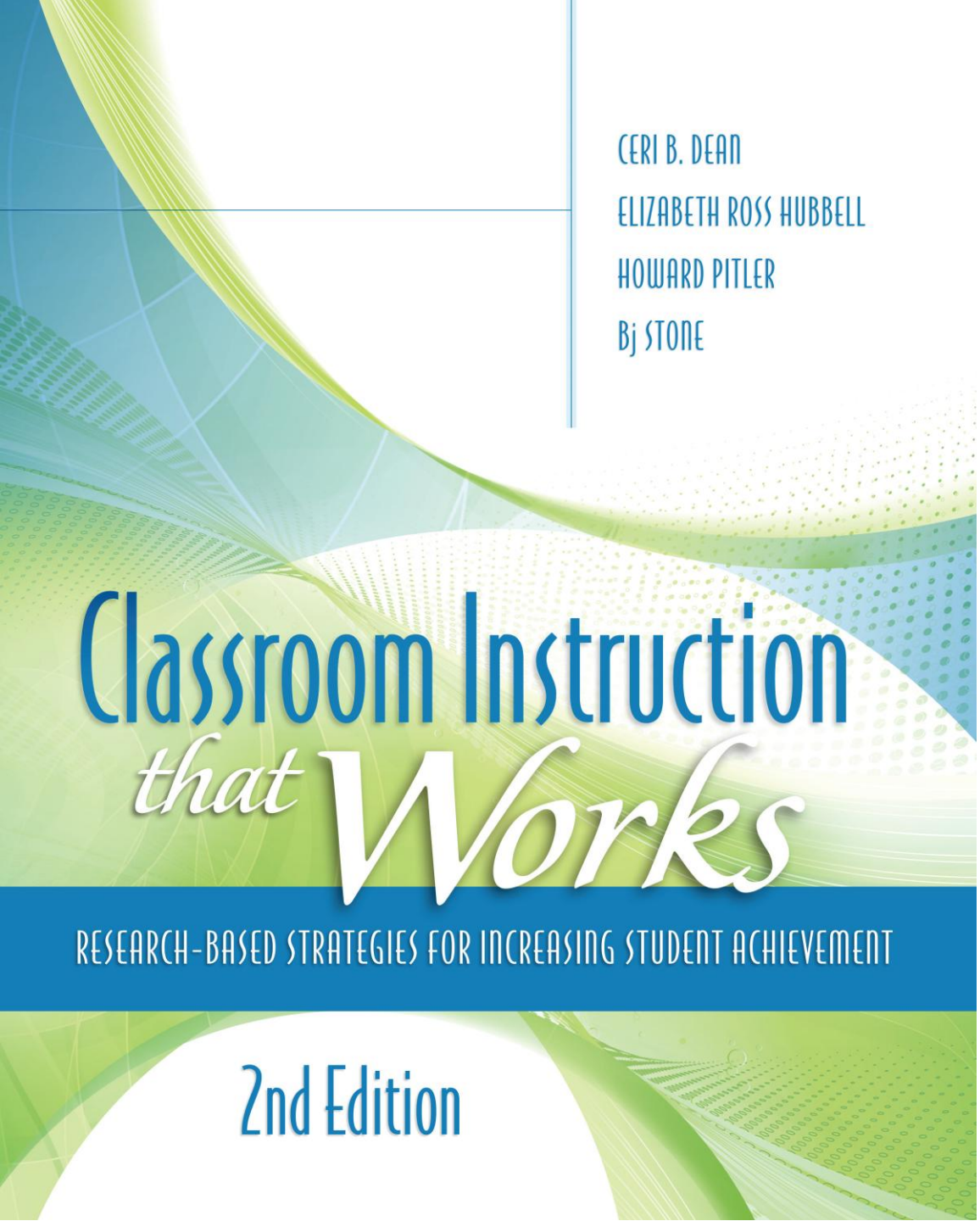

Classroom Instruction that Works

Day Three

presented by
Chris Moddelmog
Smoky Hill Education Service Center

McREL

Materials

smokyhill.org→Recent Events Tab

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http://www.smokyhill.org/

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Smoky Hill ESC

We Do the Little Things for You!

Smoky Hill Education Service Center

605 E Crawford | Salina, KS 67401 | 785-825-9185

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Citizenship &

Smoky Hill Education Service Center's Mission Statement is:- "To provide quality leadership, services, and support in response to identified and anticipated needs of participating districts."

53° F
Salina, KS

CTE Annual February Conference

CTE Learning That Works, For Kansas

The Career & Technical Education Annual February Conference Hosted by : KAESA and participating members: Clearwater ESSDACK Keystone Northwest Smoky Hill Southwest Plains In cooperation with KSDE, KBOR Sponsored by: *Special Annoucement! Coach Bill Snyder will be the noon time speaker on Tuesday February 11th. . . . read more

CTE™ Learning that works for Kansas

Winter & Spring 2014 Workshops

SHESC has scheduled its workshops and events for Winter and Spring, 2014. The workshops and events are listed on the SHESC Calendar which is available HERE . To see a complete description of the workshop and additional details, click the workshop title on the calendar. A workshop flyer can be downloaded here.

Digital Media Content is Available Through SHESC

Smoky Hill Partners with Learn360

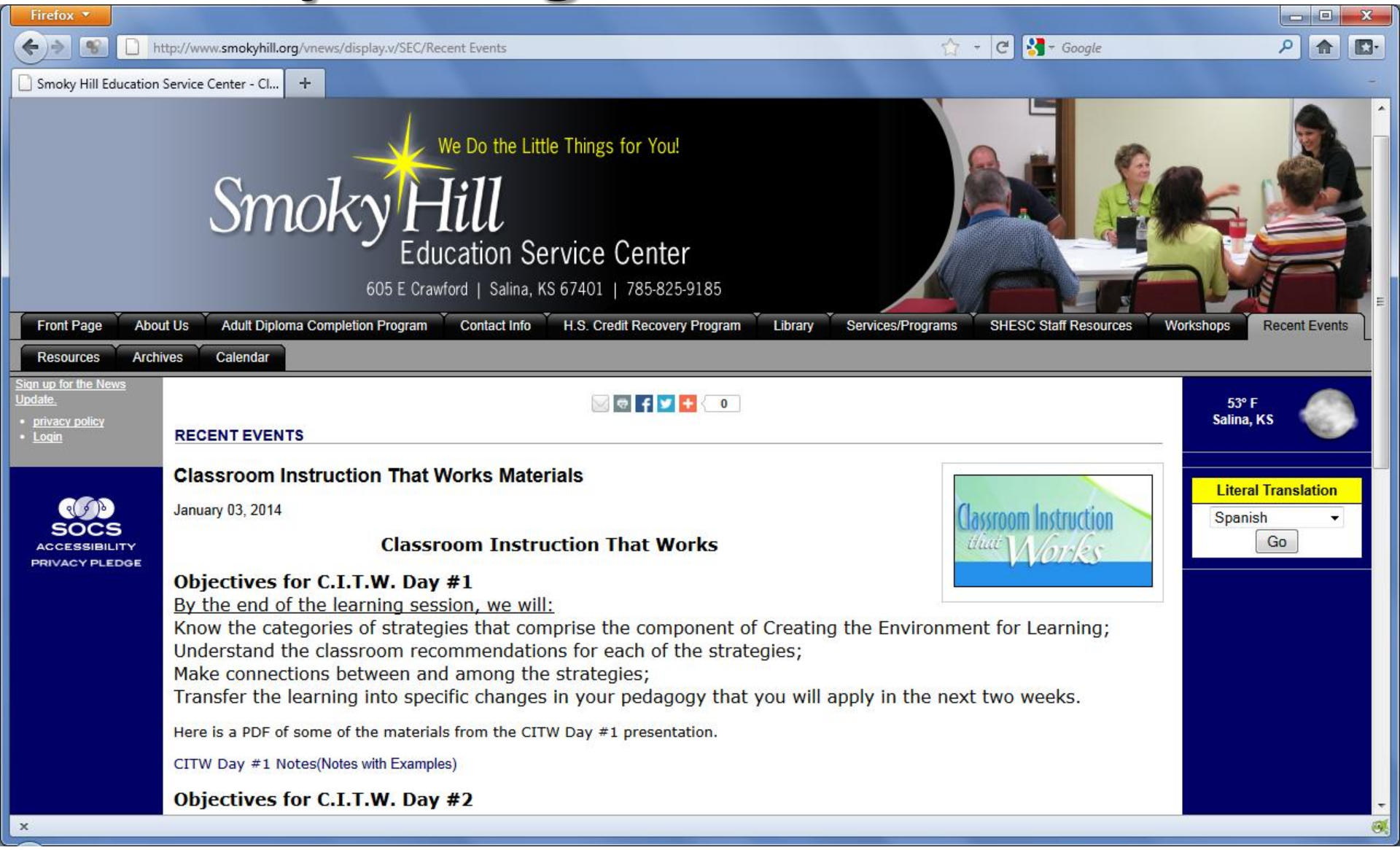
Learn360 is the newest media-on-demand service which allows subscribers to stream or download thousands of video clips and other K-12

Calendar Highlights

Wed	Jan 22, 2014
9:00am to 12:00pm	CIA – Curriculum, Instruction, & Assessment 605 E. Crawford
Wed	Jan 22, 2014
9:00am to 3:30pm	Ruby Payne's "A Framework for Understanding Poverty" 1401 B Main
Thu	Jan 23, 2014
9:00am	Common Core

Materials

smokyhill.org→Recent Events Tab



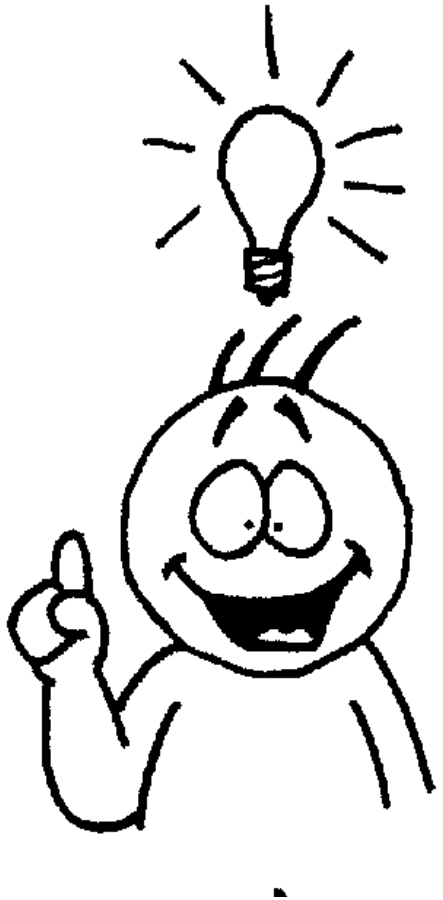
Agenda

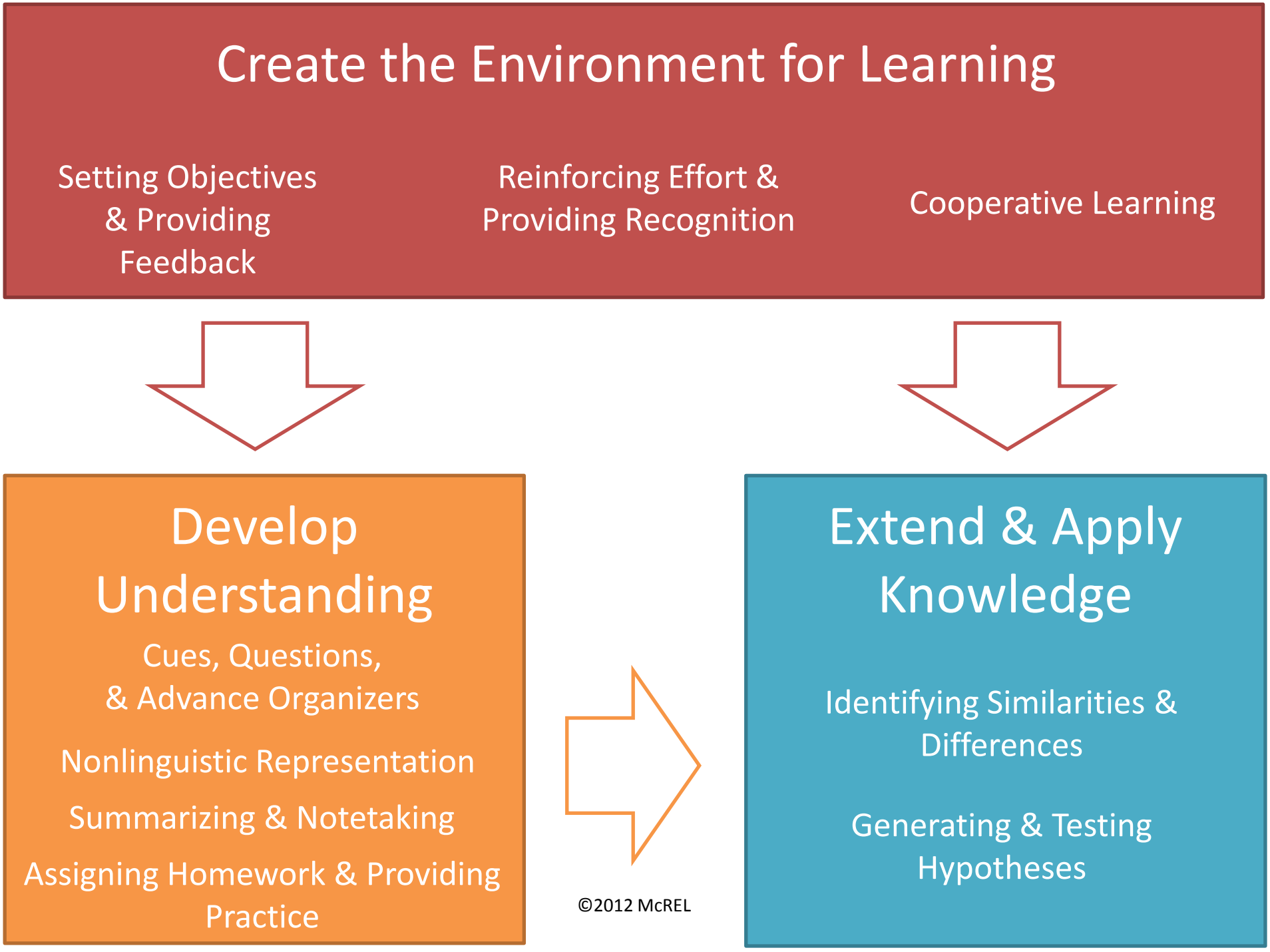
- Welcome and overview
- Review prior learning
- Providing Practice and Assigning Homework
- Identifying Similarities and Differences
- Generating and Testing Hypothesis
- Next steps
- Closure

Questions to begin?

