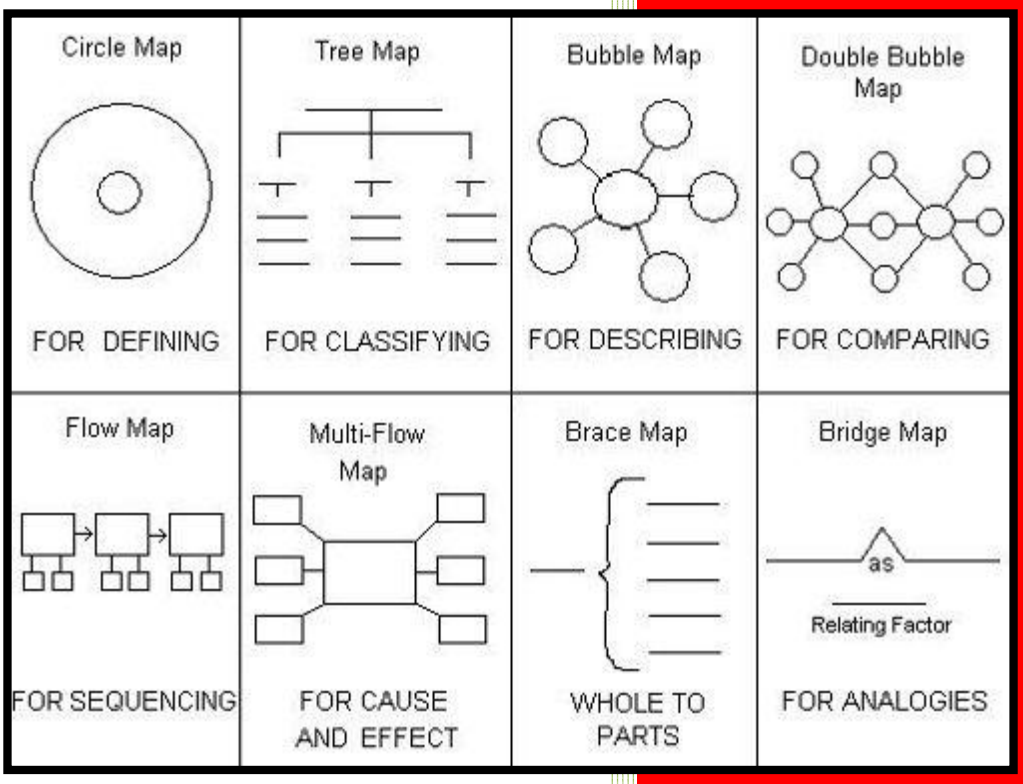
Barnwell School District 45

Barnwell 45 Thinking Maps Handbook



ble of Contents

Barnwell School District 45

Thinking Map Implementation

Planning

Summer of 2013

- Creation of Thinking Maps Implementation Team
- Create Implementation Plan
- Meet with Principals

Initial Training

Fall 2013

- Initial Training
- Awareness of implementation plan
- B45 Thinking Maps website

Continued Professional Development

2013-2014 School Year

- Monthly school-level meeting
- Implementation

Continuous Implementation/Training

- Make plans for continued professional development, as needed, including extension of initiative in 2014-2015 school year

