Teaching with Rigor in Mind

LEARNING-FOCUSED®
Lessons You Believe In

The answer is……

Higher Order Thinking

What might the question be?

Top 8 Instructional Strategies

Rank	Strategy	Effective Size
1	**Higher Order Thinking**	**1.61**
2	Summarizing	1.00
3	Reading Comprehension	.89
4	Accelerating Learning Focus	.88
5	Vocabulary In Context	.85
6	Writing to Raise Achievement	.82
7	Advance Organizers	.73
8	Non-Verbal Representations	.65

Compiled from research conducted between 1998 and 2001 by the Mid-continent Research for Education and Learning (McREL), the 90/90/90 school research by Douglas Reeves, and the 2004-2005 Evaluation Consortium.

Higher Order Thinking

Just a quarter of high school graduates have the reading, math, English and science skills they need to succeed in college or a career. ACT Report 2013

25%

of the questions being asked in Exemplary Schools are Higher Order

65%

of questions being asked in over 17,000 classroom were Higher Order Thinking

13%

4 out of 10

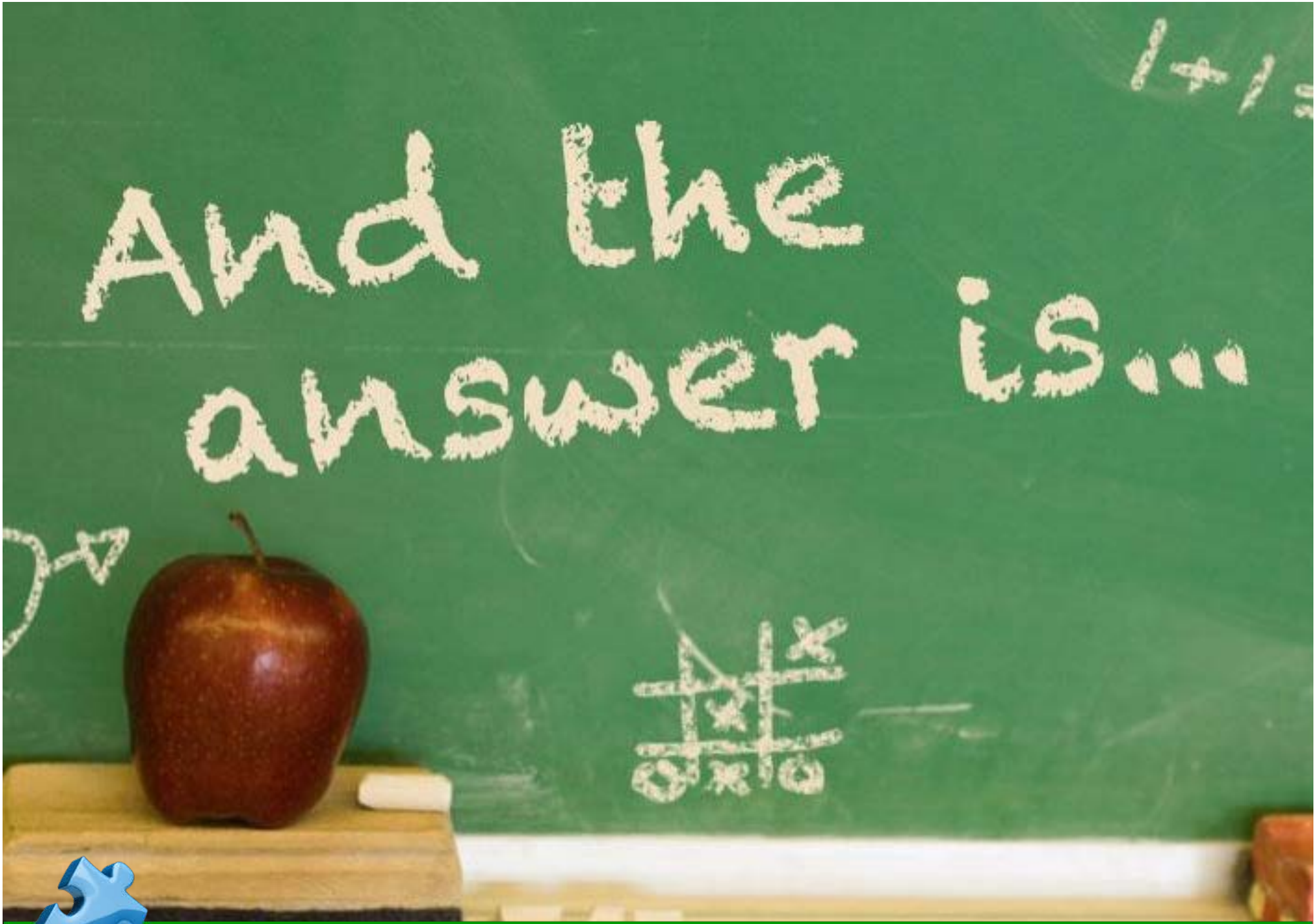
Assignments given in Middle School were aligned to a grade-level standard