Vocabulary Words Post-Test

1. **antipodes ***
2. **borborygmus**
3. **cullet**
4. **defenestrate**
5. **digerati ***
6. expropriate
7. garbology *
8. **hallux**
9. otiose *
10. pellucid *




Create the Environment for Learning
Setting Objectives & Providing Feedback
Reinforcing Effort & Providing Recognition
Cooperative Learning
Develop Understanding
Cues, Questions, & Advance Organizers
Nonlinguistic Representation
Summarizing & Notetaking
Assigning Homework & Providing Practice
Extend & Apply Knowledge
Identifying Similarities & Differences
Generating & Testing Hypotheses
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Extending and Applying Knowledge

1998 K-12 Curriculum 22 Years

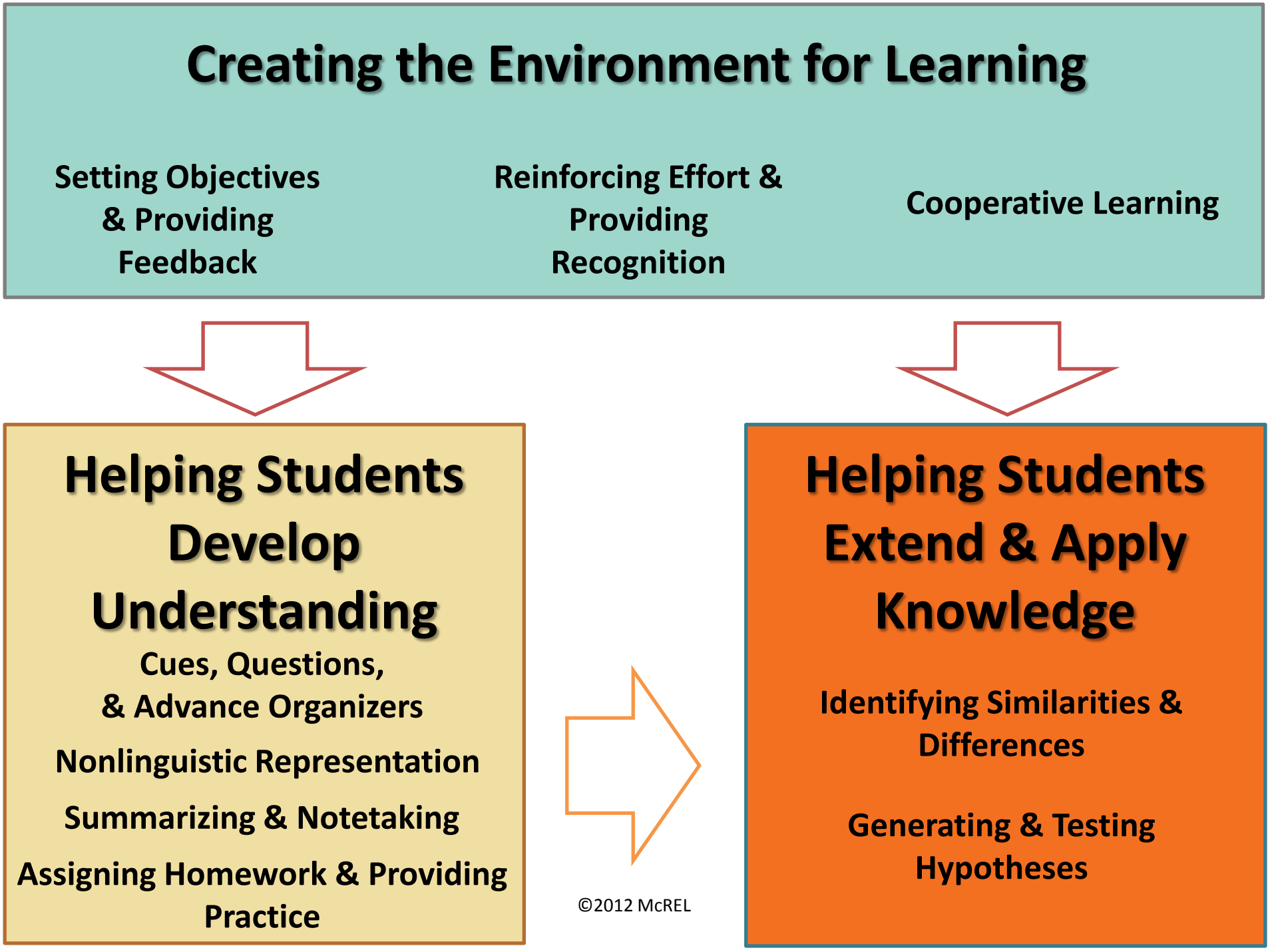
13 Years

With new information being created and made accessible every day, it is impossible to "cover" everything. Instead students need to learn skills that allow them to handle new and unfamiliar situations, moving beyond "right-answer learning" toward application of learning. CITW can help teachers provide these opportunities to students.

Extending and Applying Knowledge

CITW helps teachers move students beyond "right-answer learning". It gives students the opportunity to "LEARN HOW TO LEARN".

In this way, we give students the ultimate gift of education: the ability to educate oneself and use that knowledge in productive ways.


Creating the Environment for Learning
Setting Objectives & Providing Feedback
Reinforcing Effort & Providing Recognition
Cooperative Learning
Helping Students Develop Understanding
Cues, Questions, & Advance Organizers
Nonlinguistic Representation
Summarizing & Notetaking
Assigning Homework & Providing Practice
Helping Students Extend & Apply Knowledge
Identifying Similarities & Differences
Generating & Testing Hypotheses
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Learning Objectives
Day Three

By the end of the learning session, we will:

- ***Know the categories of strategies that comprise the component of Helping Students Develop Understanding and Extend and Apply Knowledge,***
- ***Understand the classroom recommendations for each of the strategies,***
- ***Make connections between and among the strategies,***
- ***Transfer the learning into specific changes in your pedagogy that you will apply in the next two weeks.***

Personalizing the Objectives

1. What is it that I want to know, understand and be able to do after this session?
2. What am I willing to do to attain a high level of proficiency?
3. How will I know when I have reached a high level of proficiency?

Assigning Homework and Providing Practice

Extends the learning opportunities for students to practice, review, and apply knowledge.

Reflecting on Current Practice

Do I clearly identify the purpose of practice and articulate the purpose to students?

Do I provide specific and adequate time for guided and independent practice?

Do I provide practice sessions that are short, focused, and distributed over time?

Do I provide specific feedback on the individual steps in a process?

Classroom Recommendations for Practice

Clearly identify and communicate the purpose of practice activities.

Design practice sessions that are short, focused, and distributed over time.

Provide feedback on practice sessions.

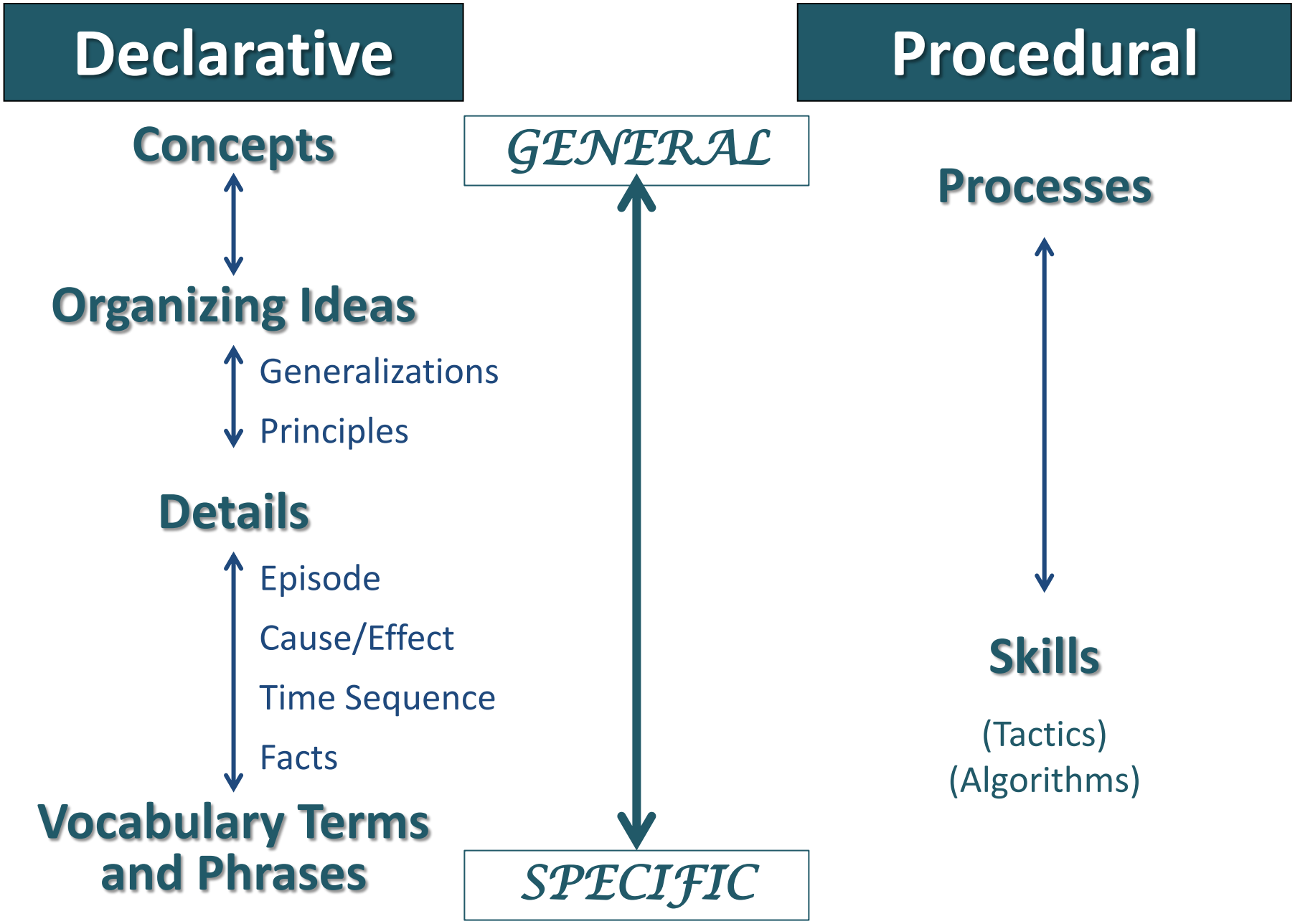
Group Discussion: Think of the content area(s) that you teach

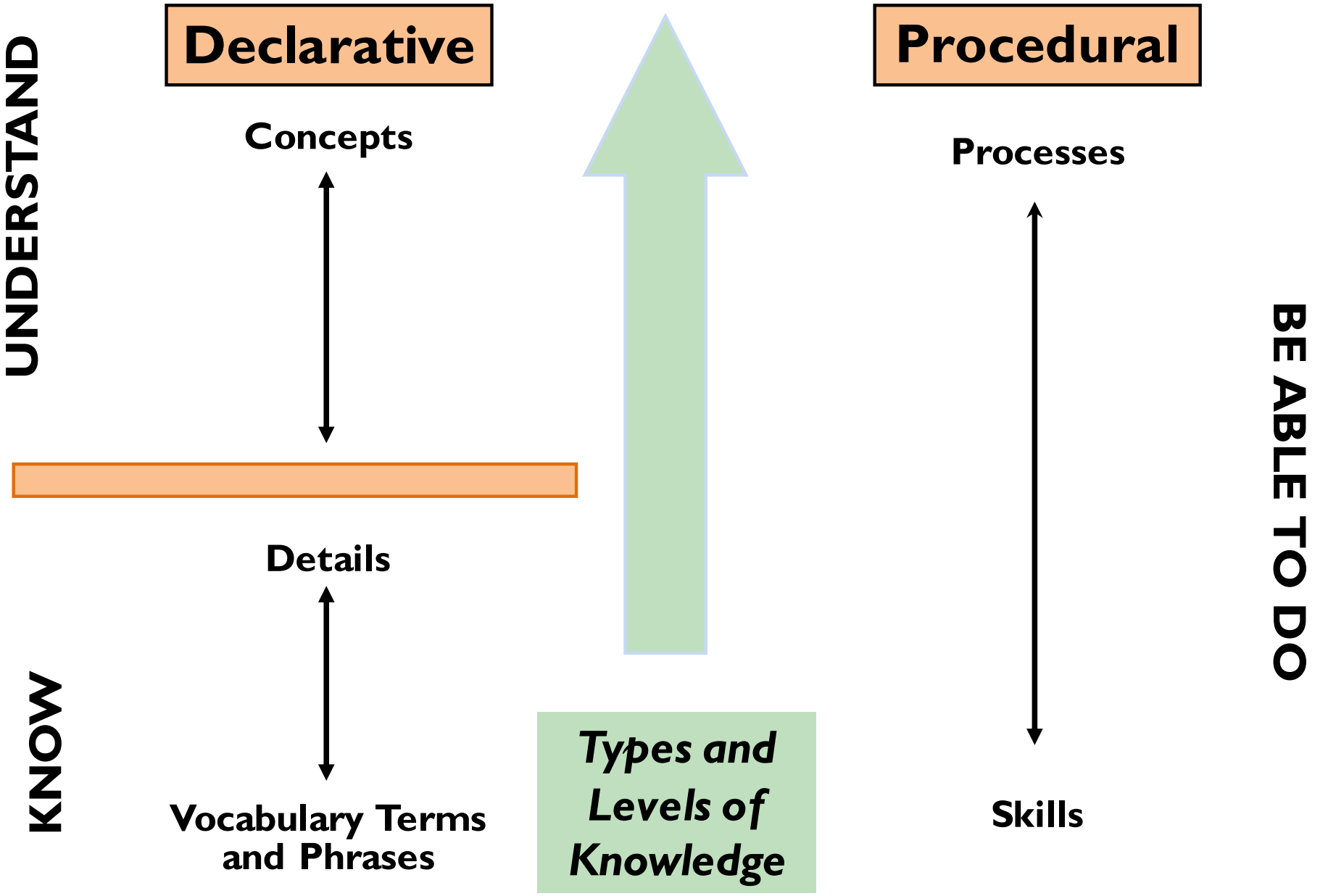
What skills/processes would you like students to practice once or twice?