Barnwell School District 45

Preparing Today's Students for a Successful Tomorrow

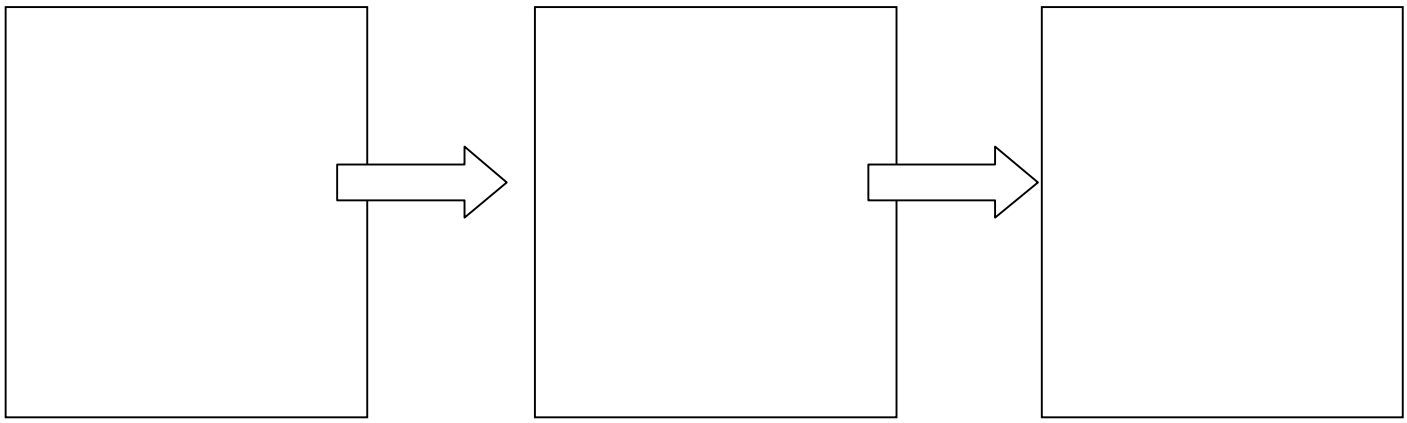
2014 Thinking Maps Implementation

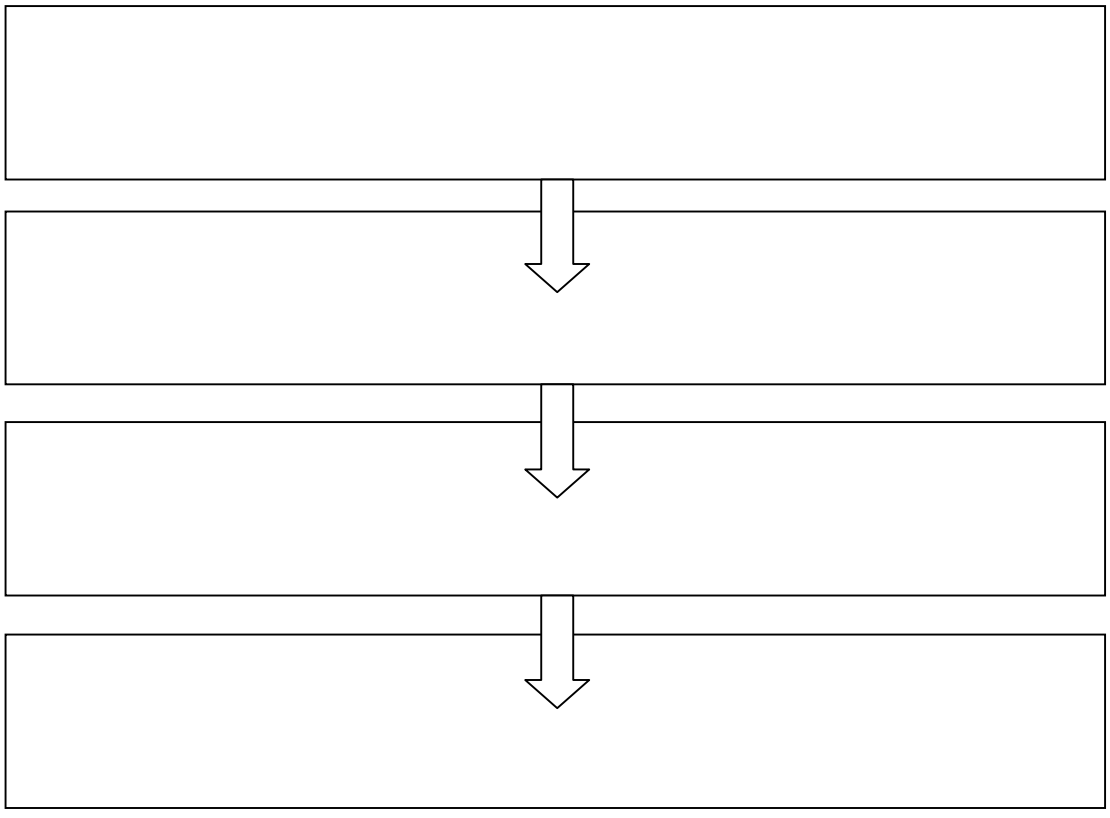
Month	Thinking Map to be Implemented
August	Barnwell 45 Writing Graphic Organizer (2nd-8th) Flow Map
September	Circle Map
October	Tree Map
November	Bubble Map
December	
January	Double Bubble Map
February	Multi-flow Map
March	Brace Map
April	Bridge Map
May	*Review All*