Nº 1

Research-Based Strategy for increasing student achievement

85%

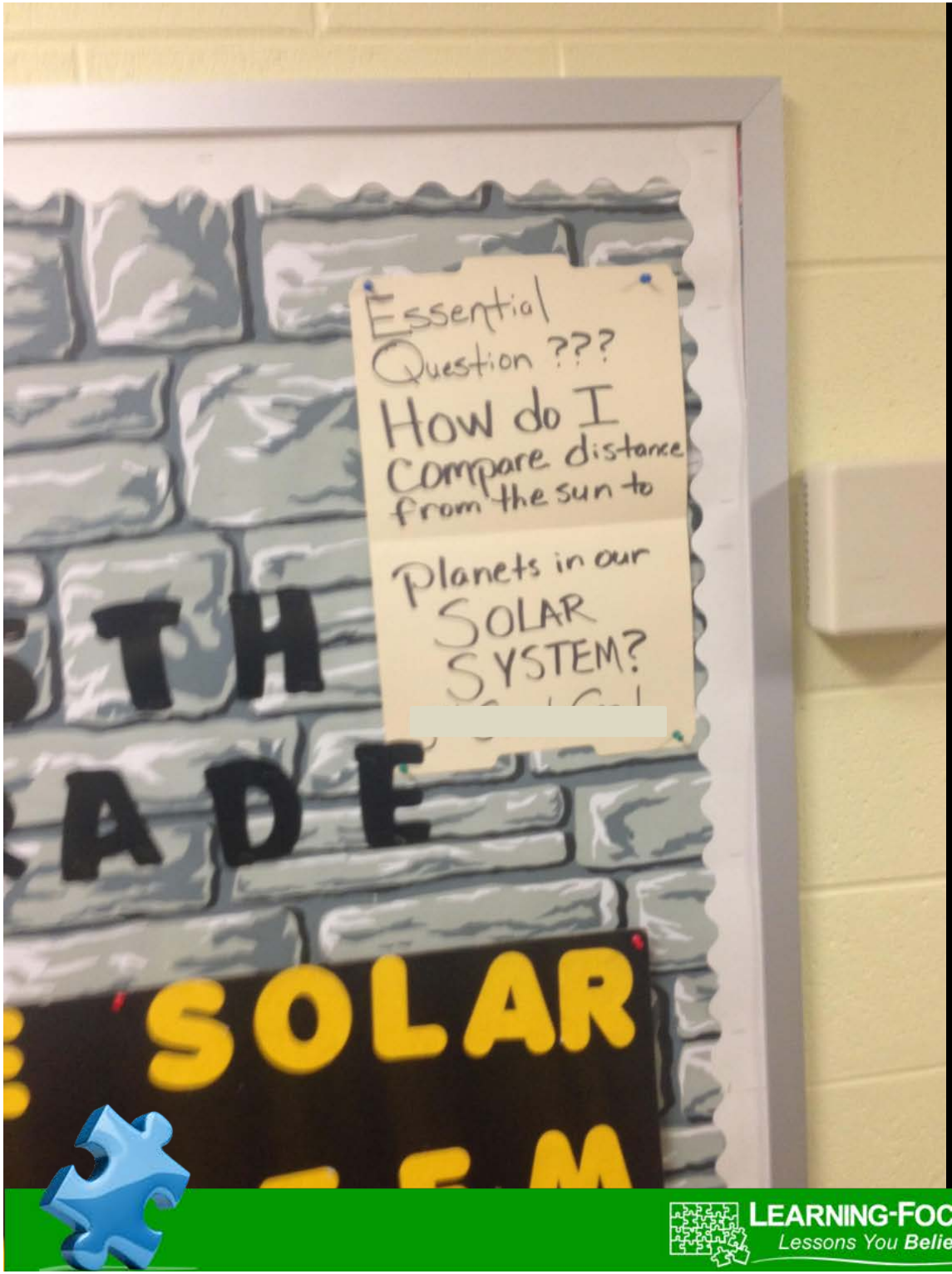
of assignments asked students to either recall information or apply basic skills and concepts


And the
answer is...

