

North Florida, Sunshine & South Carolina Imagine¹⁰ Regions

the power of 10

The Power of Identifying Similarities and Differences



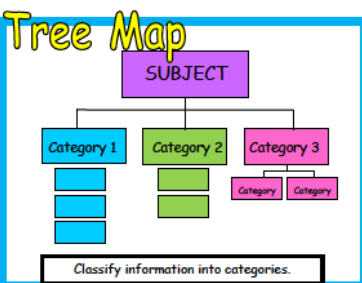
Identifying Similarities and Differences help move students from existing knowledge to new knowledge, from concrete to abstract, and from separate to connected ideas. Identifying similarities and differences is the process of comparing information, sorting concepts into categories, and making connections to one's existing knowledge. By answering the question "is this like that", we enhance our existing mental representation or abstract schema for the information.

The ability to break a concept into its similar and dissimilar characteristics allows students to understand (and often solve) complex problems by analyzing them in a more simple way. Teachers can either directly present similarities and differences, accompanied by deep discussion and inquiry, or simply ask students to identify similarities and differences on their own.

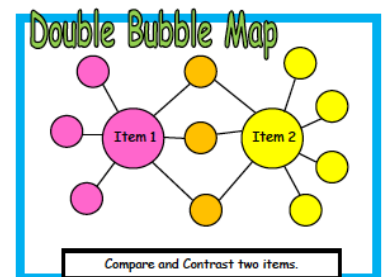
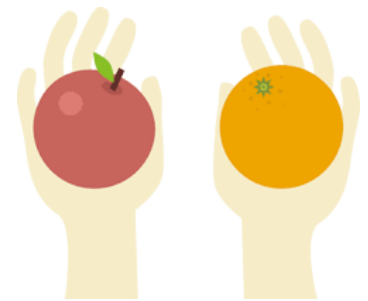
There are four strategies to identify similarities and differences:

Comparing is the process of identify similarities and between or among things or ideas.

Classifying is the process of organizing things into groups and labeling them according to their similarities.



Creating **Metaphors** is the process of identifying a general or basic pattern in a specific topic and then finding another topic that appears quite different but has the same general pattern. Creating **Analogies** is the process of identifying relationship between pairs of concepts.



Create a Learning Environment for students' success in identifying Similarities and Differences:
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.

Big FOUR

Content Planning

Establish purposeful instructional strategies to identify similarities and differences through comparing, classifying, metaphors and analogies.

Classroom Management

Engage students in critical thinking activities to deepen their understanding and become increasingly curious as they make sense of the world.

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Analogies



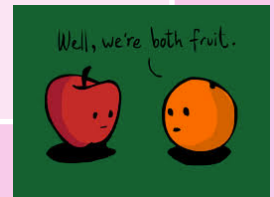
Instruction

Equip students with a variety of ways to internalize information and learning structures for clarity and comprehension.



Assessment

Evaluate student understanding by asking them to explain their thinking.



Provide students with **graphic organizers** or **thinking maps** that best represent the relevant process for identifying similarities and differences:

- Comparing: **Venn Diagrams**, **comparison matrices** or **Double Bubble Map**
- Classifying: **chart diagram**, **circle diagram** or **Tree Map**
- Metaphors: **chart diagram**, **metaphor pattern diagram** or **Bridge Map**
- Analogies: **pictorial form of the A:B::C:D format** or **Bridge Map**

Practical Ways to Implement:

Students will benefit by direct instruction and open-ended experiences in identifying similarities and differences. Teachers can increase learning potential with research-based strategies, such as:

- 📖 Point out similarities and differences. Present students with similarities and differences explicitly when this helps them reach a learning goal. As a result of the teacher's instruction, students recognize similarities and differences in order to understand something specific.
- 📖 Allow students to explore similarities and differences on their own. When the learning goal is to engage students in divergent thinking, ask them to identify similarities and differences on their own.
- 📖 Have students create graphic organizers. Help students to create or use graphic or symbolic representations of similarities and differences, classification systems, comparisons, and analogies. Suggestions include Venn diagrams, comparison tables or charts, and thinking maps.
- 📖 Teach students to recognize when they are classifying, comparing, or creating analogies or metaphors.
- 📖 Recognize that the entire World is a Stage. Language is rich with metaphor. As students encounter metaphors in reading or speaking, generate a class list. Metaphors provide a source of history, generate literary references, and suggest new ways for students to express ideas.

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Asking students to identify similarities and differences in the content they are learning helps them restructure their understanding of that content. During the process, they make new connections, experience fresh insights, and correct misconceptions. These complex reasoning procedures lead students to deeper understanding.



Key Research Findings...

- 📖 Cognitive research shows that education programs should challenge student to link, connect and integrate ideas. (Bransford, Brown, and Cocking, 1999)
- 📖 Results of employing these strategies can help to boost students achievement from 31 to 46 percentile points. (Stone, 1983; Stahl & Fairbanks, 1986; Ross, 1988)
- 📖 Students benefit by having similarities and differences pointed out by the teacher in an explicit manner. This can include rich discussion and inquiry but allows students to focus on the relationship or bridge to the new ideas. (Chen, Yanowitz & Daehler, 1996)
- 📖 Students also benefit by being asked to construct their own strategies for comparing similarities and differences. (Chen, 1996; Flick, 1992; Mason, 1995)
- 📖 Combining this strategy with the method of using nonlinguistic representation enhances student achievement significantly. (Chen, 1999; Cole & McLeod, 1999; Gynn & Takahashi, 1998; Lin, 1996)