What skills/processes would students need to practice until they are proficient in them?

How many practice sessions would it take for students to become proficient in these skills/processes?

How do you decide which skills/processes students will need sustained practice?


Declarative
Procedural
GENERAL
Concepts
Organizing Ideas
Generalizations
Principles
Details
Episode
Cause/Effect
Time Sequence
Facts
Vocabulary Terms and Phrases
SPECIFIC
Processes
Skills
(Tactics)
(Algorithms)


Declarative
Procedural
UNDERSTAND
BE ABLE TO DO
Concepts
Processes
Details
KNOW
Vocabulary Terms and Phrases
Skills
Types and Levels of Knowledge

Connecting Declarative and Procedural Knowledge

Working individually and then with a partner, divide 1 ¾ by ½. Note the vocabulary that is used and the processes involved.

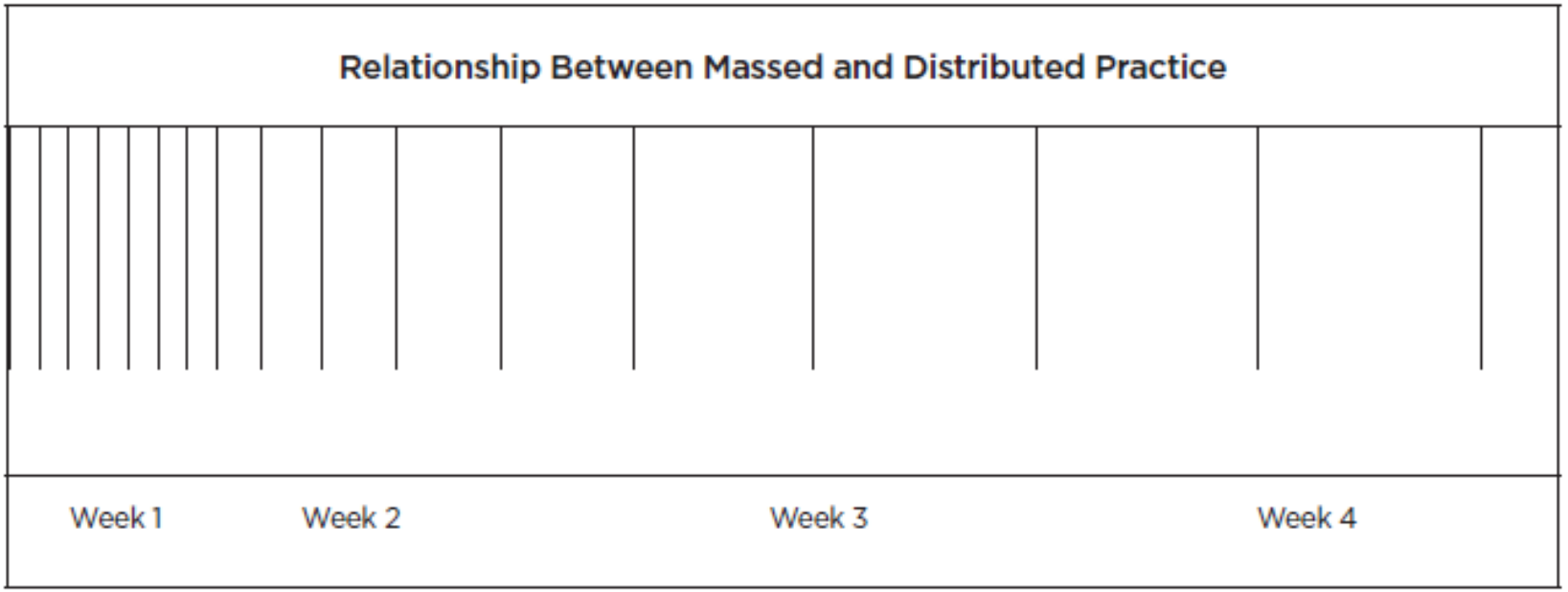
$$1\frac{3}{4} \div \frac{1}{2} =$$

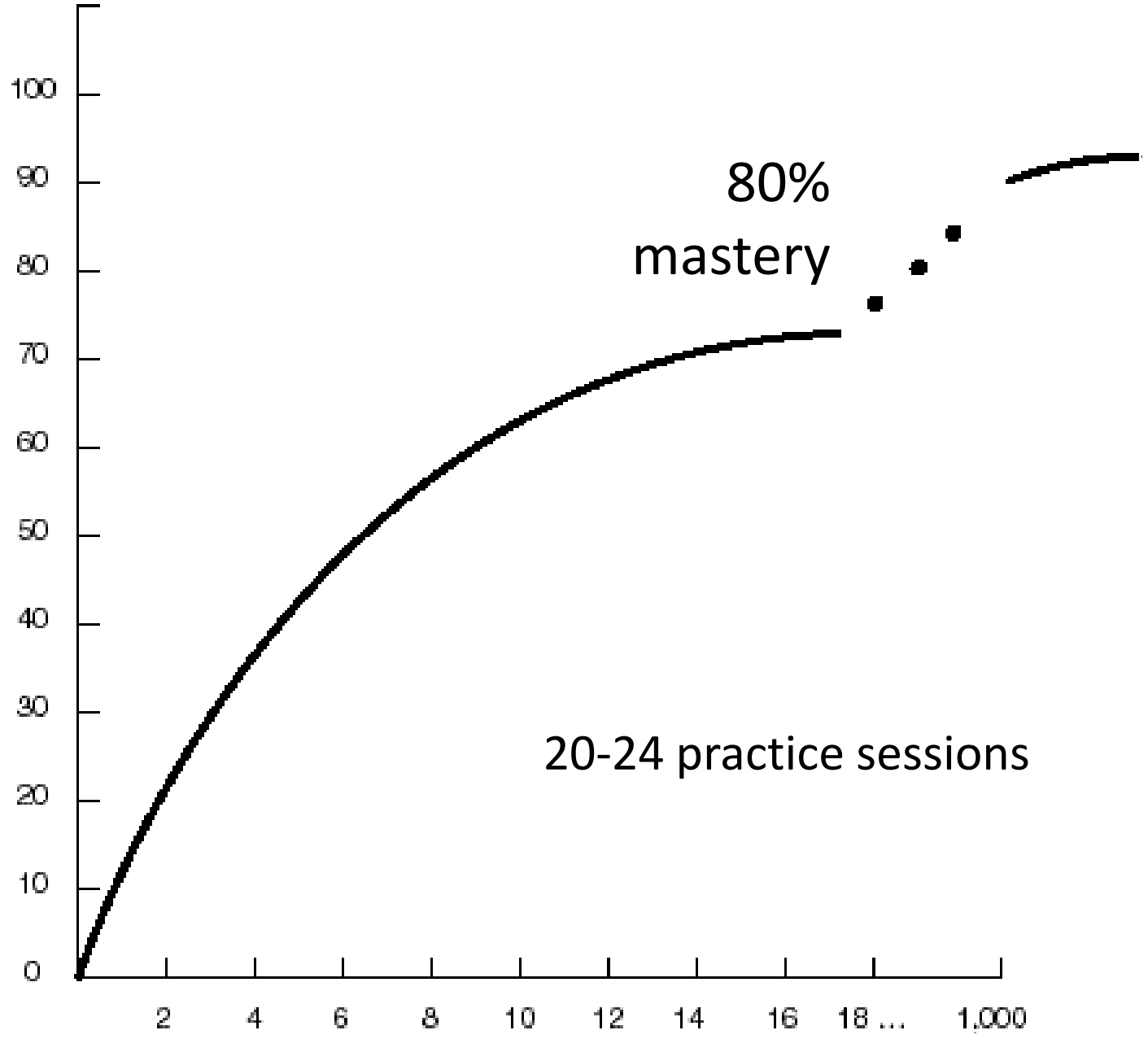
Recommendation Two:

Design practice sessions that are short, focused, and distributed over time.

FIGURE 7.1

Massed and Distributed Practice




100
90
80
70
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50
40
30
20
10
0
2
4
6
8
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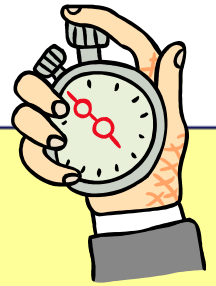
14
16
18 …
1,000
80%
mastery
20-24 practice sessions

Ask students to chart speed and accuracy.



Charting My Speed and Accuracy *Jackson Harwood*		
Number of items in my practice set	Number of items performed correctly	Number of minutes to finish the practice set
5	4	4.5
5	4	4
5	3	3.5
5	4	4
5	5	4
5	5	3.5
10	10	8
10	10	7.5

Help students shape a skill or process

1. Help students understand the importance of shaping and adapting skills and processes.

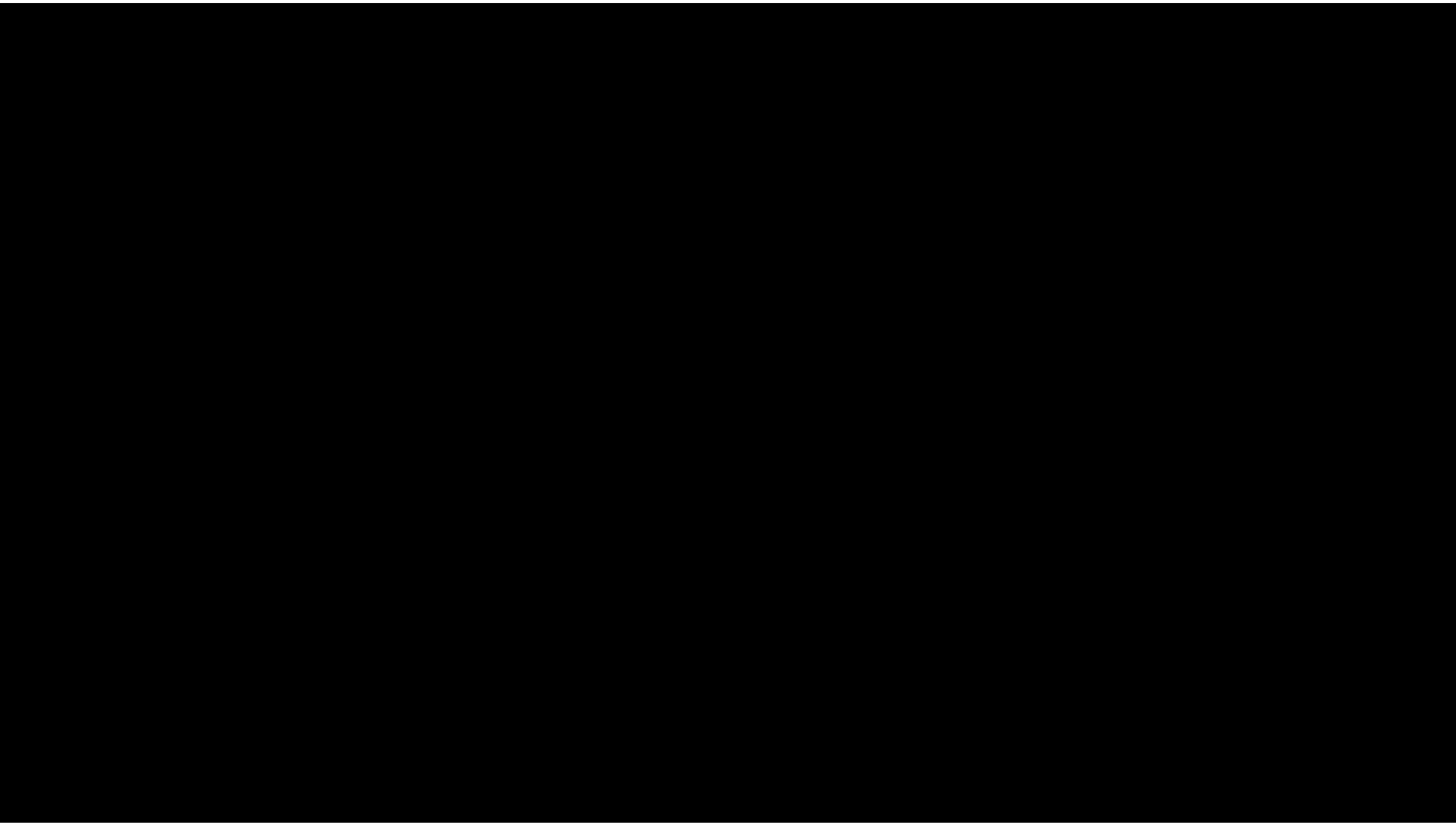
2. Help students to practice using the important variations of the skill or process.