Thinking strategies in…

Higher Order Thinking in Typical Schools


DANGER
EXPECTATIONS



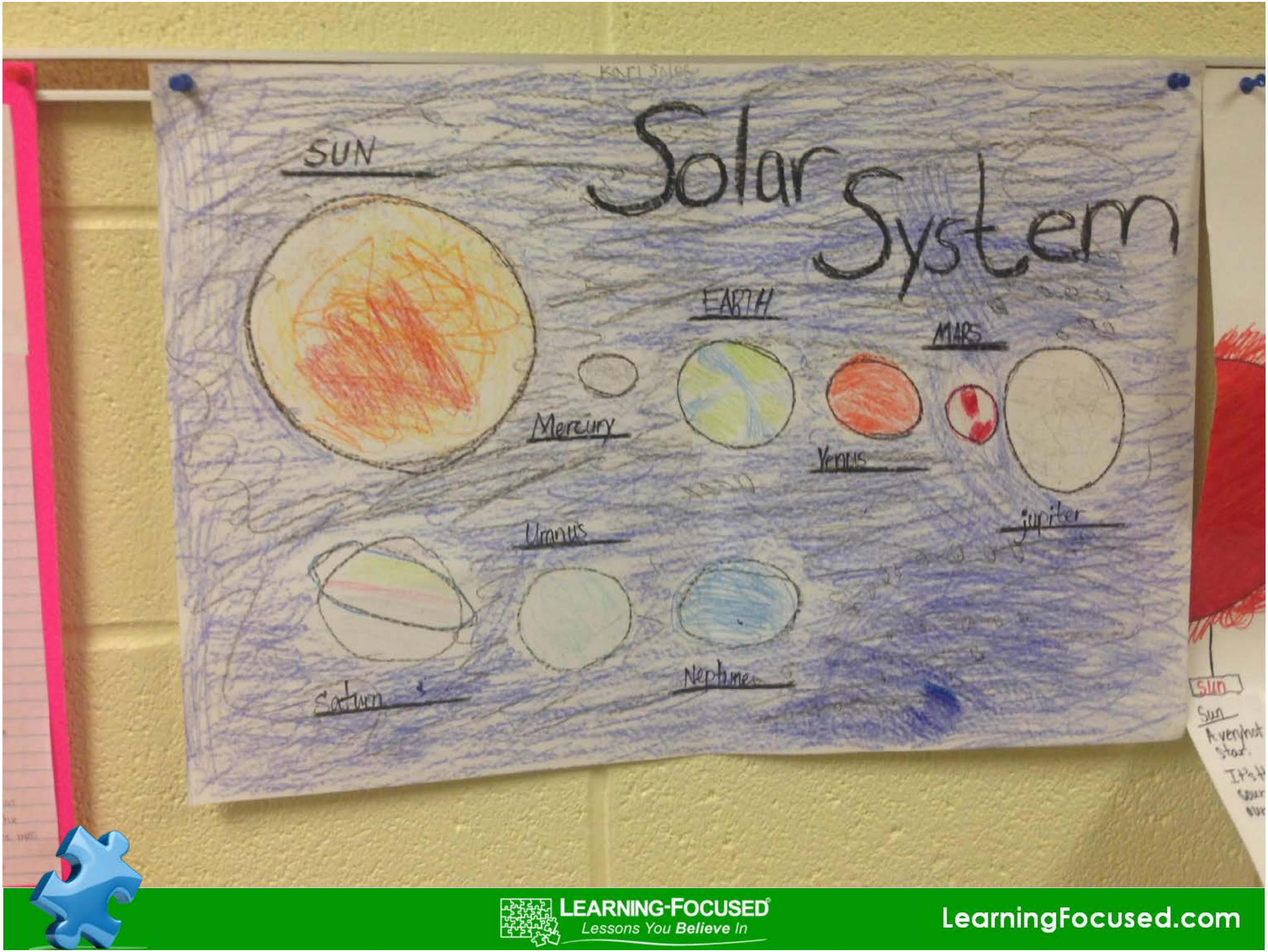
How do I compare distance from the sun to planets in our Solar System?

