

AP Psychology

THINKING...



Please be patient

7.3 - Thinking (Part I)

Thinking

- Thinking = Cognition
- Refers to mental activities and processes associated with thinking, knowing, remembering, and communicating information
- Can include reasoning, judgment, and assembling new information into knowledge



Thinking

• Mental Images

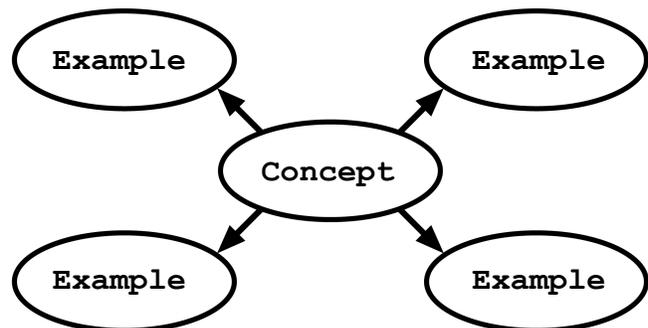
- A mental picture of a previously stored sensory experience
 - Can be visual but is not limited to pictures
 - Can also be associated with sounds, smells, and touch



Thinking

• Concepts

- Mental category formed to group objects, events, or situations that share similar features or characteristics
- **Artificial/Formal Concepts**
 - Defined by a specific set of rules or features
 - Example: Geometric shapes
- **Natural Concepts**
 - Formed by everyday experiences
 - Example: Vehicles, birds, and fruits



Thinking

• Concepts

- Mental category formed to group objects, events, or situations that share similar features or characteristics



• Prototype

- Most typical instance of a particular concept
- Example: A car would be the most prototypical concept for a vehicle



Thinking

• Problem Solving

Trial and Error

Trial and error involves trying various possible solutions, and if that fails, trying others.

•When it's Useful: Perfecting an invention like the light bulb by trying a thousand filaments

•When it Fails: When there is a clear solution but trial and error might miss it forever

Insight

Insight refers to a sudden realization, a leap forward in thinking, that leads to a solution.

Algorithms

An Algorithm is a step by step strategy for solving a problem, methodically leading to a specific solution.

Heuristics

A Heuristic is a short-cut, step-saving thinking strategy or principle which generates a solution quickly (but possibly in error).

Problem Solving Strategies

• Trial & Error

- Involves trying various possible solutions, and if that fails, trying others
 - Works well with inventing or trying things for the first time, but doesn't with problems that have clear solutions

If at first you
don't succeed;
call it version
1.0



• Insight

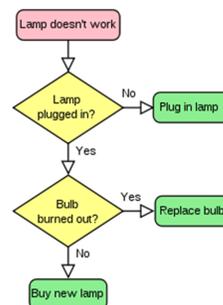
- Refers to a sudden realization, a leap forward in thinking, that leads to a solution



Problem Solving Strategies

• Algorithms

- A logical, step-by-step procedure that will eventually solve a specific problem when followed correctly
 - Example: Mathematical formulas



• Heuristics

- A general "rule of thumb" or shortcut that is used to reduce the number of possible correct solutions
- Fast, but can also be prone to errors
 - Example: Only visiting colleges that fit specific preferences rather than all colleges in the U.S.

Short cut this way →