Flow Map

Thinking Process: Sequencing

The **Flow Map** is used for **sequencing**.





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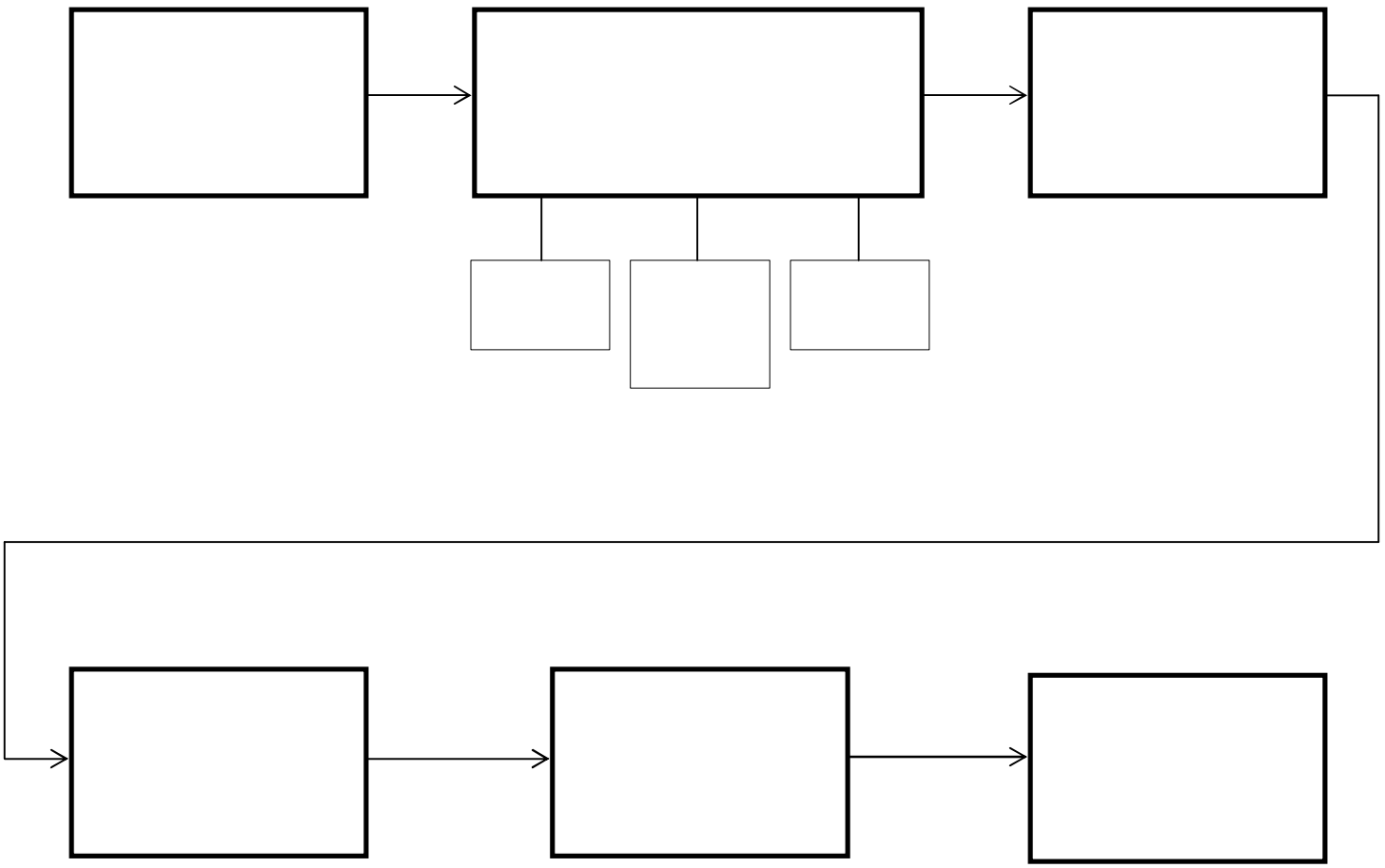