Rubric for Science Planet Project

NAME: 9 Science Students
Teacher: [redacted]
Date: 9/25/15

This is how your project will be graded on a scale of 0 to 5.
0 you receive no points and 5 being the highest.
Each section is 20 points!
The Solar System is worth 100 points
The Paper is worth 100 points
Solar System type of material used: _____

0	1	2	3	4	5	Solar System is made creatively by your own choice of materials.
0	1	2	3	4	5	All planets are in the correct order and labeled with their name.
0	1	2	3	4	5	All the planets are colored.
0	1	2	3	4	5	The background is creative.
0	1	2	3	4	5	The project is neatly put together and not messy. GOOD QUALITY!


Solar System
SUN
EARTH
MARS
Mercury
Venus
jupiter
Uranus
Saturn
Nephine
Sun
Sun
A very hot star.


Lack of Planning

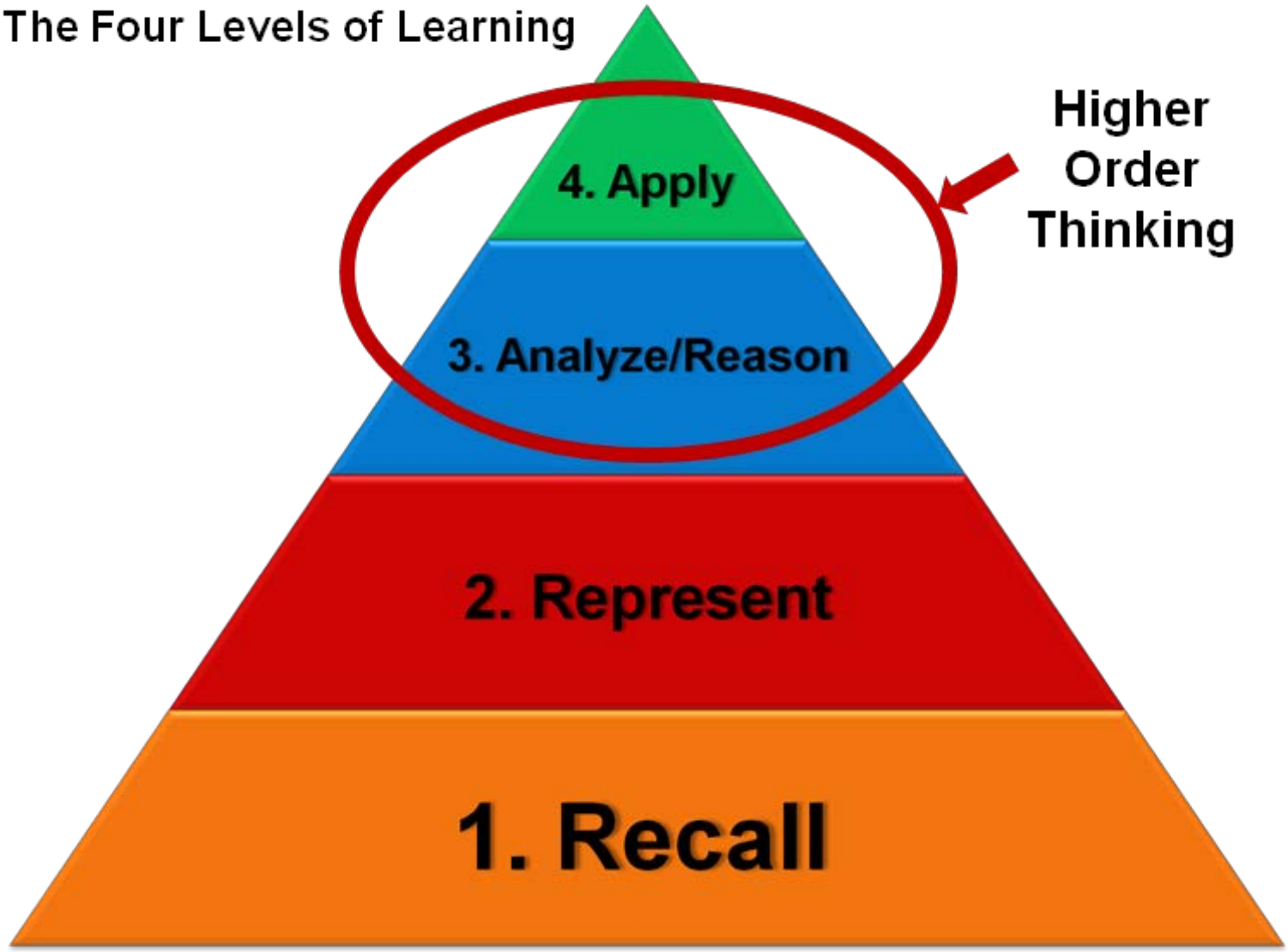
How do you incorporate Higher Order Thinking without over extending your lessons?

