

DOINGWHATWORKS



SAMPLE MATERIAL

PD Concept Attainment Presentation

Waterford High School, California

Topic: Turning Around Chronically Low-Performing Schools

Practice: Focus on Instruction

This presentation focuses on a new instructional norm—concept attainment. The presentation was used in a staff professional development meeting in Waterford High School. An instructional leader provided an overview followed by small group discussion. Topics covered in this presentation include: Conceptual Clarity, Multiple Examples, Dual Discrimination, and Conceptual Competence. Slides that check for understanding are included along with group activities.

Concept Attainment

*More than just
a slide...*

*Bigger than
Big Idea...*

Stolen in part from the Georgia
Department of Education—Thanks
Georgia...you'll stay on my mind.

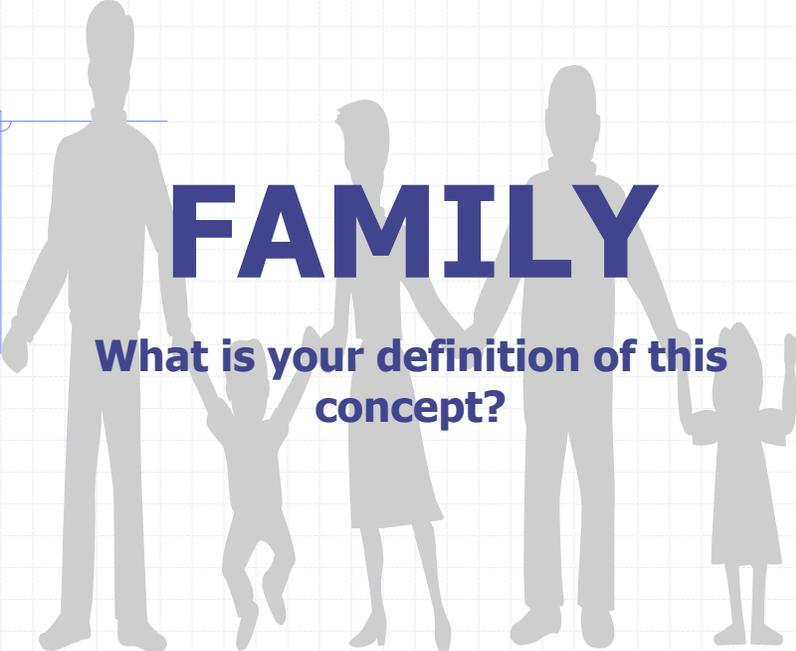
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Objective- Concept Attainment

◆ *Teachers will be able to:*

- List, and give a brief description of each of the principles of concept attainment.
- Apply the principles of concept attainment to an objective from their subject matter

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FAMILY

What is your definition of this concept?

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Concept Attainment is an **inductive** teaching strategy designed to teach concepts and to promote **analytical thinking**.



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“Concepts are the protein of the mind – the **building blocks** of learning. Because the mind connects new concepts to concepts already known, the more concepts you know, the easier it is to learn new concepts. Many believe the number of concepts one knows and understands is the best predictor of success in school.”

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Some Guiding Questions

1. What is a concept?
2. How does the mind attain concepts?
3. How does one teach concepts?

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A concept is an abstract idea that has...

a name or label

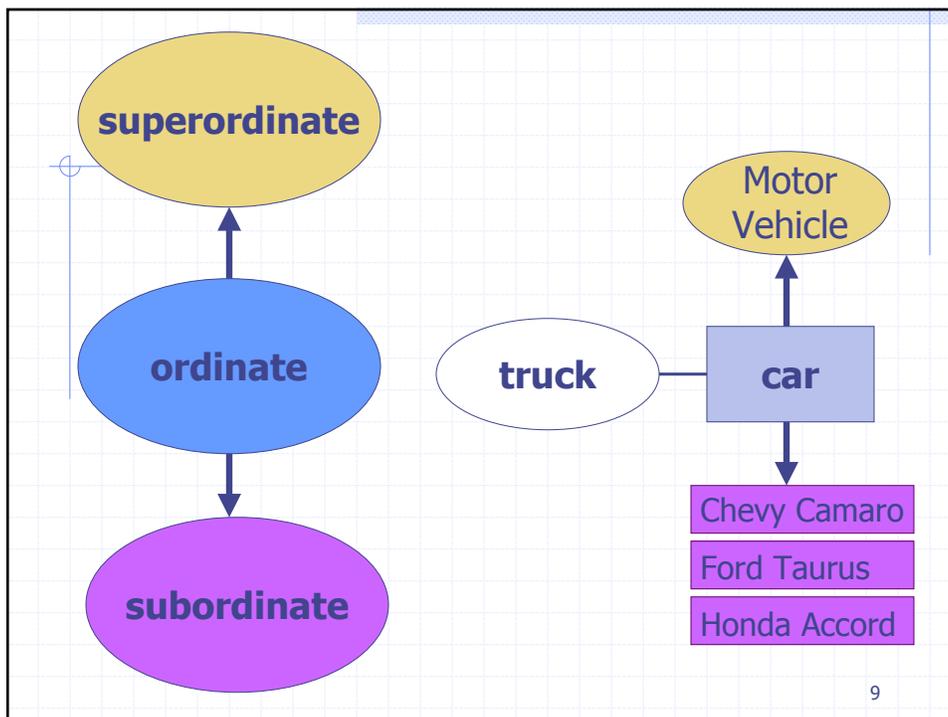
characteristics and critical attributes*

