

# THE THINKING GUIDE:

*A Depth & Complexity Student Workbook*



## PROJECT BASED LEARNING

*Students are immersed in Deep & Complex differentiated activities!*

INQUIRY ···· PRODUCT

AUTHENTICITY

REFLECTION

VOICE & CHOICE

CRITIQUE

PROBLEM

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# PROJECT BASED LEARNING

The Workbook is a useful tool to support classroom learning. Each page of the workbook incorporates elements of the Depth and Complexity framework in order to facilitate authentic engagement, critical thinking, and open-endedness for students.

The primary objective of the Depth and Complexity framework is to provide students with challenging learning opportunities by applying thinking processes to the study of the core curriculum. The icons of Depth and Complexity and Content Imperative Icons are prompts used to initiate a more advanced and extensive thinking process. Students will be engaged and appropriately challenged as they work through the activities and formulate understanding of subject matter.

The differentiated activities in this workbook are open-ended making the content accessible and appropriate for all levels of learners. All activities blend iconic prompts and critical thinking with grade level content.

This workbook contains 7 differentiated activities that can be used during the Project Based Learning cycle as well as blank note pages. It is recommended that students work through each page, completing all of the activities, over the course of a unit. However, this workbook does not need to be completed in any order; the classroom teacher may select activities to support learning of content.



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# Thinking Tools: The Icons of Depth and Complexity and the Content Imperatives

Name	Icon	Definition	“Verb” It is the process of...
Big Idea		The generalization, principles, and theories that distinguish themselves from the facts and concepts of the area or discipline under study.	Gathering all the information and details to generalize the main idea.
Details		Specific characteristics that describe a concept, theory, or even a fact.	Identifying the important items in an area of study.
Unanswered Questions		The ambiguities and gaps of information recognized within an area or discipline under study.	Determining what is still unknown or ambiguous while providing room to make a prediction in an area of study.
Patterns		Recurring events represented by details; sequences of order of events.	Examining commonalities that repeat or are easily predictable.
Trends		Refers to factors that influence events; political, social, economic, or religious factors that influence / create a pattern.	Analyzing commonalities of human influence that repeat or are easily predictable in an area of study.
Ethics		The controversial issues that plague an area of study; moral values involved; biases that exist.	Judging the degree of right or wrong, good or bad; all depend on the perspective.
Rules		The natural or person-made structure or order of things that explains the subject in study.	Looking for structure and / or order in an area of study.
Language of the Discipline		The specific specialized and technological terms associated with a specific area of study.	Analyzing, identifying, and interpreting the content-specific vocabulary.
Over Time		The understanding of time as an agent of change and recognition that the passage of time changes our knowledge of things.	Examining how time affects or changes a concept or area of study.
Across Disciplines		Connections made within, between, and among various areas of study or disciplines.	Examining one curricular area and then finding similarities and connections to other curricular areas.
Multiple Perspectives		The concept that different points of view alter the way ideas and objects are viewed and valued.	Examining or analyzing the different points of view (including thoughts, emotions, values, motives, etc.) in an area of study.
Origin		The beginnings, roots, foundations, or causes.	Understanding, determining, and exploring the emergence of a topic.
Contribution		The lasting effects; the results or product; the influence of a topic, event, or person.	Determining the effects or results of a particular event, action, and / or aspect.
Convergence		Events, items that merged or happened concurrently in order for a particular result to occur.	Examining all of the aspects, details, and factors that come together in order for something to occur or exist.
Parallel		The similarities, events, people, problems, principles, that compare or correspond; compare or correspond events, people, problems, and principles.	Analyzing the commonalities and differences between two or more aspects.
Paradox		Contradictions regarding opinion, statement, events, situation, or area of study; opposites.	Examining the simultaneous duality between two concepts or two aspects.

# <sup>1</sup> **PROBLEM!**

During the first phase of Project Based Learning, students begin with a challenge or problem they may see in the real world. The “**PROBLEM!**” activities provide multiple opportunities for students to ask questions, share information, and collaborate with others about what they may already know related to the topic.

## Example Activities:

The “Ponder” activity provides students space to do a “brain dump” to detail all of their prior knowledge. You may choose the icon for focus. Student write and/or illustrate what they already know about the topic.

Workbook

Student Sample Work



# .2 **INQUIRY!**

Teachers are facilitating exploration, investigation, and problem-solving of the problem. The “*INQUIRY!*” activities provide multiple opportunities for students to question, investigate, collaborate, and test predictions.

## Example Activities:

The “Details” activity allows students to explore the different ways to find a number or solution in order to build number sense.

Workbook

Student Sample Work



# .3 *AUTHENTICITY!*

The “*AUTHENTICITY!*” activities provide multiple opportunities for students to explore the advanced, sophisticated, and complex concepts related to the topic or problem.

## Example Activities:

The “Details” activity allows students to explore the different ways to find a number or solution in order to build number sense.

Workbook

Student Sample Work





# .4 **VOICE & CHOICE!**

The “*VOICE & CHOICE!*” activities provide multiple opportunities for students to build their capacity to make decisions be invested in their solution to the task or problem.

## Example Activities:

The “Details” activity allows students to explore the different ways to find a number or solution in order to build number sense.

Workbook

Student Sample Work



# .5 **REFLECTION!**

The “**REFLECTION!**” activities provide multiple opportunities for students to analyze and review their information. Students will reflect on what or how they are learning and how they are integrating their knowledge with their solution.

## Example Activities:

The “Details” activity allows students to explore the different ways to find a number or solution in order to build number sense.

Workbook

Student Sample Work



# <sup>.6</sup> *CRITIQUE!*

The “*CRITIQUE!*” activities provide multiple opportunities for students to collaborate with others. The activities provide multiple ways to engage in constructive feedback.

## Example Activities:

The “Details” activity allows students to explore the different ways to find a number or solution in order to build number sense.

Workbook

Student Sample Work



# .7 **PRODUCT!**

The “*PRODUCT*” activities provide multiple opportunities for analysis of a strong and purposeful solution/project. Students have the opportunity to assess the meaningful impact of their work.

## Example Activities:

The “Details” activity allows students to explore the different ways to find a number or solution in order to build number sense.

Workbook

Student Sample Work



