

Performance Based Assessments That Promote Rigorous, Self-Directed Learners

Bena Kallick

www.instituteforhabitsofmind.com

Assessing What we Value



**What do we
value?**



21st Century Learner

Creative Thinking

Critical Thinking

Collaboration

Communication



ESSENTIAL QUESTIONS:

- What are the characteristics of effective, creative, 21st Century problem solvers?
- How might educators create school and classroom conditions to learn, practice, assess and report students' growth toward internalizing these habits?

Crafting the Work



Habits of Mind are....

-dispositions that are skillfully and mindfully employed by characteristically intelligent, successful people when they are confronted with problems, the solutions to which are not immediately apparent.

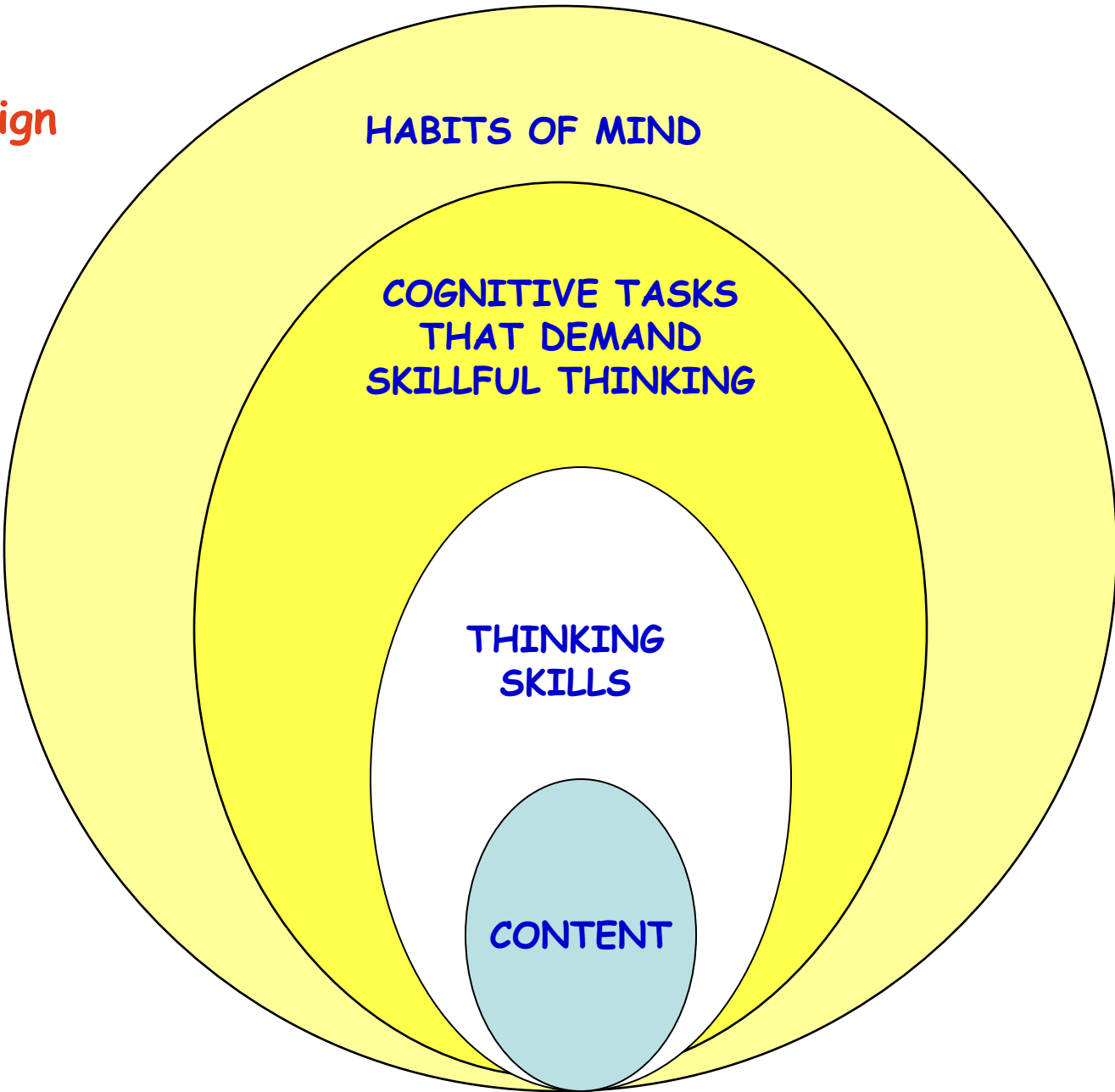
The Habits of Mind

1. **Persisting**
2. **Managing Impulsivity**
3. **Listening with Understanding and Empathy**
4. **Thinking Flexibly**
5. **Thinking about Thinking**
6. **Striving for Accuracy**
7. **Questioning and Posing Problems**
8. **Applying Past Knowledge to New Situations**
9. **Thinking and Communicating with Clarity and Precision**
10. **Gathering Data Through All Senses**
11. **Creating, Imagining, Innovating**
12. **Responding with Wonderment and Awe**
13. **Taking Responsible Risks**
14. **Finding Humor**
15. **Thinking Interdependently**
16. **Remaining Open to Continuous Learning**

WHY HABITS OF MIND?

- TRANSDISCIPLINARY
- AS GOOD FOR ADULTS AS THEY ARE FOR STUDENTS
- FOCUSED ON LONG RANGE, ENDURING, ESSENTIAL LEARNINGS
- EMPOWERS 21ST CENTURY SKILLS

Curriculum Design





CONTENT

UNDERSTANDING: WHAT DO WE MEAN?

"He understands me".

"She understands French".

"Students understand the concept".