3. Explain the reason for some of the common errors that people make when using the skill or process.

4. Help students understand important concepts related to the use of the skill or process.

The Flipped Classroom

Khan Academy

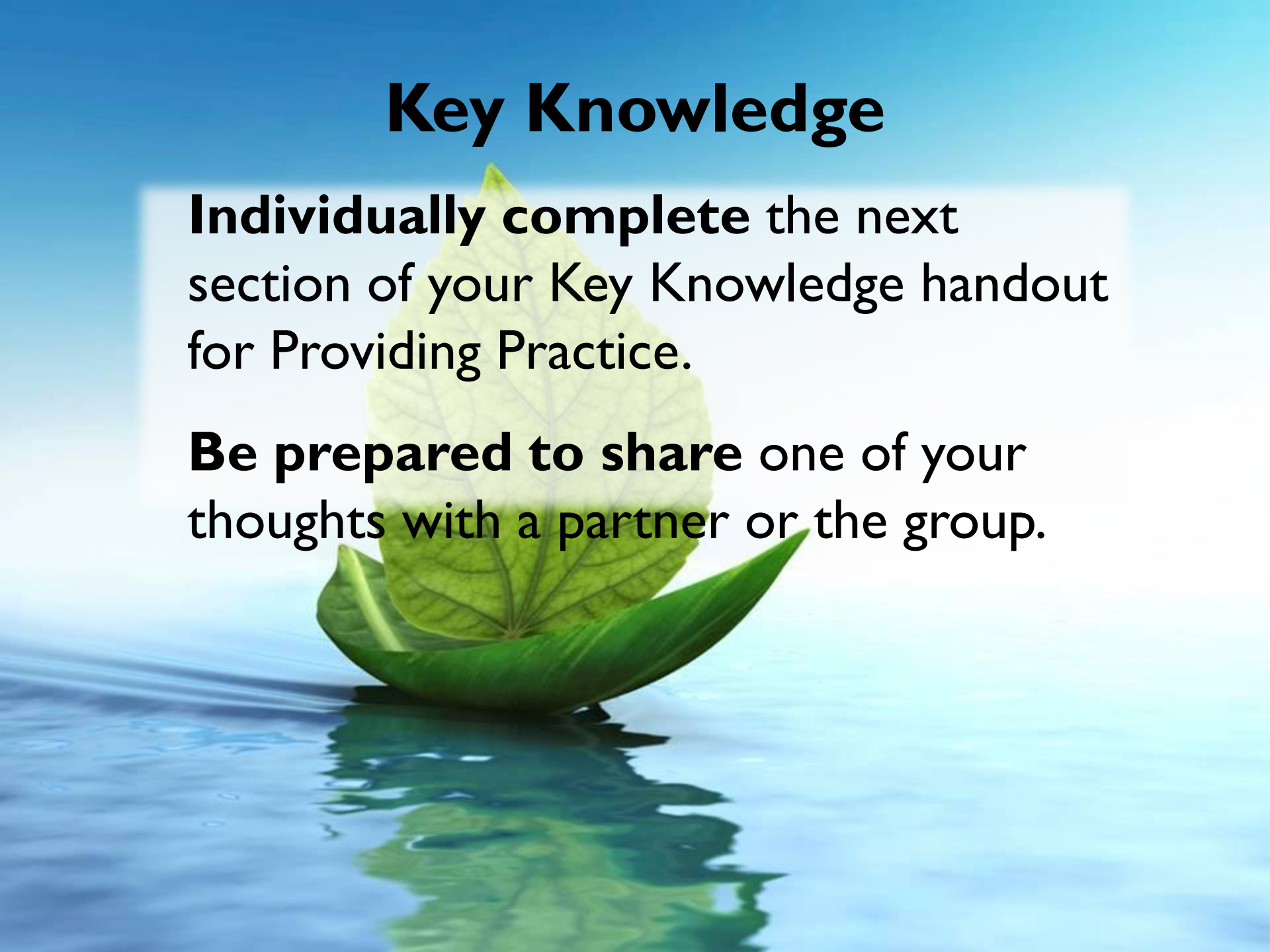


Khan Academy

Key Knowledge

Individually complete the next section of your Key Knowledge handout for Providing Practice.

Be prepared to share one of your thoughts with a partner or the group.



Learning Objectives
Day Three

By the end of the learning session, we will:

- ***Know the categories of strategies that comprise the component of Helping Students Develop Understanding and Extend and Apply Knowledge,***
- ***Understand the classroom recommendations for each of the strategies,***
- ***Make connections between and among the strategies,***
- ***Transfer the learning into specific changes in your pedagogy that you will apply in the next two weeks.***

Homework

Reflecting On My Own Beliefs And Practices

What are the purposes of homework?

What kind of homework do I assign my students?

What makes homework effective?

How do I know it has been effective?

Classroom Recommendations

Develop and communicate a district or school homework policy.

Design homework assignments that support academic learning and communicate their purpose.

Provide feedback on assigned homework.

Activity: Read and Comment on the ABC District Homework Policy

- **What are the strengths of the sample homework policy?**
- **What might you add to the policy?**
- **How would having district- and school-level homework policies reduce variability within the system?**

Clarify the purpose of homework

Students should understand the purpose of the homework assignment and how it relates to the *type of knowledge* they are supposed to be learning.

INFORMATION

- Prepare for new learning
- Elaborate on information to increase understanding.

SKILLS/PROCESSES

- Practice to increase accuracy, fluency, and if appropriate, speed.

How do these ideas relate to homework?

Provide feedback on assigned homework.

1. Provide feedback that addresses what is correct and elaborates on what students need to do next.
2. Provide feedback appropriately in time to meet students' needs.
3. Provide feedback that is criterion-referenced.
4. Engage students in the feedback process.

Key Knowledge

Individually complete the next section of your Key Knowledge handout for Assigning Homework.

Be prepared to share one of your thoughts with a partner or the group.

Learning Objectives
Day Three

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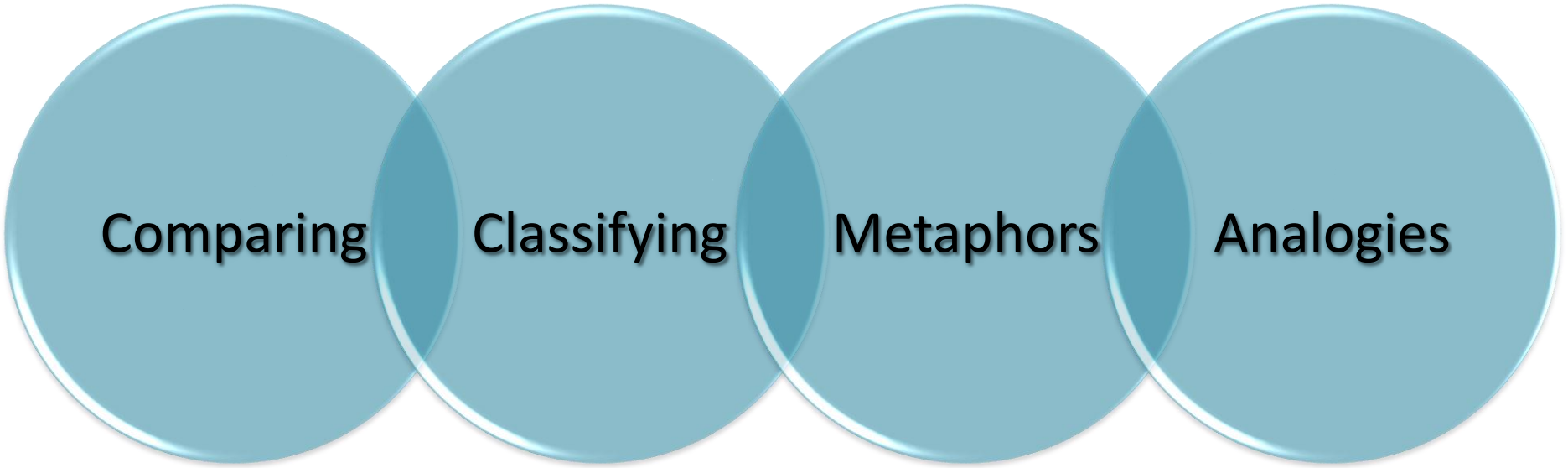
Identifying Similarities and Differences

Identifying Similarities and Differences

Enhances students' understanding of and ability to use knowledge by engaging them in mental processes that involve identifying ways items are alike and different.

The *Sesame Street* Effect

Similarities and differences can be identified through:



Classroom Recommendations

Teach students a variety of ways to identify similarities and differences.

Guide students as they engage in the process of identifying similarities and differences.

Provide supporting cues to help students identify similarities and differences.

Comparing

The process of identifying and articulating similarities and differences among items.

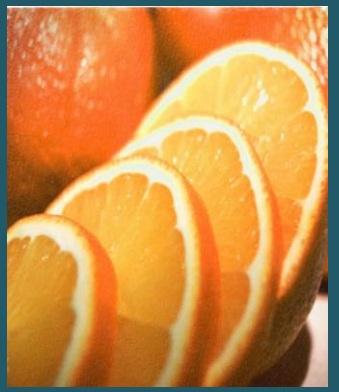
What are the steps in the comparing process?

1. **Select the items you want to compare.**
2. **Select the *characteristics* of the items on which you want to base your comparison.**
3. **Explain how the items are *similar and different with respect to the characteristics* you selected.**

Identifying Similarities and Differences

Characteristics:

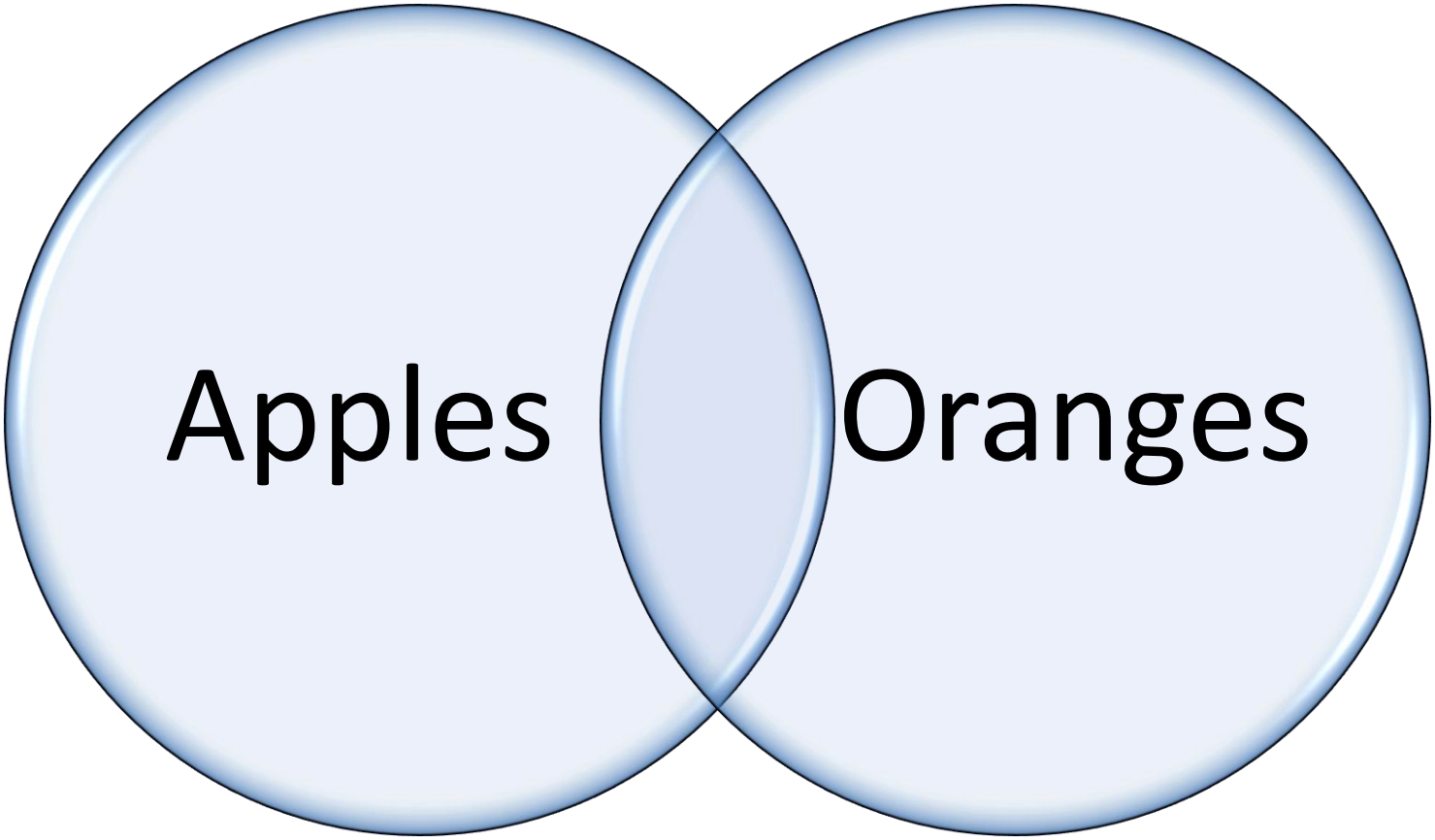
- Color
- Size
- Shape
- ***Function***
- Component Parts