***critical attributes** are those things which distinguish it from other similar concepts.

examples and/or nonexamples

ordinate, subordinate, and superordinate concepts

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CONCEPTS	
season	neighbor
lazy	green
knickers	city
committee	curve
sentence	candle
between	movie
contraction	fire
holiday	honesty
short story	motion
Gravity	grammar
Democracy	exercise

1. In groups, choose a concept.
2. **Label** and **define** the concept. Give **characteristics** and **critical attributes**.
3. Give **examples** and **nonexamples** of the concept.
4. List the **superordinate**, **ordinate**, and **subordinate** concepts.
5. Be prepared to share your work!

A Practical Application

- ◆ Think of 5 concepts from your curriculum students often have difficulty with.
- ◆ Now, choose one of those 5 and repeat the former activity
- ◆ Be ready to share in 5 minutes



Does Lincoln face right
or left on a penny?

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Concepts...

- ◆ reduce the complexity of the environment.
- ◆ reduce the necessity of constant learning.
- ◆ provide direction for instrumental activity.
- ◆ provide building blocks for ordering and relating classes of events.

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PRINCIPLES OF CONCEPT ATTAINMENT

1. Conceptual Clarity

2. Multiple Examples

3. Dual Discrimination

4. Conceptual Competence

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CFU

- Working in pairs...(using espionage if necessary)...
- List, and give a brief description of each of the principles of concept attainment.
- You have 3 minutes...go!

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This is a square.



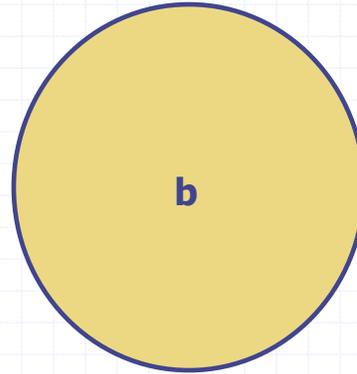
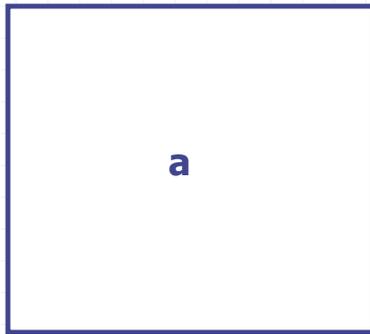
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This is also a square!
(Especially his pants...)



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Which is a square?



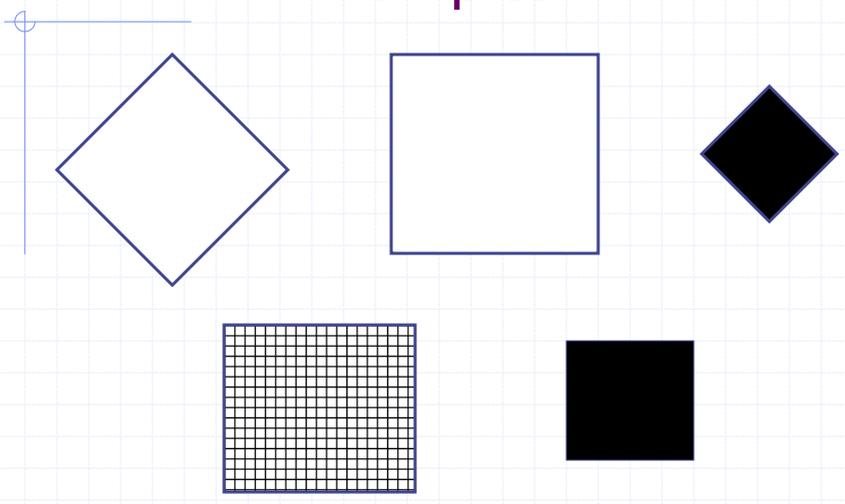
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PRINCIPLES OF CONCEPT ATTAINMENT