"She understands the laws of physics".

"We have an agreement of understanding".

"This is my understanding of the matter."

THINK - PAIR - SHARE

- What do you mean by “understanding”?
- What would you see/hear students doing if they “understand?”
- Add your own thoughts

EVIDENCE OF UNDERSTANDING

CAN STUDENTS:


- ✓ EXPLAIN IT ACCURATELY?
- ✓ GIVE THEIR INTERPRETATION?
- ✓ TAKE ANOTHER'S PERSPECTIVE?
- ✓ EMPATHIZE?
- ✓ ASK FURTHER QUESTIONS?
- ✓ APPLY IT ELSEWHERE?

Understanding Requires

- **Content—information/the meaning of the vocabulary**
- **Concept—how people construct applications and uses to further meaning**
- **Context—in what discipline or situation is this given meaning?**

Example of Concepts for a Unit on Citizenship

- Good citizens acquire knowledge of our government in order to participate fully in thoughtful decision making.
- Students can become active citizens in the school environment.
- Active citizenship protects democracy.



THINKING
SKILLS

The Three Story Intellect



There are one-story intellects, two story intellects, and three-story intellects with skylights. All fact collectors, who have no aim beyond their facts, are one-story men.

Two-story men compare, reason, generalize, using the labors of the fact collectors as well as their own.

Three-story men idealize, imagine, predict--their best illumination comes from above, through the skylight.

Oliver Wendell Holmes

The Three Story Intellect



Complete	Identify	Observe	Input
Count	List	Recite	
Define	Match	Select	
Describe	Name	Scan	

The Three Story Intellect



Compare	Distinguish	Analyze	Process
Contrast	Explain	Synthesize	
Classify	Infer	Make analogies	
Sort	Sequence	Reason	
Complete	Identify	Observe	Input
Count	List	Recite	
Define	Match	Select	
Describe	Name	Scan	