ent Areas

Flow Map Examples	ELA	Math	Science	Social Studies
	Sequencing story plot Analyzing important events Illustrating a character's change over time	Sequencing and ordering numbers Following order of operations and steps Illustrating the steps to solving problems	Following steps of scientific experiment Logically ordering data Analyzing the physiology of animals Analyzing the chronological order of events leading to a scientific phenomena	Sequencing major events in history (including stages and sub-stages) Identifying and analyzing historical movements

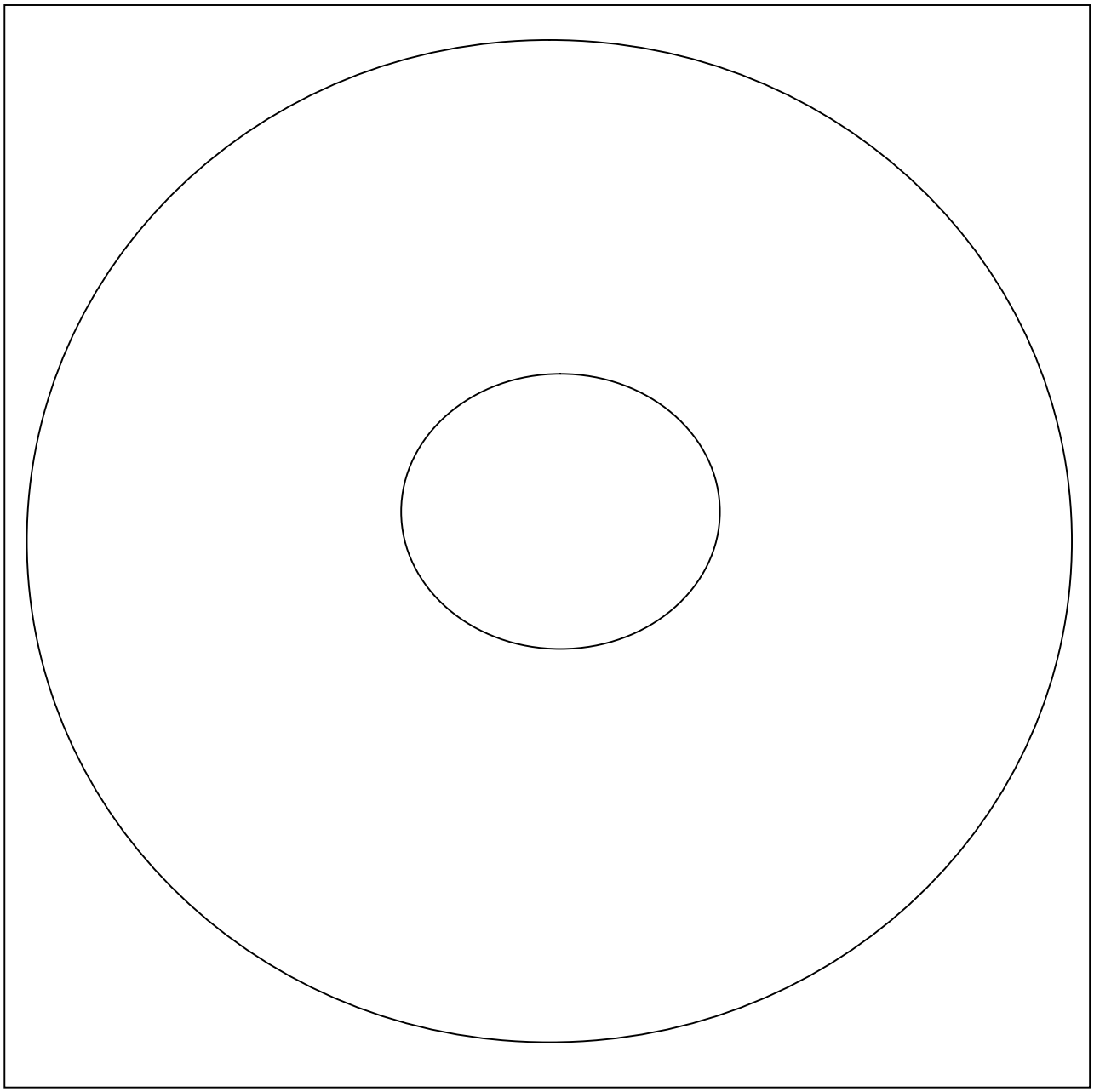
This is a short list of ideas for initial implementation. There are numerous ways this map could be incorporated into instruction.