1. Conceptual Clarity
- 2. *Multiple Examples***
3. Dual Discrimination
4. Conceptual Competence

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Examples

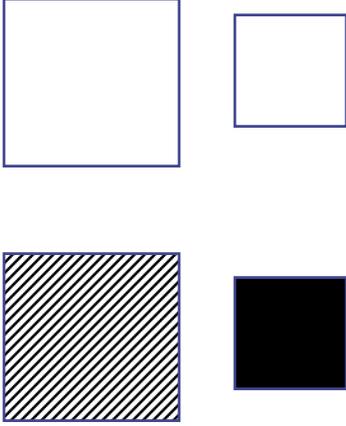
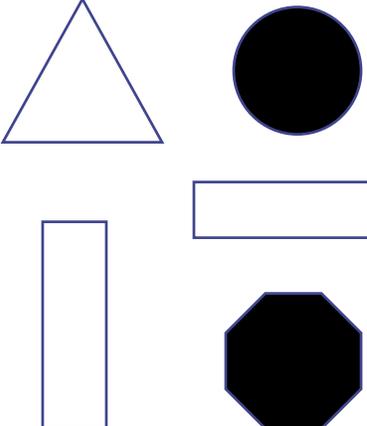


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PRINCIPLES OF CONCEPT ATTAINMENT

1. Conceptual Clarity
2. Multiple Examples
- 3. *Dual Discrimination***
4. Conceptual Competence

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EXAMPLES	NONEXAMPLES
	

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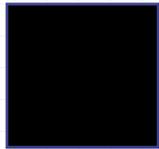
PRINCIPLES OF CONCEPT ATTAINMENT

1. Conceptual Clarity
2. Multiple Examples
3. Dual Discrimination
- 4. Conceptual Competence**

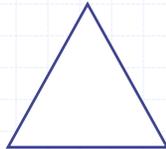
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Which of these is a square?

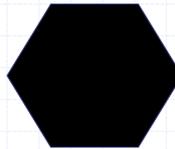
a.



b.



c.



d.



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Concept

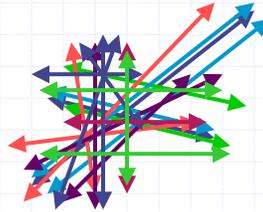
- ◆ Multiple lines that intersect at a single point have a *solution*

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Math:

Example

Non-example



In a social science lesson...

◆ The concept of **Revolution**

◆ Definition: A popular uprising against a current power **a**: a sudden, radical, or complete change **b: a fundamental change in political organization; especially** **: the overthrow or renunciation of one government or ruler and the substitution of another by the governed** **c:** activity or movement designed to effect fundamental changes in the socioeconomic situation

◆ *from m-w.com

Example explained...

◆ The American revolution was the fighting of the British crown, and British rule, by American colonists. They were seeking an "overthrow of one government..and the substitution of another."

◆ **CFU:** So, why is the American Revolution considered a revolution?

◆ **HOQ:** Does the concept of revolution change with point-of-view?

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Examples & Non-examples

◆ American Revolution (colonists vs. British)

◆ French Revolution (Bourgeois vs. Aristocracy)

◆ Russian Revolution (Bolshevik's vs. Aristocracy)

◆ The Civil War (North vs. South)

◆ Operation Iraqi Freedom (America vs. the World)

◆ The War of the Worlds (Aliens take over the earth)

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Conceptual Competence

13 The principles of the American Revolution and the French Revolution are similar in many ways. Which of the following *best* summarizes their similarities?

- A Both favored representative governments.
- B Both limited voting rights to an economic elite.
- C Both retained certain hereditary rights for aristocrats.
- D Both supported equal rights for women.

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14 When members of the Third Estate took the Tennis Court Oath (1789) at the start of the French Revolution, they were attempting to

- A establish a military government.
- B draft a new national constitution.
- C restore the king to power.
- D persuade Napoleon to take power.

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Other Ways to Prove Competence

- ◆ Quick writes
- ◆ Definition in own words
- ◆ Good Higher-Order questioning...Defense of examples/non-examples.
- ◆ Other ideas?...

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Concept Attainment

- ◆ Students *derive* the concept or big idea of the lesson objective
- ◆ Notice that a major difference between concept development and concept attainment is simply the order you present – examples and non-examples first
- ◆ It can be difficult to come up with good exemplars...talk it through with colleagues.
- ◆ Question for reflection: How does this model affect the learning of language learners or at-risk learners?

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Your Turn:

- ◆ Using a concept from your own subject-matter. Brainstorm parts of a lesson which would address the Principles of Concept Attainment.

1. Conceptual Clarity

2. Multiple Examples

3. Dual Discrimination

4. ***Conceptual Competence***

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Phases of the Concept Attainment Strategy

Phase One: Presenting Examples & Nonexamples

- Teacher presents yes and no examples while students compare/contrast

Phase Two: Formulating and Refining Hypotheses

- Students formulate tentative hypotheses while teacher records
- Students examine additional examples and choose/refine hypotheses

Phase Three: Testing Hypotheses

- Students label and define concept
- Teacher confirms hypothesis, names concept, and states attributes
- Students identify additional examples

Phase Four: Synthesizing

- Students generate examples, reflect, and apply the concept in a new context

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Processing Concept Attainment

What did you find most interesting about today's Professional Development?

What did you learn about attaining concepts?

What do you like about this strategy? What makes you uncomfortable about this strategy?

What will your students like about this strategy? What will make them uncomfortable?