The Three Story Intellect

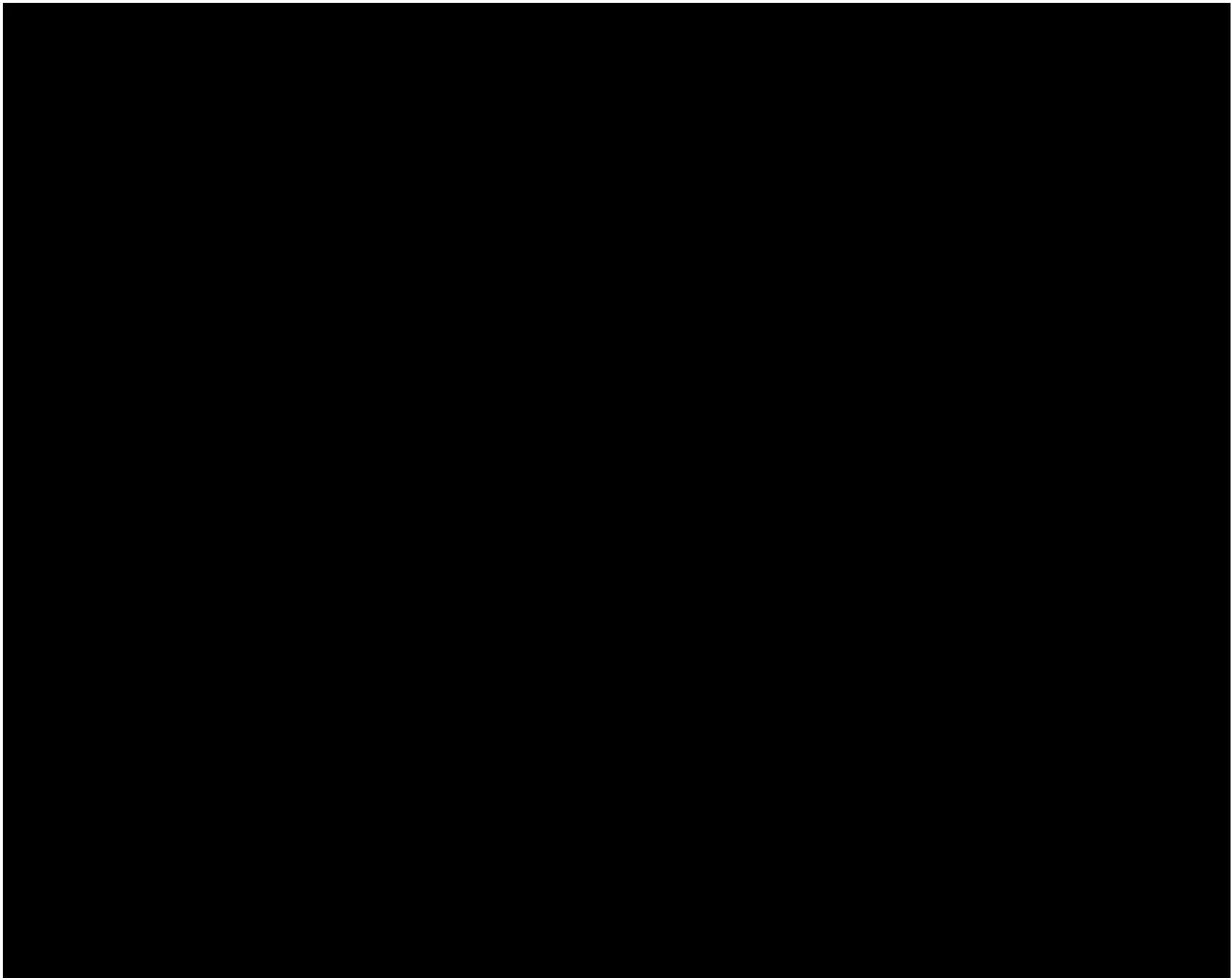
Evaluate	Predict	Hypothesize	Output
Generate	Speculate	Forecast	
Imagine	If/then	Idealize	
Judge	Apply a principle		
Compare	Distinguish	Analyze	Process
Contrast	Explain	Synthesize	
Classify	Infer	Make analogies	
Sort	Sequence	Reason	
Complete	Identify	Observe	Input
Count	List	Recite	
Define	Match	Select	
Describe	Name	Scan	

For Example

- **Scientist**
 - Making and testing hypotheses
 - Observing closely
 - Building explanations
- **Mathematician**
 - Looking for patterns
 - Making conjectures
 - Forming generalizations
 - Constructing arguments
- **Reader**
 - Making interpretations
 - Making connections
 - Making predictions
- **Historians**
 - Considering different perspectives
 - Reasoning with evidence
 - Building explanations



**COGNITIVE TASKS
THAT DEMAND
SKILLFUL THINKING**



LEARNING TASKS

- ✓ Engaging skillfully in a variety of authentic, rich activities that require strategic planning, creative approaches and the application of organized, multiple and complex thinking skills.

RICH TASKS REQUIRING SKILLFUL THINKING

"EXECUTIVE PROCESSES"
(METACOGNITION)