Apples and oranges are the same because…

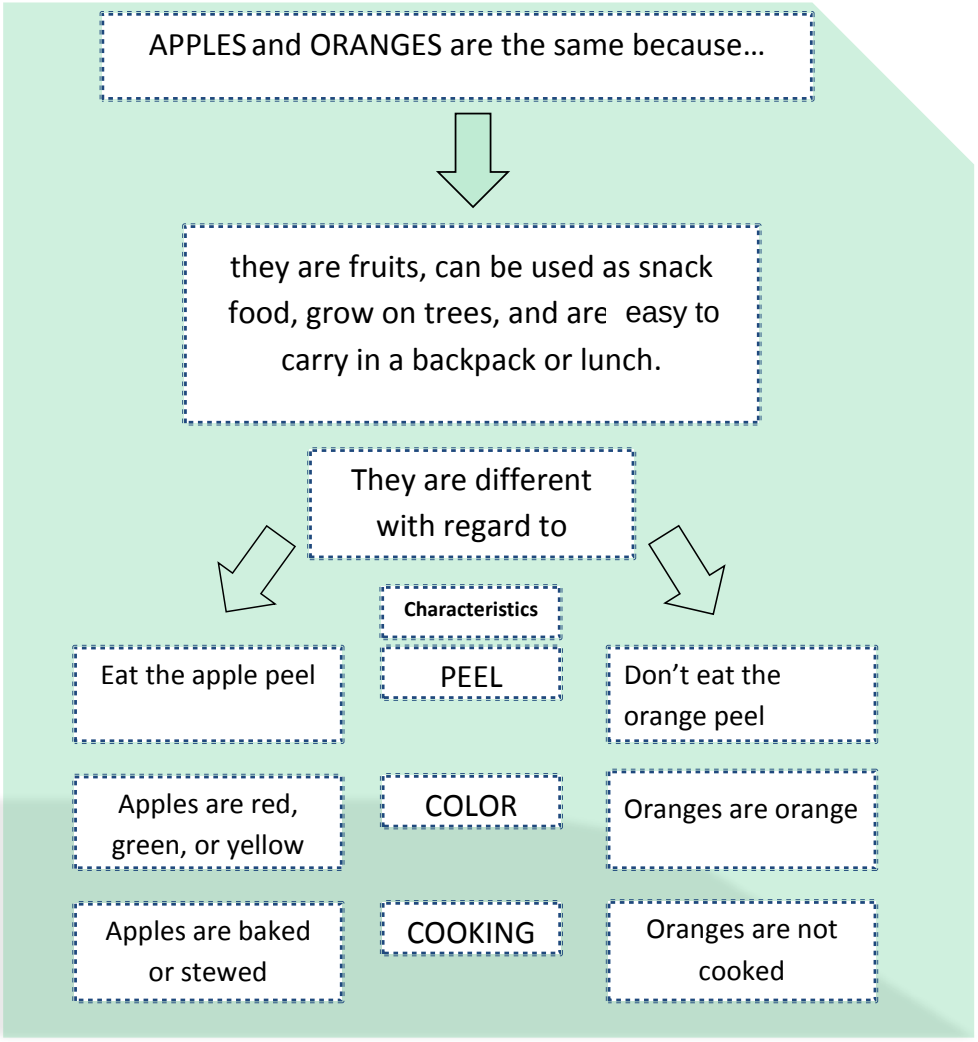
Apples and oranges are different because…

Compare apples and oranges as a snack food



Summary:

Graphic Organizer for Comparing



Comparison Matrix

Characteristics	Item 1	Item 2	Item 3	Comparisons
				Similarities
				Differences
				Similarities
				Differences
				Similarities
				Differences
				Similarities
				Differences

Summary:

Comparison Matrix

Characteristics	High School	College	Work	Comparisons
Lifestyle				Similarities
				Differences
Friends				Similarities
				Differences
Obligations				Similarities
				Differences
Other characteristic(s)				Similarities
				Differences

Summary:

Comparison Matrix

Items / Characteristics	High School	College	Work After College	Comparisons
Lifestyle	Needed money to spend for important items.			Similarities
	Used money from my parents.	Used money from my parents and that I earned.	Used money that I earned.	Differences
Friends	Friends are important in my life.			Similarities
	My friends close to my age	Few of my friends are older and younger	Friends from all age groups.	Differences
Obligations	Responsibilities and obligations to myself and others.			Similarities
	Mostly for family and close friends	Family, friends, and growing group of others.	Enlarged family, friends, colleagues, and strangers.	Differences

Comparison Matrix

Characteristics	WWII	Korean War	Viet Nam Conflict	Comparisons
Combat				Similarities
				Differences
Medical Care				Similarities
				Differences
Communication				Similarities
				Differences
(Other characteristic)				Similarities
				Differences

Key Knowledge

Individually complete the section for Comparing on your Key Knowledge handout.

Be prepared to share one of your thoughts with the group.

Learning Objectives
Day Three

By the end of the learning session, we will:

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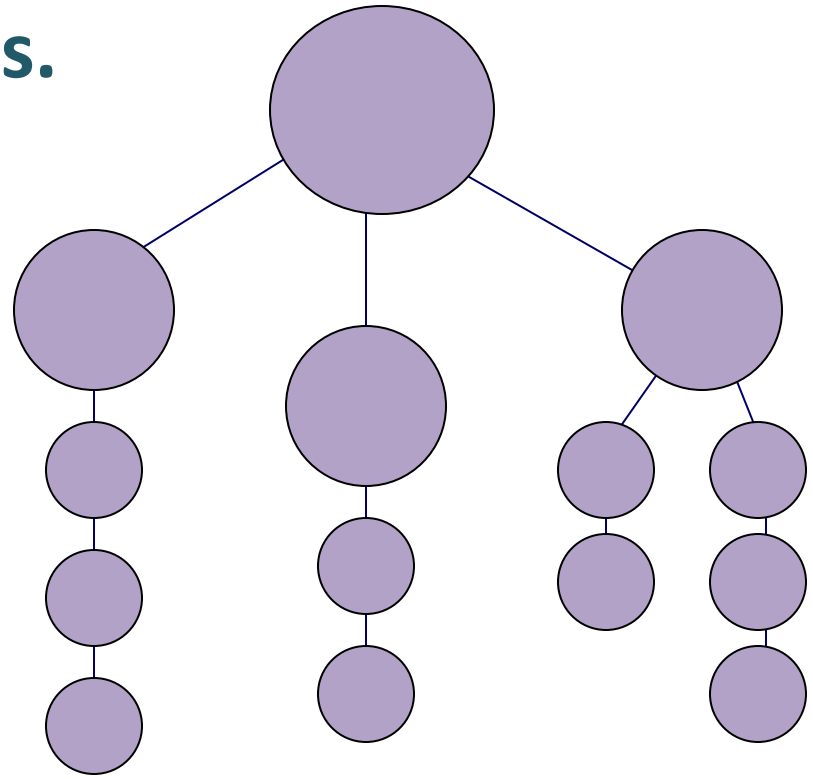
Classifying

The process of grouping things into definable categories on the basis of their attributes.



Classroom Recommendations

Teach students a variety of ways to identify similarities and differences.

Guide students as they engage in the process of identifying similarities and differences.

Provide supporting cues to help students identify similarities and differences.

Steps in Classifying

Identify the *items* you want to classify.

Select what seems to be an important item, *describe its key attributes*, and identify *other items* that have the same attributes.

Create a *category* by specifying the attribute(s) that the items must have for membership in this category.

Steps in Classifying

Select another item, describe its key attributes, and identify other items that have the same attributes.

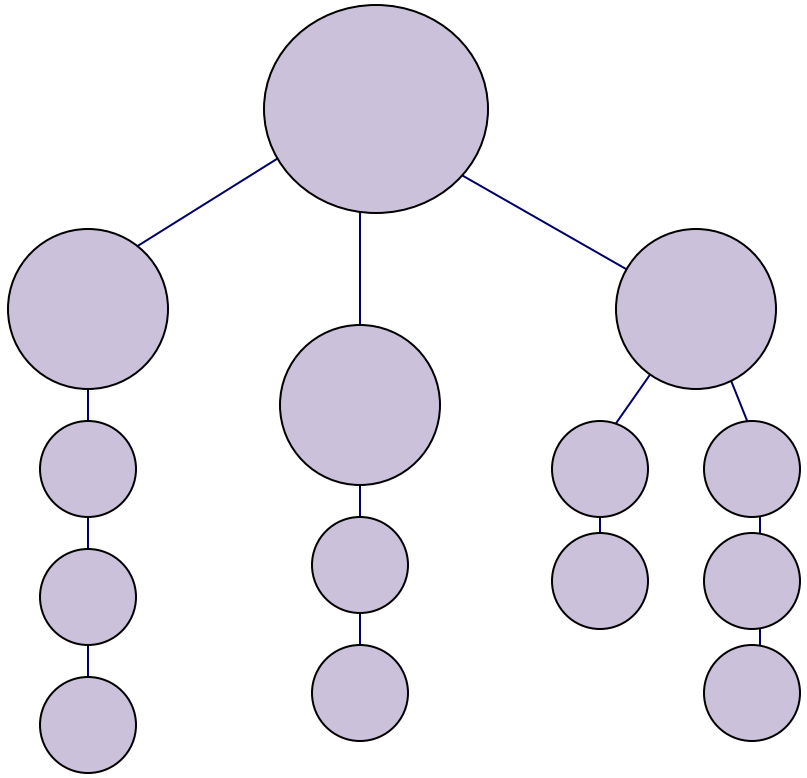
Create the second category by specifying the attribute(s) that the items must have for membership in the category.

Repeat the previous two steps until all items are classified.

If necessary, *combine categories or split* them into smaller categories and specify attribute(s) that determine membership in the category.

Graphic Organizers for Classifying

Categories



Classifying Activity

1. Working with the people at your table, contribute three publically acceptable items from your pocket, purse, backpack, or bag.
2. Using the steps for classifying, group the items into categories based upon identifiable characteristics.
3. Determine which graphic organizer would best capture the categories created.

Classify the Following Geography Terms

Basin	Harbor	Plateau
Bay	Highland	Port
Canal	Hill	Prairie
Canyon	Isthmus	Rain Forest
Cape	Lowland	Reservoir
Channel	Marsh	Strait
Delta	Mountain	Stream
Divide	Range	Swamp
Fjord	Peak	Tundra

Key Knowledge

Individually complete the section for Classifying on your Key Knowledge handout.

Be prepared to share one of your thoughts with the group.

Learning Objectives
Day Three

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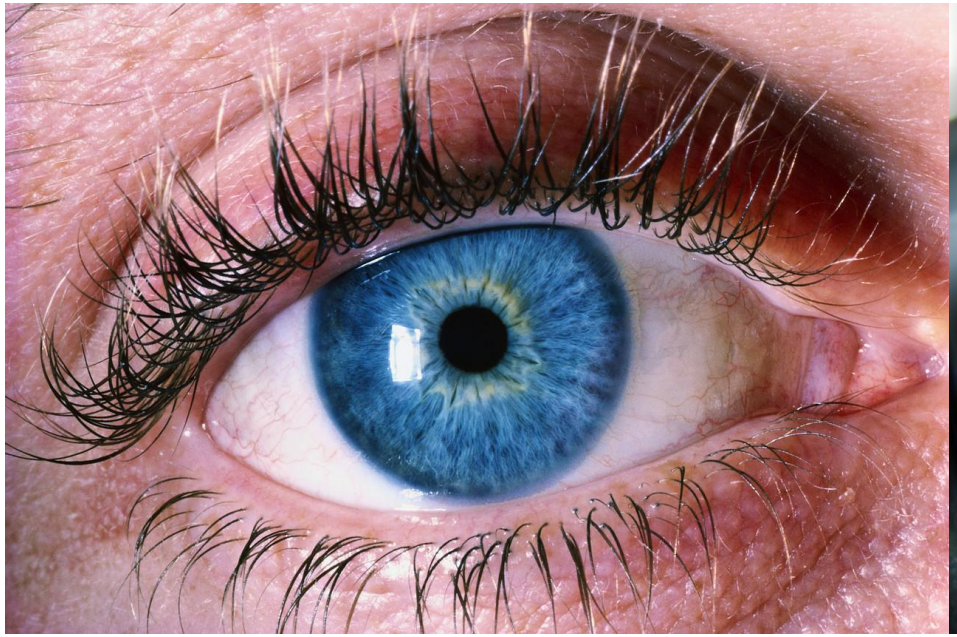
Creating Metaphors



The process of identifying and articulating the underlying theme or general pattern in information.

Classroom Recommendations

Teach students a variety of ways to identify similarities and differences.

Guide students as they engage in the process of identifying similarities and differences.

Provide supporting cues to help students identify similarities and differences.

Steps for Creating Metaphors

Identify the *important or basic* elements of the information or situation with which you are working

Write that basic information as a more *general pattern* by

⇩

replacing words for specific things with words for more general things;

⇩

summarizing information whenever possible.