Effectively Teaching Higher Order Thinking…

Not just knowing what works-
Knowing *how*, *when*,
and *why* it works!

Plan with End in Mind

Use the Levels of Learning to Increase the Rigor of Instruction and Assignments

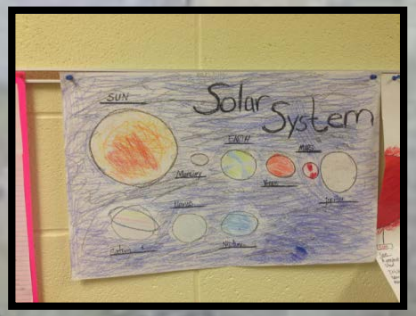


Adapted from the New Taxonomy of Educational Objectives, Marzano and Kendall, 2007

Levels of Learning

Higher Order Thinking					
3	**Analyze/ Reason**	The third level involves learning concepts to the degree that the information can be recalled from memory, organized and represented, and the information can be analyzed and interpreted, resulting in new insights about the content.	•Compare and Contrast •Determine Patterns •Analyze Relationships •Analyze Viewpoints •Construct Arguments •Evaluate •Infer •Deduce	Infer the theme of a text, support a stance with evidence, create an analogy, compare two items according to identified characteristics, interpret an event from multiple viewpoints, generate a hypothesis, critique a performance	•What might the author have meant when he said…? •How is _____ like _____? •How might _____ describe this event and why? •What conjectures can you make about ___? •How effective was ____? •How can you justify ___?
4	**Apply**	The fourth level involves learning concepts to the degree that the information can be recalled from memory, organized and represented, analyzed for new insights, and the information can be applied to new contexts using thinking processes that combine multiple thinking strategies from the third level.	**Thinking Processes** •Generating Ideas •Problem Solving •Decision Making •Investigating (Research) •Experimenting	Propose a solution, investigate a controversial topic, defend a choice based on criteria, test a hypothesis	•How can you verify that ___? •What might be the root cause of __? •What factors account for the discrepancy in the data? •How valid is _____? •What is the best alternative and why? •What might be the most viable solution for ____?

Plan Rigorous Assignments



Plan Lesson Instruction that Increases in Cognitive Complexity (rigor)