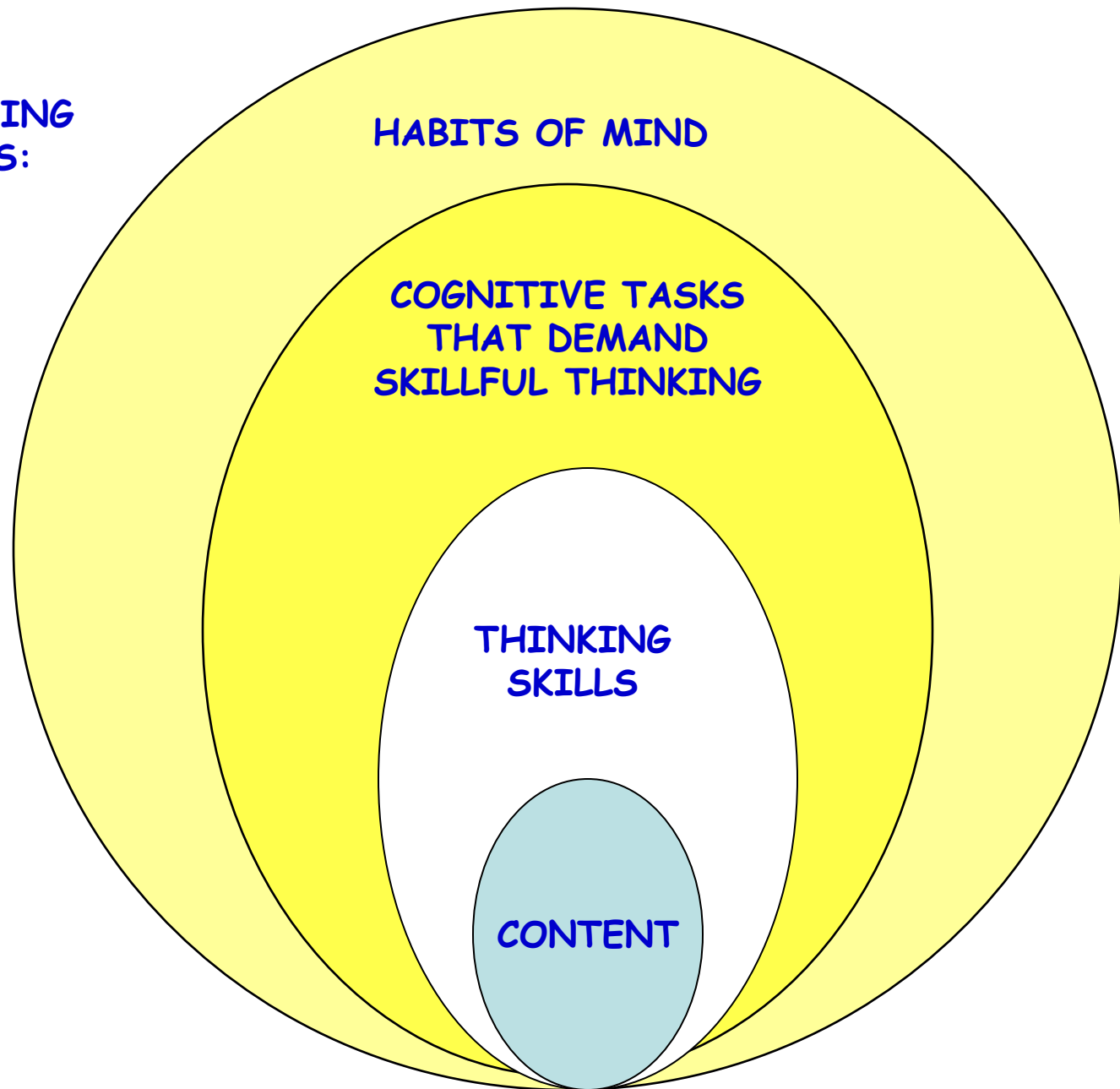
SOLVING A PROBLEM

MAKING A DECISION

CREATING SOMETHING NEW

CONSTRUCTING MEANING

**EFFECTIVE THINKING
REQUIREMENTS:**

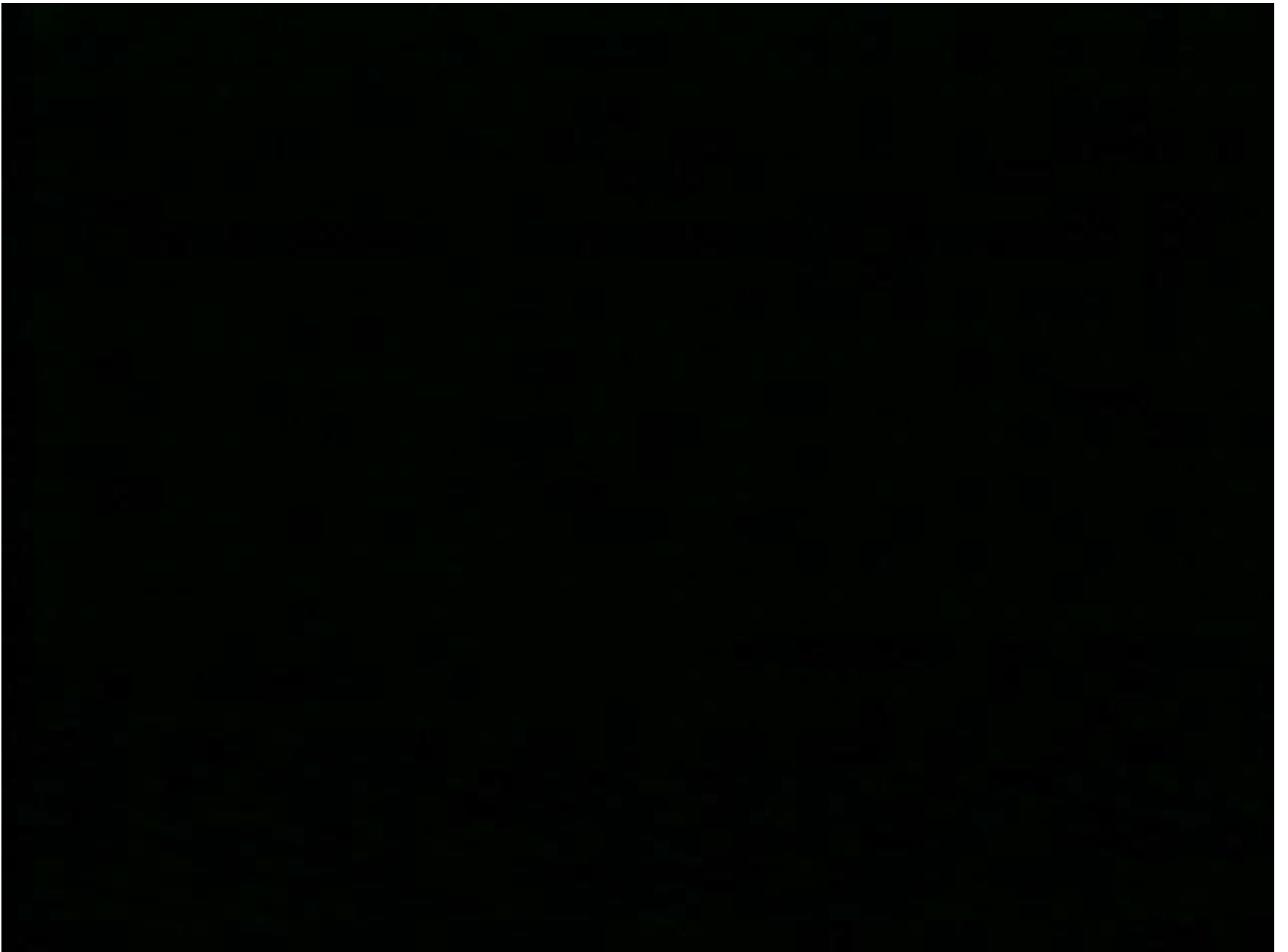


HABITS OF MIND

**COGNITIVE TASKS
THAT DEMAND
SKILLFUL THINKING**

**THINKING
SKILLS**

CONTENT



UNIT ANALYSIS

What math concepts were being learned in this lesson?

In which thinking skills were students engaging?

What was the nature of the task the students were performing?

Which habits of mind were students drawing upon?

How will we measure what we value?



ASSESSMENT MIND SHIFTS

FROM:

Not only knowing
right answers.

TO:

➤ Also knowing
how to behave
when answers are
not immediately
apparent.

Striving for Accuracy

- has checking strategies
- checks without prompting
- able to use scales/rubrics to check work against
- Able to justify why perceives work as high quality
- able to seek and respond to feedback

Questioning and Posing Problems

- ✓ Asks questions on topics of interest
- ✓ Gathers information from multiple perspectives
- ✓ Asks complex questions to create new problems to explore
- ✓ Initiates further exploration on a topic in order to expand understanding

Strategies for Using Data AS Instruction

Educators and students must be able to answer:

Where am I going?

Where am I now?

How can I close the gap?

Adapted from Royce Sadler, Questions for Student Engagement

Where am I going?

Provide a clear and understandable vision of the learning target.

- Share the learning target(s) in advance of the lesson.
- Use student-friendly language.
- Check for understanding.

