the brain where children make and understand deep and complex connections.
- These prompts were defined as the common features to each discipline.\*
- Referred to as “Thinking Curriculum” because it increased the level of challenge for all students. (CDE, 2005)

*\*Academic Discipline: Fields with departments, graduate programs, and professional associations (Burker, 2003).*

DEPTH AND COMPLEXITY ICONS/DIMENSIONS	SKU	Quantity	Price	Subtotal
Deep & Complex Look At Biographies & Literary Characters	JTE-49	<input type="text"/>	\$22	<input type="text"/>
Deep and Complex Look Books	JTE-22	<input type="text"/>	\$22	<input type="text"/>
Deep and Complex Ways Posters	JTE-29	<input type="text"/>	\$10	<input type="text"/>
Depth & Complexity Desk Plates (K-1)—set of 36	JTE-36A	<input type="text"/>	\$16	<input type="text"/>
Depth & Complexity Desk Plates (2-3)—set of 36	JTE-36B	<input type="text"/>	\$16	<input type="text"/>
Depth & Complexity Desk Plates (4-6)—set of 36	JTE-36C	<input type="text"/>	\$16	<input type="text"/>
Depth & Complexity Icon Cards	JTE-3A	<input type="text"/>	\$22	<input type="text"/>
Depth & Complexity Icon Magnets	JTE-28	<input type="text"/>	\$22	<input type="text"/>
Depth & Complexity Icon Posters	JTE-46	<input type="text"/>	\$25	<input type="text"/>
Depth & Complexity Icon Mini-Posters (Coming Soon!)	TBA	<input type="text"/>	TBA	<input type="text"/>
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Depth & Complexity Icon Stamps—without words	JTE-19B	<input type="text"/>	\$26	<input type="text"/>
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Icon Literature Game, The	JTE-31	<input type="text"/>	\$22	<input type="text"/>
Introducing and Exploring the Dimensions of Depth & Complexity through Children's Literature	JTE-44	<input type="text"/>	\$22	<input type="text"/>
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Depth & Complexity Spanish Icon Magnets	JTE-28B	<input type="text"/>	\$22	<input type="text"/>
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