Find new information or a situation to which the *general pattern applies*

Metaphors

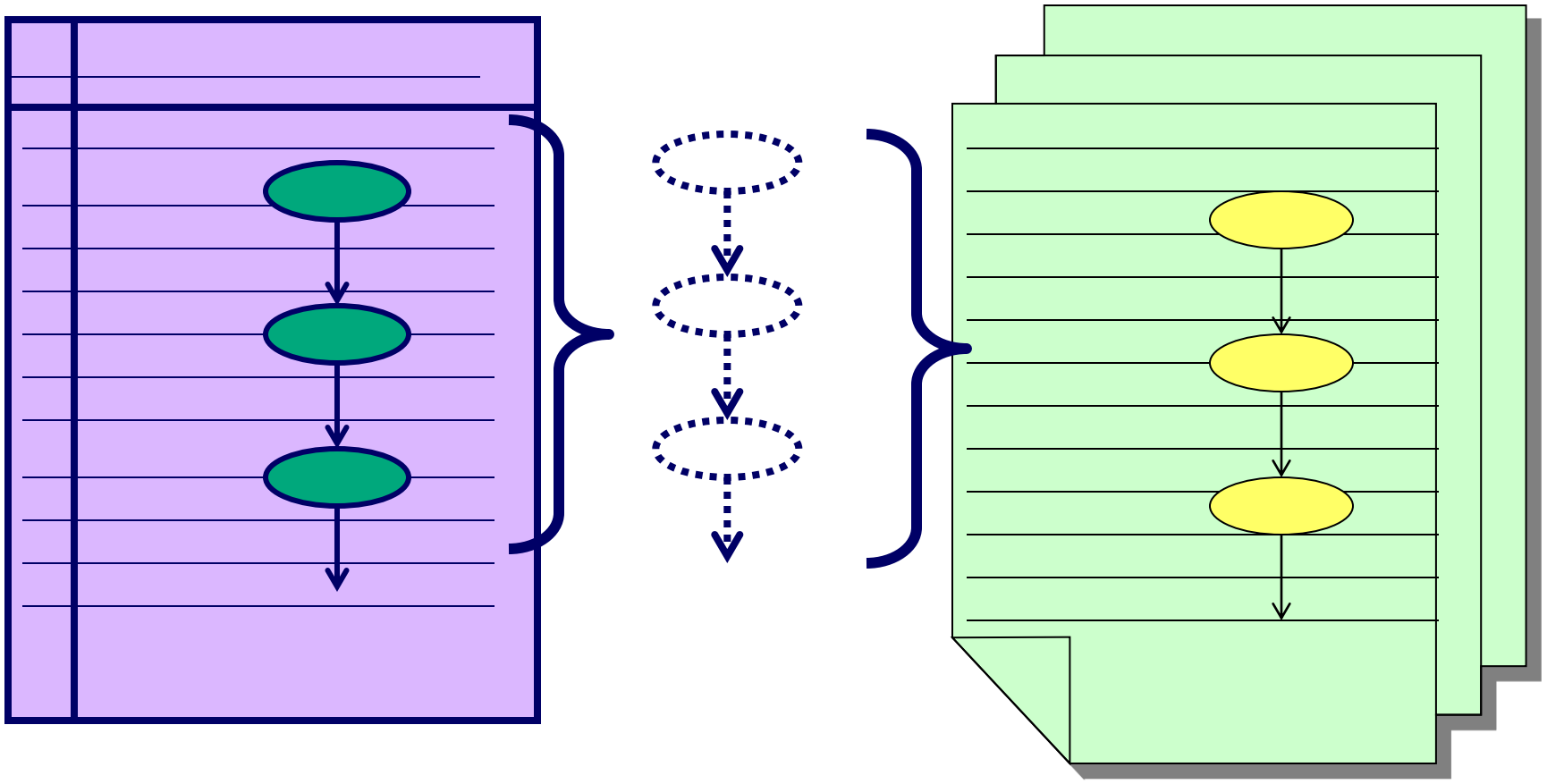
Pattern for metaphors is A is B

Example: *Love is a rose.*

To deepen your understanding of how metaphors can be used in the classroom, read Mrs. Cleaver's example on page 255-256 in the Handbook.

Important or Basic Information	General Pattern	General Pattern in New Information or Situation

Step 1 *Step 2* *Step 3*



Graphic Organizer for Metaphors

Basic or important information	General pattern	New situation basic or important information

When C.L. Sholes was inventing a typewriting machine in the early 1870's, he found that the machine jammed if he typed too fast.

So he deliberately arranged the position of the letters in a way that forced typists to work slowly.

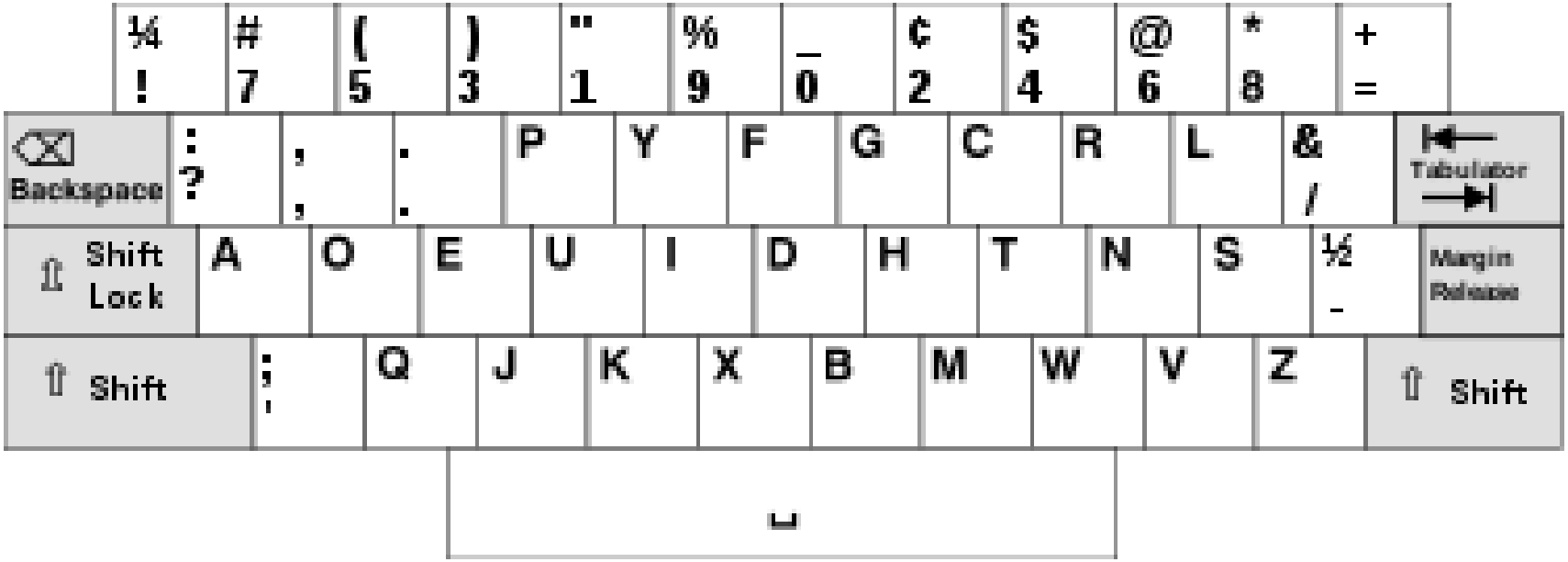
Nevertheless, Sholes' typewriter design was a great improvement over earlier models, and it was soon in use all over the world.

Today, nearly all keyboards look like the one Sholes devised in 1872.

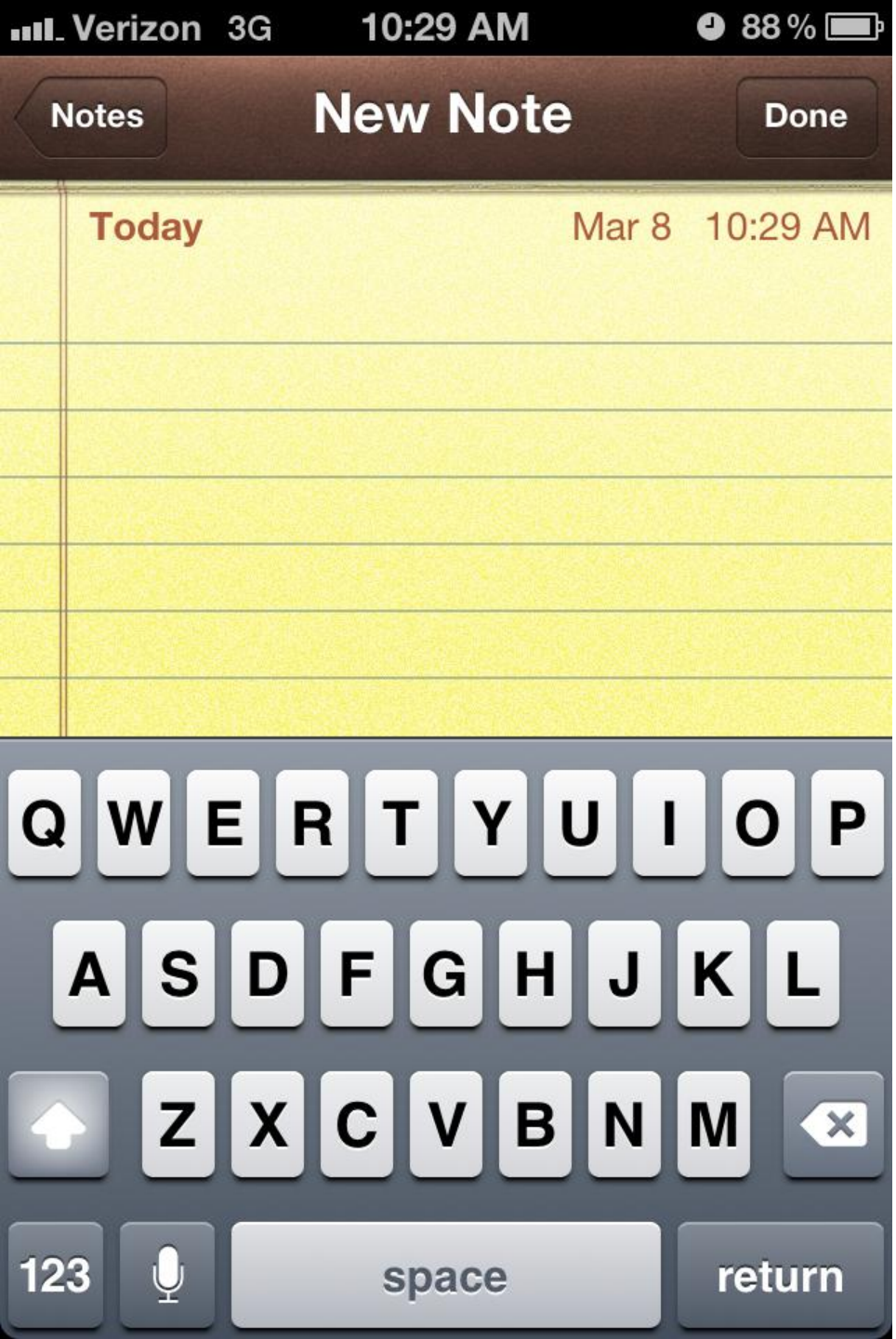
The letter arrangement is called QWERTY, after the five left-hand keys in the top letter row.

Unfortunately, the QWERTY arrangement slows typing and encourages errors.

August Dvorak produced another design in 1930 which proved in several tests to be much faster and more accurate than QWERTY.