Grade 2: Number Operations Unit

Name: _____

Learning Outcomes	Evidence	Date
I can use manipulatives, to show and describe addition to 100 without regrouping.	Use manipulatives to show: 33 $+25$ Create another problem of your own to demonstrate your understanding.	
I can use manipulatives, show and describe subtraction to 100 without regrouping.	Use manipulatives to show: 45 $- 21$ Create another problem of your own to demonstrate your understanding.	
I can use manipulatives, to show and describe addition to 100 with regrouping.	Use manipulatives to show: 53 $+28$ Create another problem of your own to demonstrate your understanding.	

**FLOWCHART
FOR
ABSENCES**

**Check calendar and
table of contents for
missed work.**

**Did you
miss a test
or quiz?**

Yes

**Schedule a time to make
up the test with Mr.
Whelan (during Science
Lab). 2 week maximum**

No

**Did you miss
a homework
or class
assignment?**

Yes

**If absent the day
homework was
due, get it stamped
the day you
return.**

**If absent the day it
was assigned, it is
due one class
period after your
return.**

No

**Did you
miss a
lab or
video?**

Yes

**Labs can be made up
after school during
science lab. You need to
make up labs before the
unit test.**

Name _____

Class period: _____ Date: _____

Page # _____

Chemistry Standards: Gases and Their Properties

Standard	*Ready for Test	*Need More Practice	*Don't Get it Yet	**Action
Define pressure and explain how it is related to the motion of particles.				
Explain why gases diffuse.				
Apply gas laws to mathematically describe the relationship between temperature, pressure and volume of an ideal gas.				
Define standard temperature and pressure (STP).				
Convert from moles of gas to volume or vice versa at STP.				
Convert from Celsius to Kelvin.				
Explain the meaning of absolute zero.				

* List evidence for your self-rating, quiz score, homework completion, success on review questions, etc.

** What steps will you take to improve your preparedness for the test?

*Keith Whelan
Clovis Unified School District
Clovis, CA*

**6 WEEK PROGRESS AND GRADE UPDATE
Mrs. Hansen's Science Class**

Name _____
Period _____
Date _____

Grading period: 1st Semester grade report
PARENTS: FRIDAY JANUARY 18TH IS THE END OF THE 1st SEMESTER GRADING PERIOD. ALL LATE WORK OR MISSING ASSIGNMENTS MUST BE IN BY THURSDAY, JANUARY 17TH.
THERE ARE 2 WEEKS LEFT IN THE 1ST SEMESTER!

Current grade:
My Total points _____ Class Points Possible _____
% Grade _____ Letter Grade _____

Number of missing assignments _____
List the titles of missing assignments below:

Student explanation of current grade:

Parents please respond to grade explanation and current grade, write comments or concerns:

Student goal for the next 6-week grading period:

Parent response: I plan to help my child achieve this goal by:

Student signature _____ Date _____

Parent signature _____ Date _____

**6 WEEK PROGRESS AND GRADE UPDATE
Mrs. Hansen's Science Class**

Name _____
Period _____
Date _____

Grading period: 1st Semester grade report
PARENTS: FRIDAY JANUARY 18TH IS THE END OF THE 1ST SEMESTER GRADING PERIOD. ALL LATE WORK OR MISSING ASSIGNMENTS MUST BE IN BY THURSDAY, JANUARY 17TH. THERE ARE 2 WEEKS LEFT IN THE 1ST SEMESTER!

Current grade:
My Total points _____ Class Points Possible _____
% Grade _____ Letter Grade _____

Number of missing assignments _____
List the titles of missing assignments below:

Student explanation of current grade:

Parents please respond to grade explanation and current grade, write comments or concerns:

Student goal for the next 6-week grading period:

Parent response: I plan to help my child achieve this goal by:

Student signature _____ Date _____
Parent signature _____ Date _____

Where am I going?

Use and post student examples/models of strong and weak work (keep anonymous).

- Share models of student work.
- Allow students to score samples.
- Demonstrate the process of creating a performance, project, etc.

Where am I now?

Offer students frequent, descriptive feedback.

- Descriptive feedback directly reflects the learning target(s).
- Addresses the targets they are doing well and their next steps toward achieving their learning goal.
- Forms the basis for differentiated instructional groups



Chapter 5 Test, Form 2D

NAME Student

PERIOD 7

SCORE 18

*Whoa!
just made it.
D-*

1. PRIME OR COMPOSITE?
a) 39 b) 51 c) 23

1. a) prime ✓
b) prime ✓
c) prime ✓

Find the prime factorization of each number.

