

# Core 6

## Inductive Learning



# **Inductive Learning**

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## **What is it?**

**A practice that helps students find patterns and structures built into content through an inductive process (analyzing specifics to form generalizations).**

## What is Inductive Learning?

- A natural process in which the mind observes phenomena, compares and contrasts attributes, and groups and labels data in order to form generalizations, make predictions, and form/test hypotheses.
- Using specific situations, objects, and ideas to arrive at generalizations, principles, or rules.

# How does it align to CC?

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- Using this strategy helps build these skills:
  - Finding patterns and making logical inferences
  - Supporting thinking with evidence
  - Mastering academic vocabulary

# **Three Reasons for Using Inductive Learning to Address the Common Core**

**1. Inference**

**2. Evidence**

**3. Academic Vocabulary**

# 1. Inference

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- Marzano identifies inference as a foundational process that underlies higher-order thinking and 21st century skills.
- Inductive learning breaks down the inferencing process into sub-processes:
  - examining information closely
  - looking for hidden relationships
  - generating tentative hypotheses
  - drawing conclusions that are not explicitly stated

# 2. Evidence

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I must remember to be evidence-based  
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- **Students must support their thinking with high-quality evidence.**
- **Inductive Learning requires the students to search and seek out evidence to support a hypotheses. They also must collect and consider evidence that runs counter to their hypotheses, a practice that leads to stronger, more refined hypotheses.**

# 3. Academic Vocabulary

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- Inductive Learning can be used as a way to introduce academic vocabulary or domain-specific words and phrases.
- Forces students to search for key attributes and relationships among the words (Lang. Arts 5).
- Students use the relationships they discover to help them organize all of the terms into a schema that suggests the larger structure of the content.

# **Memorization VS. Student Discovery**

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- Focus on moving from rote memorization to providing the student with information to help them discover the relationships between big ideas and key details that make up lessons, units, and disciplines.**
- The process encourages students to develop their natural powers of inductive reasoning, moving from specific details to bigger ideas to broad generalizations.**
- Teaching students how to classify information and how to generate and test hypotheses both raise student achievement**

# **Book Bits Activity**

**Partner up with one other person in the room and get your “book bits”**

# Part One

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- Group and label information from book bits.**
- Analyze and explore the ways they can be grouped, possibly regrouping or condensing into smaller groups.**
- Devise a descriptive label for each group.**

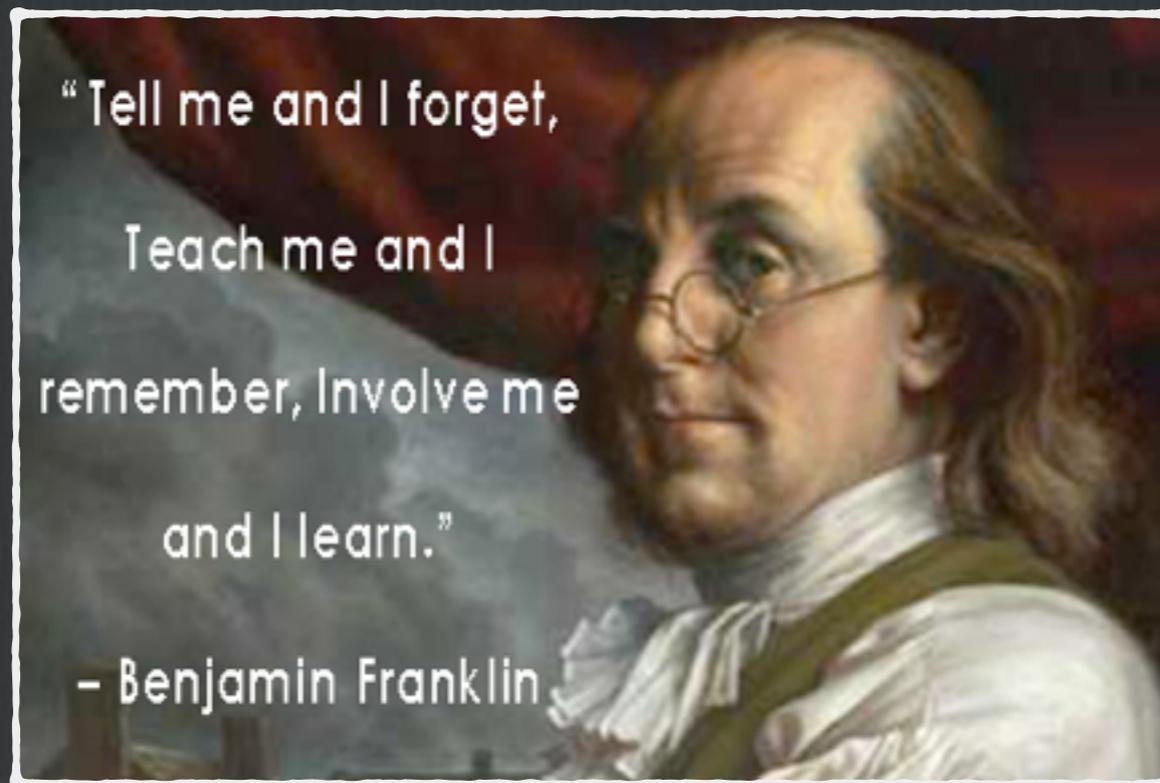
# Part Two

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- Join forces with another group and share groupings and labels.**
- Combine book bits from each group and reexamine/redefine groupings and labels.**
- Make some predictions or hypotheses about the text we are getting ready to read.**

# Discuss Next Steps

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- Read the text and record information on the graphic organizer citing evidence that either supports predictions or refutes it.
- Students would then reflect on the Inductive Learning Process, and also discuss what they have learned from it.
- Over time, students learn to generalize and conceptualize.

# A complete, clear, and easy implementation of inductive thinking...

1. Provide students with unorganized details.



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2. Ask students to look for patterns and form categories.



3. Use the patterns to develop a big idea.

# **When Can I Use the Inductive Learning Strategy?**

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- When introducing units of study**
- Making sense of difficult or ambiguous material**
- Review previously studied material**

# In Your Packet:

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- 3 column graphic organizer including sections for predictions, evidence for, and evidence against (page 31, Core Six)
- Implementation Steps and Considerations (page 29, Core Six)
- Planning Considerations (page 33-34, Core Six)

# **Also in the Core Six Inductive Learning Chapter**

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- Writing Extension: Inductive Writing (pages 34-35)**
  - Using groupings to form paragraphs, sequence, and eventually draft**
  
- Multiple Document Learning (pages 35-36)**
  - Provide a question with the topic embedded within**
  - Students look for information that relates to the topic, or to other reading selections, and then identify patterns**

# Some things to mull over...

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- Creativity does not get in the way of content; it enhances students' understanding of it.**
- Creativity is highly motivating.**
- Creativity ensures greater career success in the 21st century.**
- “Creativity takes courage.” -Henri Matisse**
- Inductive Learning = Creative Thinking**