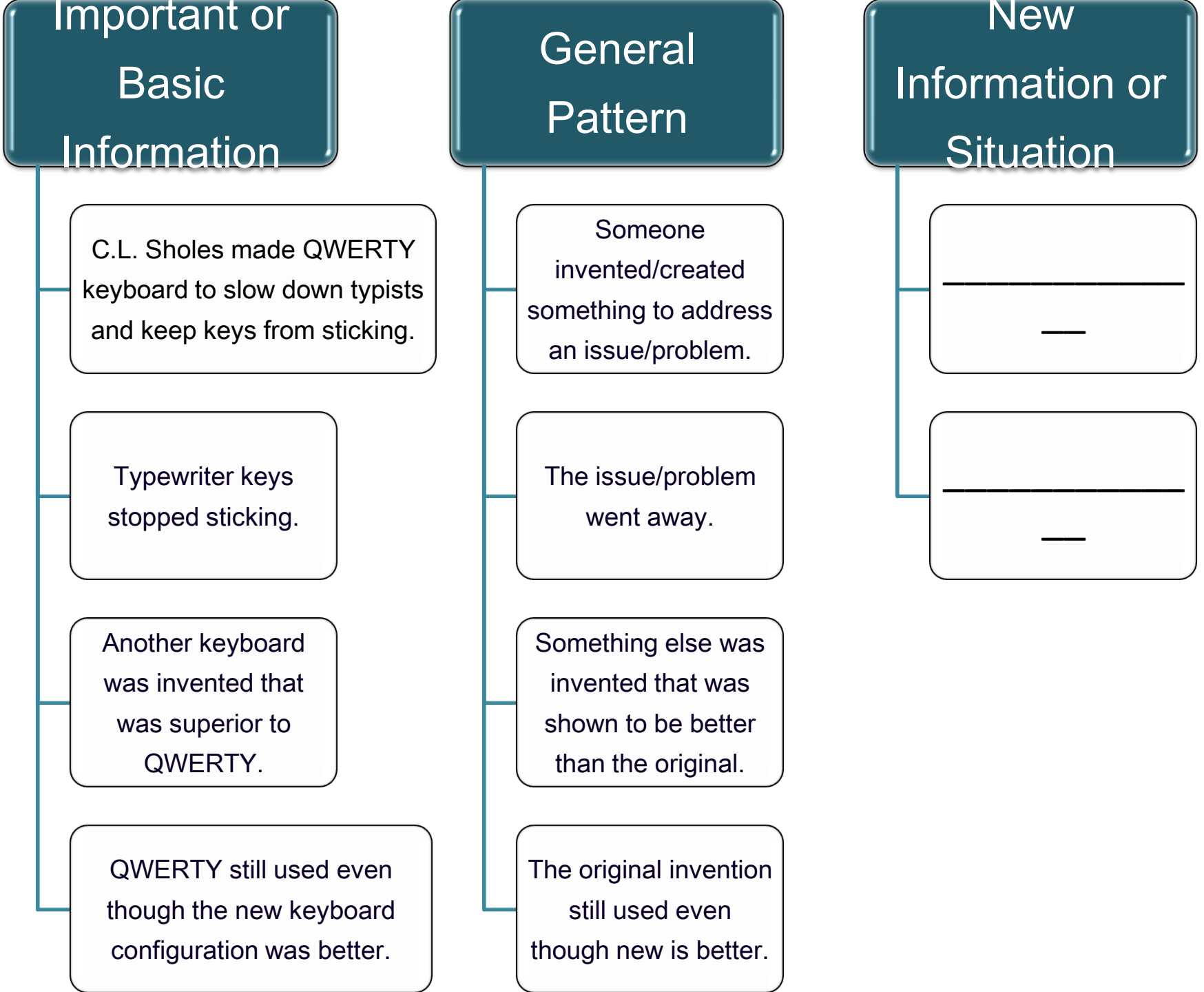


Dvorak keyboard image courtesy Wikipedia



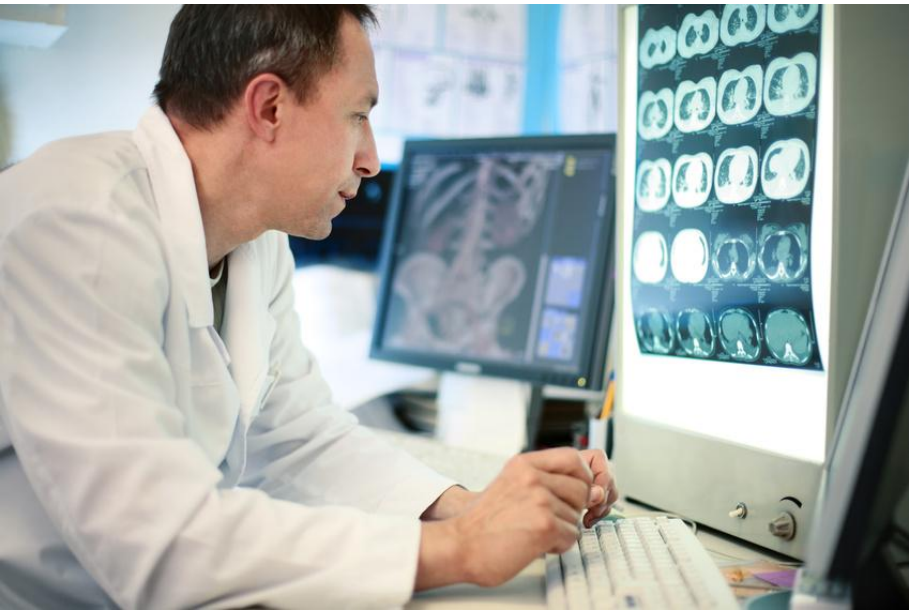
Millions of people have learned the QWERTY keyboard, however, and it is being taught to students in schools to this day.

So, it seems that we will continue to live with this 19th century invention.


Important or Basic Information
C.L. Sholes made QWERTY keyboard to slow down typists and keep keys from sticking.
Typewriter keys stopped sticking.
Another keyboard was invented that was superior to QWERTY.
QWERTY still used even though the new keyboard configuration was better.
General Pattern
Someone invented/created something to address an issue/problem.
The issue/problem went away.
Something else was invented that was shown to be better than the original.
The original invention still used even though new is better.
New Information or Situation
_____
_____

The Tumor and the Fortress

Basic	General Pattern	New Basic



The Tumor and the Fortress

Basic	General Pattern	New Basic
1. **Man had a tumor that couldn't be removed** 2. **Strong radiation that will kill the tumor but will also kill other tissue** 3. **Less radiation will not harm other tissues, but will not kill the tumor.**		

The Tumor and the Fortress

Basic	General Pattern	New Basic
1. Man had a tumor that couldn't be removed 2. Strong radiation that will kill the tumor but will also kill other tissue 3. Less radiation will not harm other tissues, but will not kill the tumor.		1. Evil ruler has a fortress 2. Can't attack the fortress from one direction because will destroy the land 3. Can attack the fortress from several directions at the same time

The Tumor and the Fortress

Basic	General Pattern	New Basic
1. Man had a tumor that couldn't be removed 2. Strong radiation that will kill the tumor but will also kill other tissue 3. Less radiation will not harm other tissues, but will not kill the tumor.	1. Something bad must be destroyed 2. If only one means is used only bad will occur 3. Coming at the problem from different approaches will lead to success	1. Evil ruler has a fortress 2. Can't attack the fortress from one direction because will destroy the land 3. Can attack the fortress from several directions at the same time

Creating Metaphors

With a partner, create a metaphor for these terms:

- Mouse
- Web 2.0
- Internet
- Keyboard
- Wiki
- Blog
- RSS Feed Aggregator

Share your metaphors with a nearby team. Justify why each metaphor works.

Key Knowledge

Individually complete the section for Creating Metaphors on your Key Knowledge handout.

Be prepared to share one of your thoughts with the group.

Learning Objectives
Day Three

By the end of the learning session, we will:

- ***Know the categories of strategies that comprise the component of Helping Students Develop Understanding and Extend and Apply Knowledge,***
- ***Understand the classroom recommendations for each of the strategies,***
- ***Make connections between and among the strategies,***
- ***Transfer the learning into specific changes in your pedagogy that you will apply in the next two weeks.***

Analogies

The process of identifying relationships between pairs of concepts (e.g., relationships between relationships).

is to Paris

as

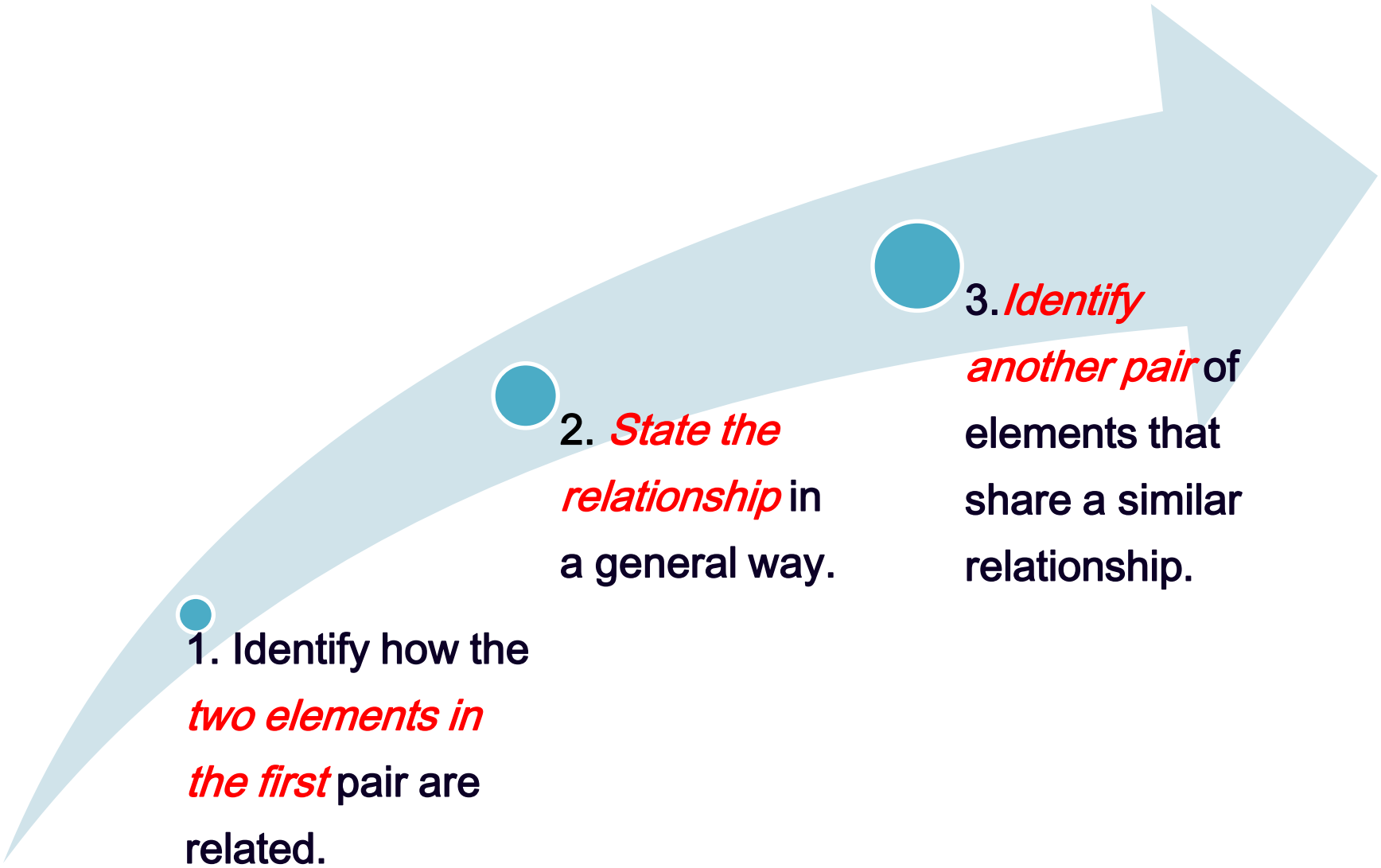
? is to your city

Complete this analogy.

Recommendations for Classroom Practice

1. Teach students a variety of ways to identify similarities and differences.
2. Guide students as they engage in the process of identifying similarities and differences.
3. Provide supporting cues to help students identify similarities and differences.

Steps for Creating Analogies



Analogies

Pattern is:

A is to B

AS *(relationship)*

C is to D

Types of Analogies

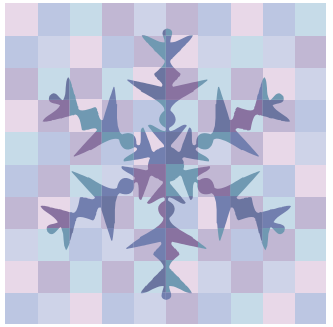
- **Opposite**
- **Change**
- **Principle**
- **Quantity/Size**
- **Part to whole**

Analogy of the Day

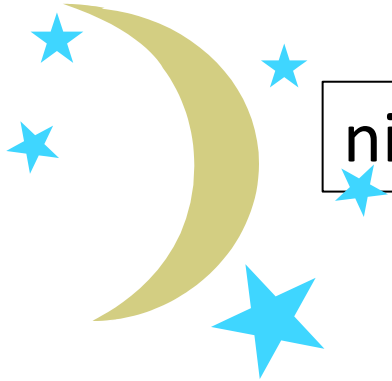
hot

is to

cold



relationship

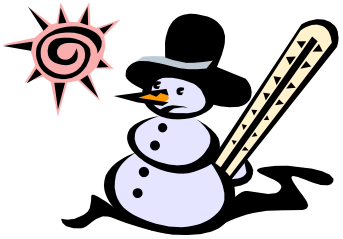


night

Is to

???

thermometer is to temperature



Relationship: _____

as

speedometer is to

Mason is to stone as…

- Soldier is to weapon
- Lawyer is to law
- Blacksmith is to forge
- Teacher is to pupil
- Carpenter is to wood

Mason is to stone as…

- Soldier is to weapon
- Lawyer is to law
- Blacksmith is to forge
- Teacher is to pupil
- Carpenter is to wood

Complete this Analogy

Research-based instructional strategies are to

student learning

as

_____ is to _____.

Jigsaw

1. Number off by 4's and jigsaw the four strategies.
2. Move into expert groups to discuss how the strategy assigned to your group helps students achieve deeper and more enduring understanding. Summarize what has been learned.
3. Return to your original group and share your summary statements.
4. You have 20 minutes for this activity.

Key Knowledge

Individually complete the section for Creating Analogies on your Key Knowledge handout.

Be prepared to share one of your thoughts with a the group.

Learning Objectives
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Generating and Testing Hypotheses

Enhance students' understanding of and ability to use knowledge by engaging them in mental processes that involve making and testing hypotheses.