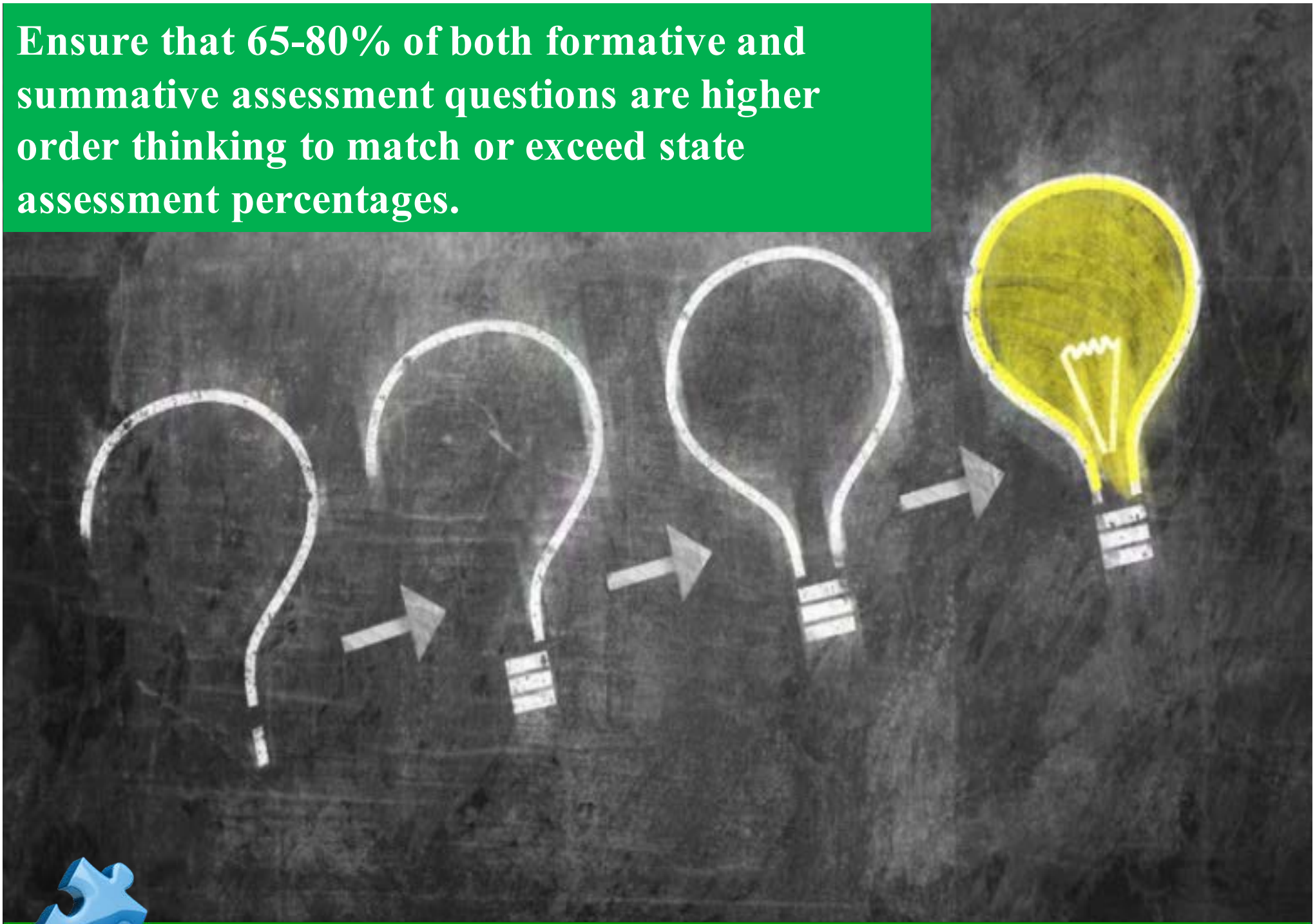
Fifth Grade English Language Arts Example of Increasing Complexity

The Standard for the Lesson and Assignment Focus:

ELA Standard (RL.5.4): *Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.*

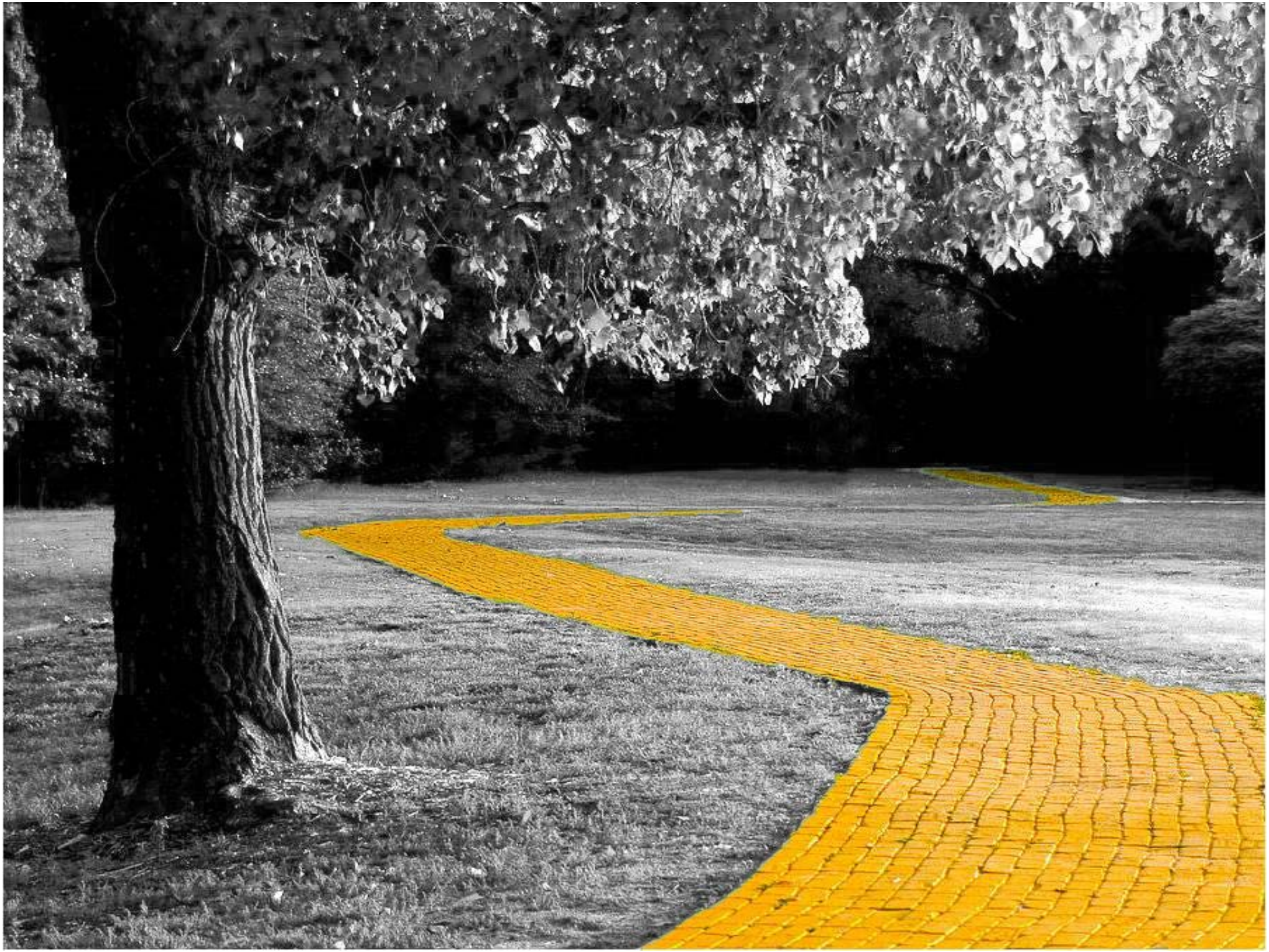
1st Expectation	2nd Expectation	3rd Expectation	4th Expectation
Identify examples of figurative language (Level 1 Learning)	Describe the reasons writers use figurative language. (Level 2 Learning)	Analyze and interpret the meaning of figurative language within the context of selected poems. (Level 3 Learning)	Decide which of two poets is most effective at using figurative language to create mood. (Level 4 Learning)

Ensure that 65-80% of both formative and summative assessment questions are higher order thinking to match or exceed state assessment percentages.



Explicitly Teach the Higher Order Thinking Strategies and Processes

How does an *Instructional Framework* help teachers incorporate *Higher Order Thinking* throughout their lessons?