Do an image search of "Flow Map" online, and you will be able to access several other examples. Please take photographs of flow maps you use in your classroom and send them to cstephens@barnwell45.k12.sc.us. We will post examples of our own Barnwell 45 maps on our curriculum website.

Circle Map

Thinking Process: Defining in Context

The **Circle Map** is used for **brainstorming** or **defining in context**.



ent Areas

Circle Map Examples	ELA	Math	Science	Social Studies
	Mapping academic vocabulary Defining words by showing context clues Brainstorming ideas	Mapping academic vocabulary Defining a problem in context Generating possible solutions to a problem	Mapping academic vocabulary Generating prior knowledge about a concept	Mapping academic vocabulary Generating prior knowledge about a topic Identifying key concepts in historical context

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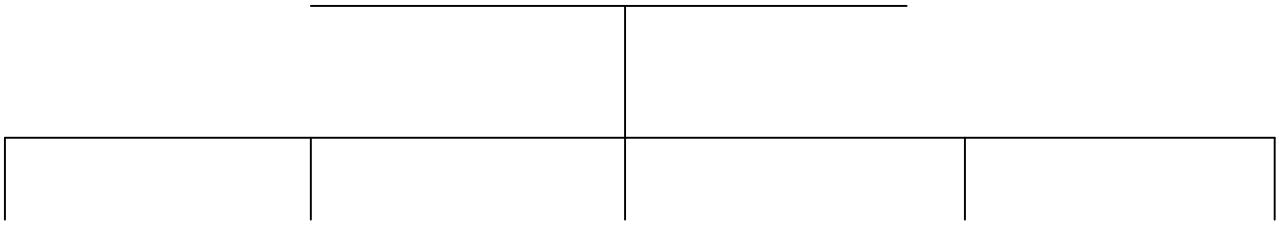
Tree Map

Thinking Process: Classifying

The **Tree Map** is used for **classifying**.