2. 72 98
 $2^3 \cdot 3^2$ $2 \cdot 7^2$

2. $2^3 \cdot 3^2$
3. $2 \cdot 7^2$

Find the GCF of each set of numbers or algebraic expressions.

4. 48, 56 20, 36, 48
 $2^3 \cdot 3 \cdot 2^2$ $2^2 \cdot 5$ $2^2 \cdot 3$ $2^2 \cdot 3^2$ $2^3 \cdot 3$
 5. 20, 36, 48
 $2^2 \cdot 5$ $2^2 \cdot 3^2$ $2^3 \cdot 3$
 6. $32x$, $42x^3$
 2^5 $2 \cdot 3 \cdot 7$

4. 8
5. 4
6. 22 ✓

Write each fraction in simplest form.

7. $\frac{28}{48} = \frac{14}{24} = \frac{7}{12}$
8. $\frac{63}{102} = \frac{21}{34}$

7. $\frac{7}{12}$
8. $\frac{21}{34}$

Write each fraction, mixed number, or percent as a decimal. Use bar notation if the decimal is a repeating decimal.

9. $\frac{3}{11}$ $1 \overline{) 3.000}$ $5 \overline{) 3.0}$
 0.27 0.6

9. 0.27
10. 7.6
11. 0.84

Write each decimal or percent as a fraction in simplest form.

12. 0.06 $\frac{6}{100} = \frac{3}{50}$
13. 88% $\frac{88}{100} = \frac{22}{25}$

12. $\frac{3}{50}$
13. $\frac{22}{25}$

$\frac{34}{102}$

Assessment Audience

Who is the primary audience for this assessment?

What data does this assessment give him?

What does it give his parents? Other teachers?

With this data, can he identify his **strengths** in Math?

With this data, can he isolate his **weaknesses**?

Does the **feedback** tell him how to improve his work?

With this information, can he successfully and independently **set mathematical goals** to address his learning gap?

Write each ratio, fraction, or decimal as a percent.

14. 73.2 per 100 14. 73.2%

15. $\frac{26}{50}$ 15. 32% ✓

16. 0.27 16. 27%

Find the LCM of each set of numbers.

17. $3x^2y$, $6x^3$ 17. 12xx ✓

18. 36, 96 18. 308 ✓

Find the LCD for each pair of fractions.

19. $\frac{3}{22}$, $\frac{7}{55}$ 19. 110

20. $\frac{9}{10}$, $\frac{11}{25}$ 20. 50

For Questions 21-23, replace each \circ with $<$, $>$, or $=$ to make a true sentence.

21. $\frac{7}{9} \circ \frac{15}{17}$ 21. $>$ ✓

22. $\frac{7}{8} \circ \frac{8}{10}$ 22. $<$ ✓

23. $\frac{7}{11} \circ \frac{35}{55}$ 23. $<$ ✓

24. Order $\frac{7}{8}$, 0.8, and $\frac{15}{16}$ from least to greatest. 24. $\frac{7}{8}, \frac{15}{16}, 0.8$ -2

25. MOVING Louisa surveyed her class and found that 10 out of 24 students had moved to a new city before they started school. Write the ratio as a fraction in simplest form and as a decimal to the nearest thousandth. 25. F $\frac{10 \div 2}{24 \div 2} = \frac{5}{12}$

Bonus Replace \blacksquare with a prime factor to make a true sentence: $2^2 \times \blacksquare \times 11 = 220$. 26. D ✓

B: _____

Would he be able to fix it?

Where am I now?

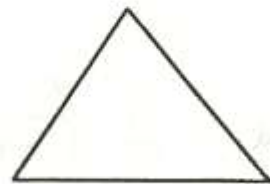
Teach students to self-assess and set goals.

- Self-assessment is a necessary part of the learning process.
- Students can identify their strengths and the areas in which they need to improve based upon examples/models of proficient work.

Courtney

Plus/ Delta

+



-
1. It is colorful.
 2. I use a lot of red.
 3. No glue
 4. and it was not too big.

-
1. Not gaps.
 2. not name in front.
 3. put the lines in back.
 4. use more room.

How can I close the gap?

Design lessons that focus on one learning target at a time.

- Differentiate student instruction.
- Develop confidence before moving on.
- Be careful not to reach beyond the next sequential learning target.