As a result of generating and testing hypotheses, students:

Are better able to transfer knowledge to new situations

Have a clearer understanding of lesson concepts

Are better able to make connections between content and other situations

Inductive vs. Deductive

- ***Inductive Instruction*** – This type of instruction provides students with an opportunity to discover on their own. **The downside is that many students stray from the main questions and learning. Misconceptions can easily form.** Smaller percentile gain (.40 approximately 13 percentile points)
- ***Deductive Instruction*** – Provides students with a more complete learning framework. Students receive explicit instruction. Larger percentile gain (.60 approximately 21 percentile points)

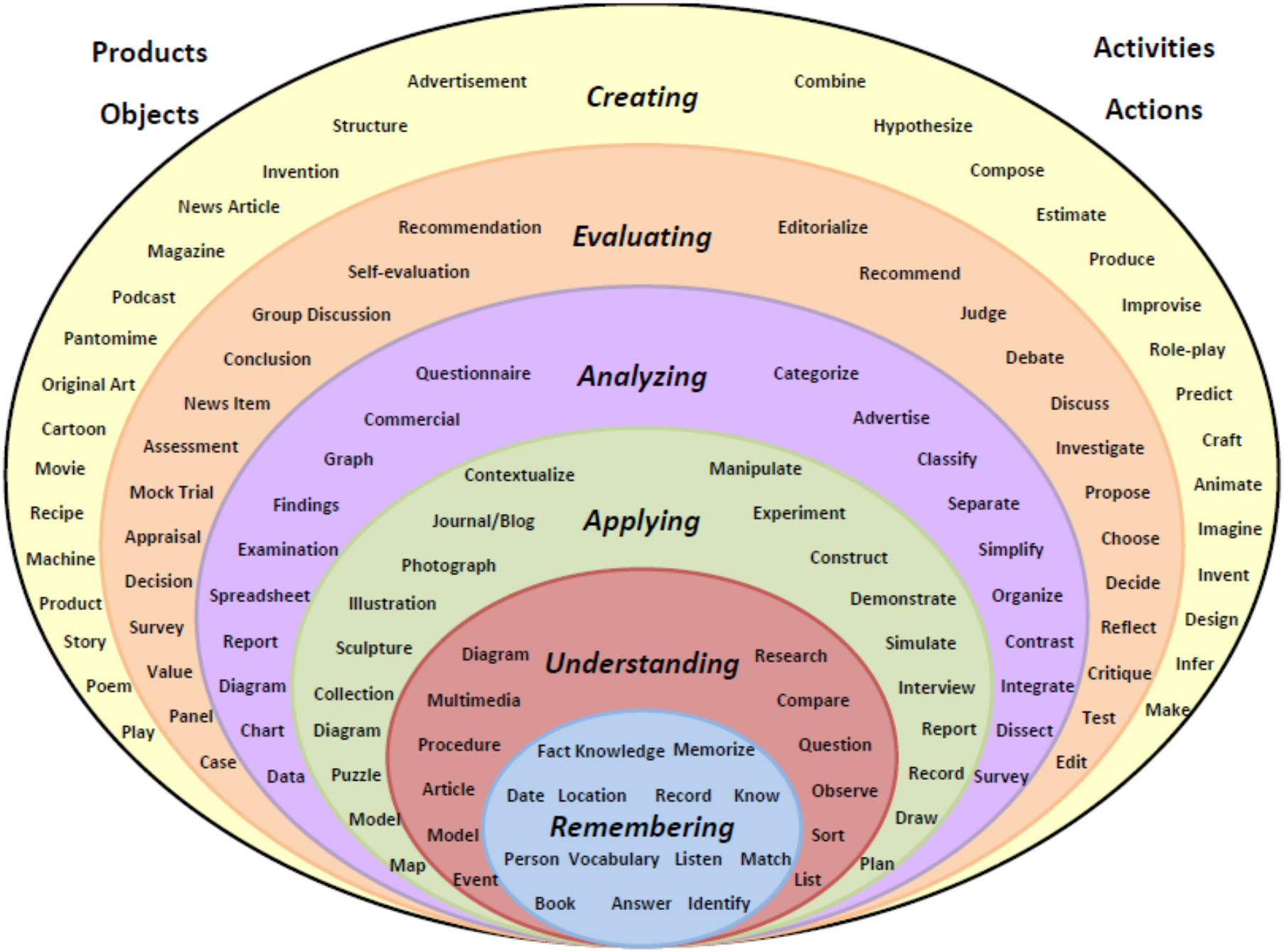
Classroom Recommendations

Engage students in a variety of structured tasks for generating and testing hypotheses.

Ask students to explain their hypotheses and their conclusions

Bloom's Taxonomy

Creating:	Can the student create new product or point of view?	assemble, construct, create, design, develop, formulate, write
Evaluating:	Can the student justify a stand or decision?	appraise, argue, defend, judge, select, support, value, evaluate
Analyzing:	Can the student distinguish between the different parts?	appraise, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, synthesize, test
Applying:	Can the student use the information in a new way?	choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write
Understanding:	Can the student explain ideas or concepts?	classify (given categories), describe, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase
Remembering:	Can the student recall or remember the information?	define, duplicate, list, memorize, recall, repeat, reproduce, state


Products
Objects
Activities
Actions
Creating
Evaluating
Analyzing
Applying
Understanding
Remembering
Advertisement
Structure
Invention
News Article
Magazine
Podcast
Pantomime
Original Art
Cartoon
Movie
Recipe
Machine
Product
Story
Poem
Play
Panel
Case
Data
Chart
Diagram
Value
Survey
Decision
Appraisal
Mock Trial
Assessment
News Item
Conclusion
Group Discussion
Self-evaluation
Recommendation
Findings
Examination
Spreadsheet
Report
Graph
Commercial
Questionnaire
Contextualize
Journal/Blog
Photograph
Illustration
Sculpture
Collection
Diagram
Puzzle
Model
Map
Event
Diagram
Multimedia
Procedure
Article
Model
Fact Knowledge Memorize
Date Location Record Know
Person Vocabulary Listen Match
Book Answer Identify
Research
Compare
Question
Observe
Sort
List
Combine
Hypothesize
Compose
Estimate
Produce
Improvise
Role-play
Predict
Craft
Animate
Imagine
Invent
Design
Infer
Make
Editorialize
Recommend
Judge
Debate
Discuss
Investigate
Propose
Choose
Decide
Reflect
Critique
Test
Edit
Categorize
Advertise
Classify
Separate
Simplify
Organize
Contrast
Integrate
Dissect
Survey
Manipulate
Experiment
Construct
Demonstrate
Simulate
Interview
Report
Record
Draw
Plan

Generating and Testing Hypotheses

Systems analysis

Problem solving

Investigation

Experimental inquiry

Systems Analysis

- The process of analyzing the parts of a system and the manner in which they interact

Problem solving

- The process of overcoming constraints or limiting conditions that are in the way of pursuing goals.

Investigation

- The process of identifying and resolving issues or events about which there are confusions or contradictions.

Experimental inquiry

- The process of generating and testing explanations of observed phenomena.

Systems Analysis

- The process of analyzing the parts of a system and the manner in which they interact

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Steps for a Systems Analysis

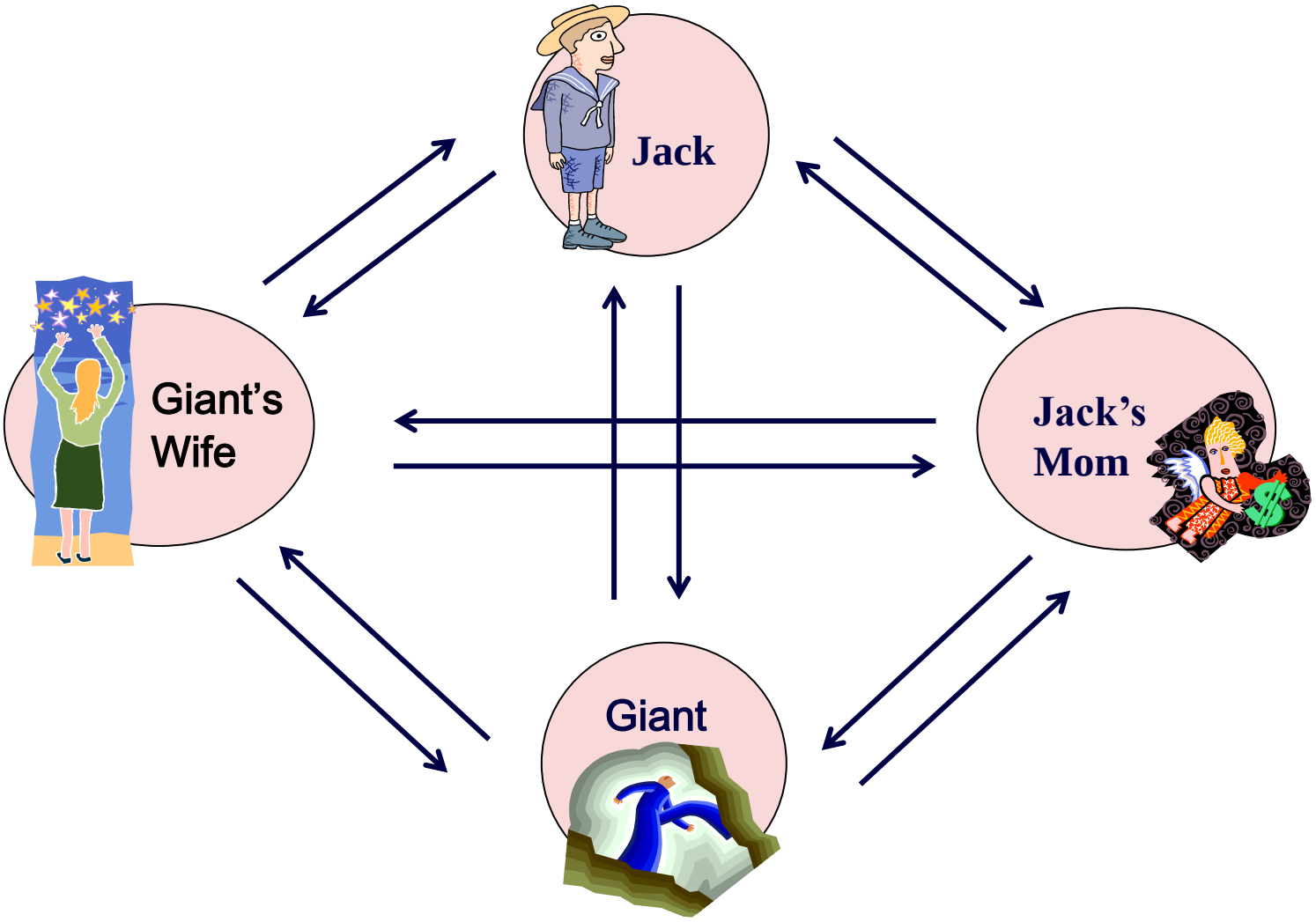
Explain the ***purpose*** of the system, the parts of the system, and the function of each part.

Describe how the ***parts*** affect one another

Identify a part of the system, ***describe a change*** in that part, and then hypothesize what might happen as a result of this change.

When possible, ***test your hypothesis*** by actually changing the part or by considering and describing the effects of the change on the system.

Understanding Relationships: Jack and the Beanstalk



Systems Analysis

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Steps for Problem Solving

Identify the *goal* you are trying to accomplish.

Describe the ***barriers or constraints*** that are preventing you from achieving your goal- that are creating the problem.

Identify different ***solutions*** for overcoming the barriers or constraints and hypothesize which solution is likely to be the most effective.

Try your solution-either in reality or through a simulation.

Explain ***whether your hypothesis was correct.*** Determine if you want to test another hypothesis using a different solution.

Knows the nutritional value of different foods and understand how food-preparation methods affect their nutritional value.

Dad: minimal sugar

Mom: low fat

Sister: vegetarian

Daughter: no dairy

Son: no meat/fish

Systems Analysis

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Steps for Investigations

Clearly ***describe the event*** to be examined.

Identify what is ***known or agreed upon*** and what is ***confusing or contradictory***.

Based on what you understand about the situation, ***offer a hypothesis***.

Seek out and analyze evidence to determine if your hypothetical scenario is possible.

Systems Analysis

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Investigation

- The process of identifying and resolving issues or events about which there are confusions or contradictions.

Experimental inquiry

- The process of generating and testing explanations of observed phenomena.

Steps for Experimental Inquiry

Observe something that interests you and describe what has occurred.

Explain what you have observed. What *theories or rules* could explain what you have observed?

Based on your explanation, make a *prediction.*

Set up an experiment or activity to test your prediction.

Explain the results of your experiment and revise your prediction or conduct another experiment if necessary.

Science Question:

What happens when you drop two objects of equal size but different mass from the same height?

1. What do we believe will happen?

2. What did happen?

3. What is our explanation for what occurred?

4. What else would we like to investigate?

Experimental Inquiry


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Ask students to explain their hypotheses and their conclusions.

To accomplish this, teachers should do the following:

- Provide students with templates for reporting their work, highlighting the areas in which they are expected to provide explanations.
- Provide sentence frames for students (especially young students) that help them articulate their explanations.
- Ask students to create audio recordings in which they explain their hypotheses and conclusions.
- Provide or collaboratively develop rubrics that identify the criteria on which students will be evaluated.
- Provide opportunities for students to create graphic organizers that help them make sense of the material.

Key Knowledge

Individually complete the last section of your Key Knowledge handout for Generating and Testing Hypotheses.

Be prepared to share one of your thoughts with a partner or the group.

Learning Objectives
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Planning for Next Steps

Short-term

- Create two short-term goals for implementing what you have learned during the CITW sessions.

Long-term

- Create two long-term goals for implementing what you have learned during the CITW sessions.

Final Activity
Card Sort

Directions:

- Self select into groups of twos or threes.
- Remove the cards from the bag, shuffle the cards, and place them face up on the table.
- Place the cards with the italicized word(s) in one column and match them with the definition cards.
- Refer to information from the books, handouts, and your notes from the sessions as you create **matched pairs**.

Wrap-up

- Are there any final
  - Questions?
  - Concerns?
  - Comments?
- What are the next steps?
  - Teacher, building, district.

Two questions that students ask every day when they arrive at school…

Will I be accepted?

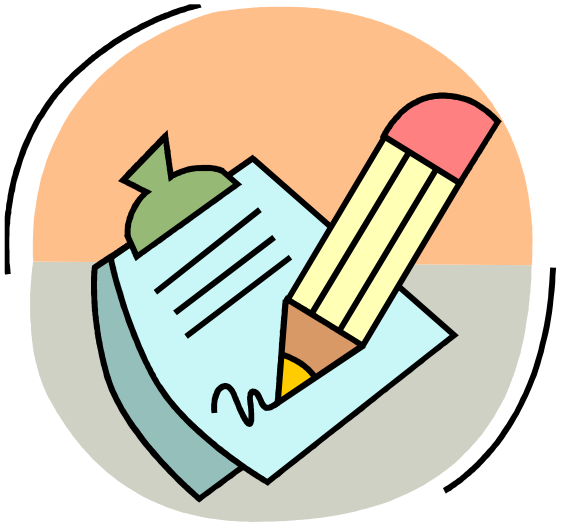
Can I do the work?

Two statements that students say every day when they arrive at school…

I am accepted.

I can do the work.

Please fill out your evaluations



Thank you for another great day!