#5 Common Lesson Plan

#4 Grade Level Standards

#3 Intentional and Connected Strategies/Practices

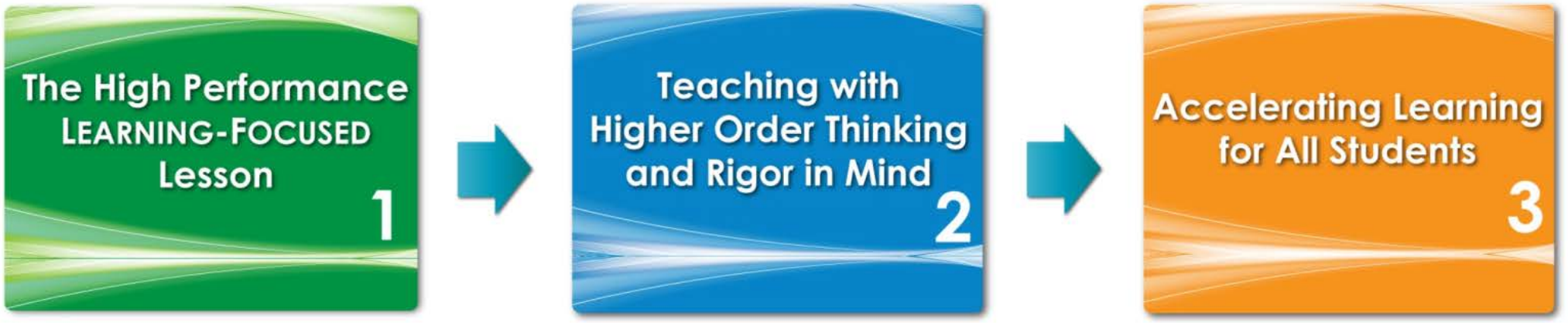
#2 Collaborative Planning

#1 Plan 2-3 Weeks in Advance

"Without some scheme for putting research-based strategies together in a meaningful way, they may wind up resembling a complicated pile of junk."

-Goodwin and Hubbell

The LEARNING-FOCUSED Instructional Framework



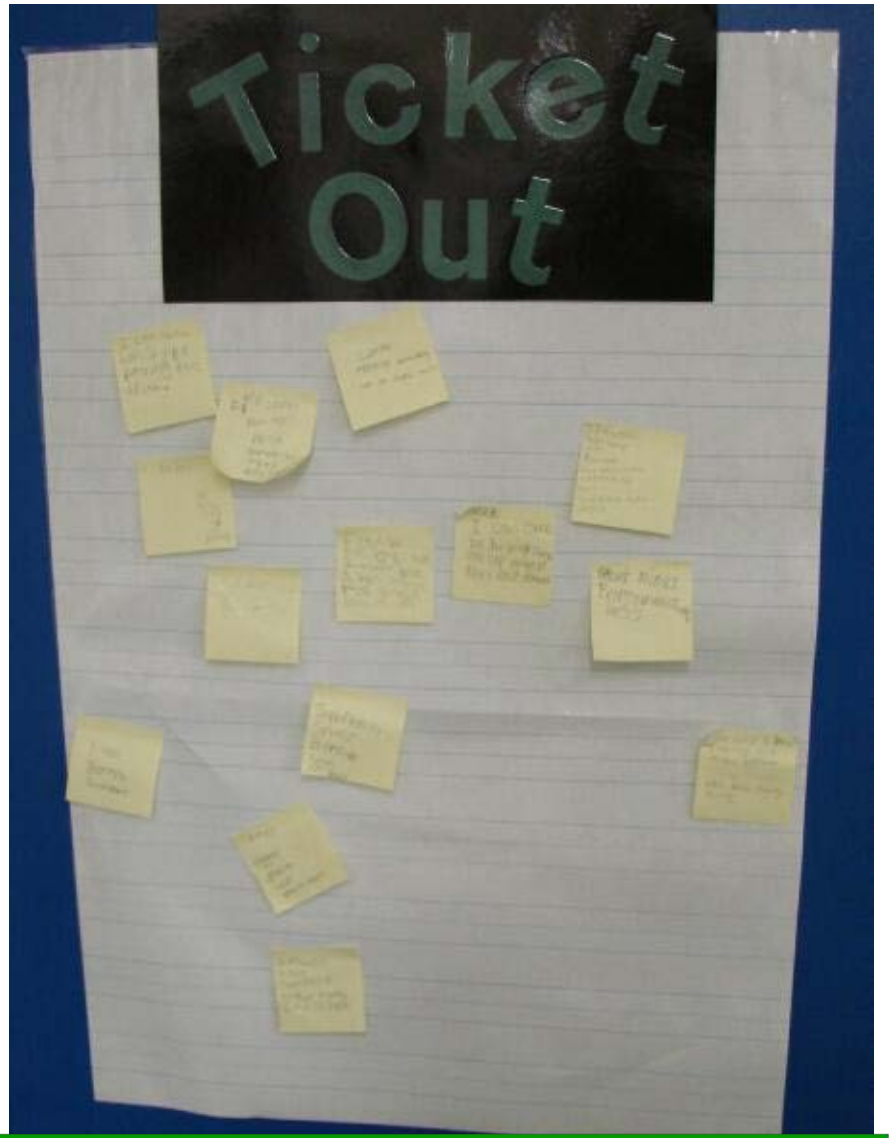
Intentionally connects
Higher Order Thinking in Every Lesson!

"I knew my school would never be the same."

Elisabeth Sima, Reidville Elementary School Principal

Extending the Ticket Out the Door

Answer the Essential Question from the perspective of…..



any
questions?

Thank You!