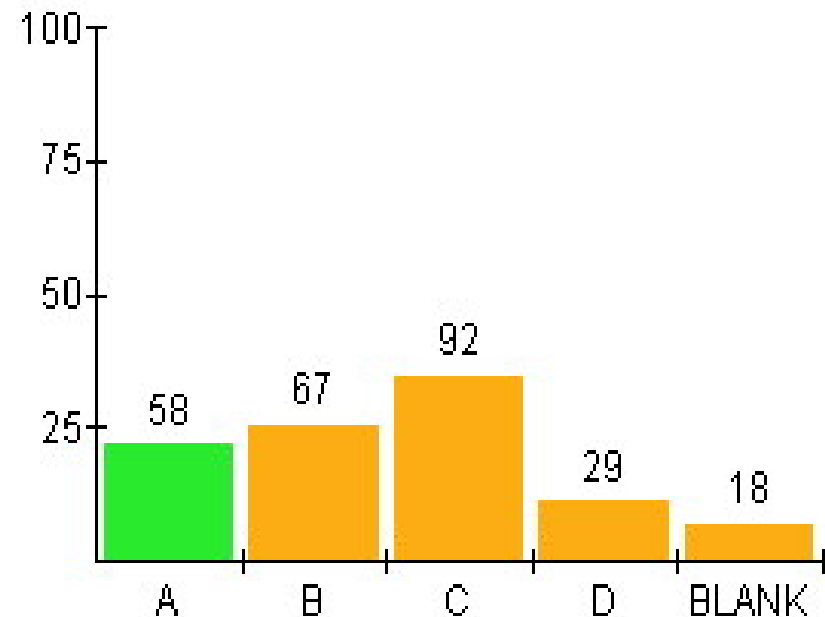
Item Analysis from Common Assessment

Question 7

Question: Numbers and Operations (M3.A.2.1.1)

Points: 1 Level: Developed Type: Mult Choice

Answer	Count	Frequency	View Students
A (Correct)	58	21.97%	Click to view
B	67	25.38%	Click to view
C	92	34.85%	Click to view
D	29	10.98%	Click to view
BLANK	18	6.82%	Click to view



Question 8

How can I close the gap?

Teach students focused self-revision.

- Teachers should model revision practice using strategies and examples.
- Students should qualify their responses in order to isolate learning targets.

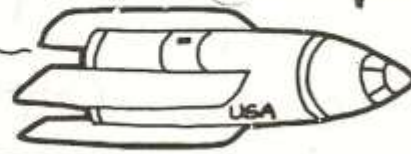
Name

Signin

Date

5-7

The Space Ship



The cool ship whiet up
in space erlee in the
nigh because it needid
to moove samwar eals:

Signin -- received her peer-edited paper with class assigned codes.

1. Capital letter
2. Describing word
3. What/who?
4. Did what?
5. Where?
6. When?
7. Why?
8. Punctuation

FEEDBACK FOR THE LEARNER



'You Be George' Activity



Problem #	Learning Target	Right?	Wrong ?	Simple mistake?	More study?
1	Place Value: I can write numerals in expanded form to 10 thousands place.	X			
2	Place Value: I can write numerals in expanded form to 10 thousands place.	X			
3	Place Value: I can write numerals in expanded form to 10 thousands place.	X			
4	Place Value: I can identify place value to the thousands place.	X			
5	Place Value: I can put numbers in order through the thousands.	X			
6	Place Value: I can put numbers in order through the thousands.	X			
7	Place Value: I can put numbers in order through the thousands		X	X	

Problem #	Learning Target	Right?	Wrong?	Simple mistake?	More study?
8	I can write fractions to match models.	X			
9	I can write fractions to match models.		X		X
10	I can write fractions to match models.	X			
11	I can write fractions to match models.		X		X
12	I can subtract 3-digit numbers with borrowing.	X			
13	I can subtract 3-digit numbers with borrowing.		X	X	
14	I can subtract 3-digit numbers with borrowing.	X			
15	I can subtract 3-digit numbers with borrowing.		X	X	

Problem #	Learning Target	Right?	Wrong?	Simple mistake?	More study?
16	Measurement: I can read time to the nearest minute.		X	X	
17	Measurement: I can read a thermometer.	X			
18	Measurement: I know how much a liter is.		X		X
19	Measurement: I know how long a centimeter is.	X			
20	Measurement: I can choose the right tool to measure length, weight, liquid, and distance.	X			



'You Be George'

I am good at these!

I am pretty good at these, but need to do a little review.

I need to keep learning these.



'You Be George'

I am good at these!

1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 17, 19, 20

I am pretty good at these, but need to do a little review.

7,13,15,16

I need to keep learning these.

9, 11, 18