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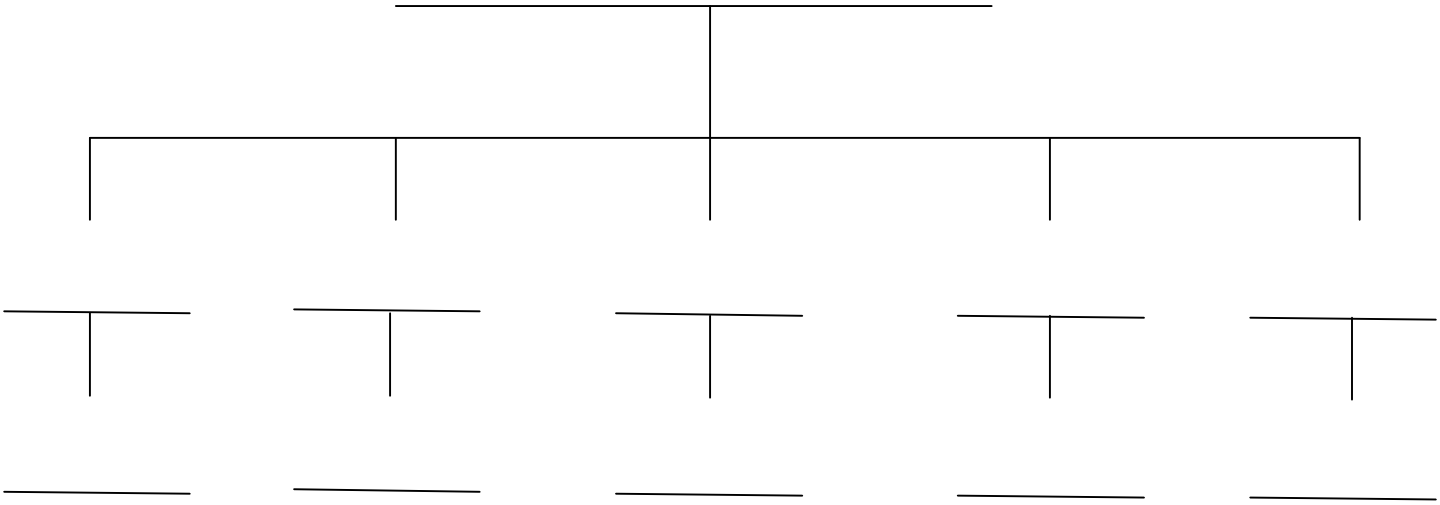

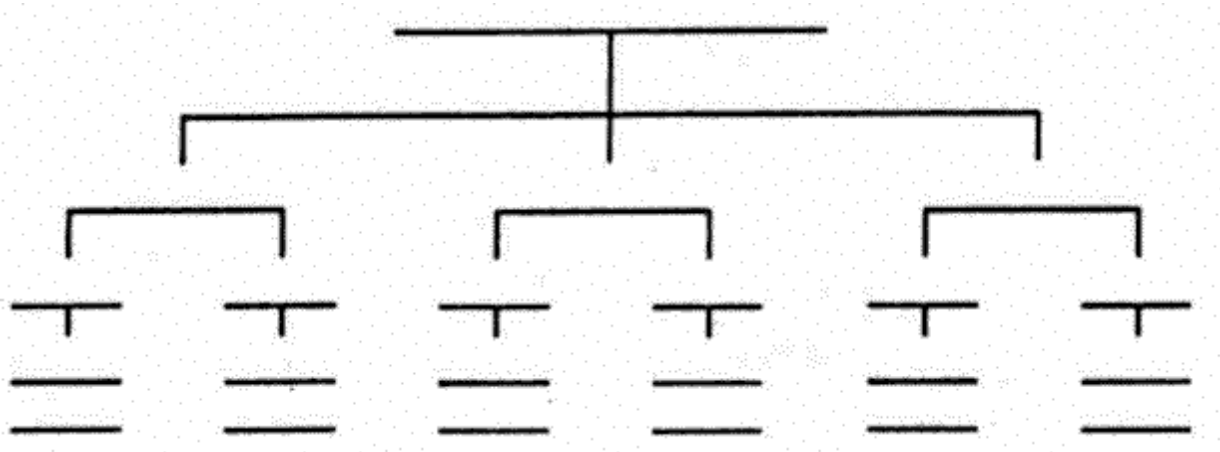

ent Areas

Tree Map Examples	ELA	Math	Science	Social Studies
	Identifying main idea, supporting ideas, and details Taking notes for lectures or research projects	Grouping numbers according to attributes (ex. even/odd, prime/composite, multiples of…, etc., rational/irrational) Classifying geometric figures Sorting types of information found within word problems	Taking notes for lectures or research projects Creating categories or taxonomies Classifying items/objects Applying deductive and inductive reasoning	Taking notes for lectures or research projects Classifying resources of a society Organizing historical themes and supporting evidence

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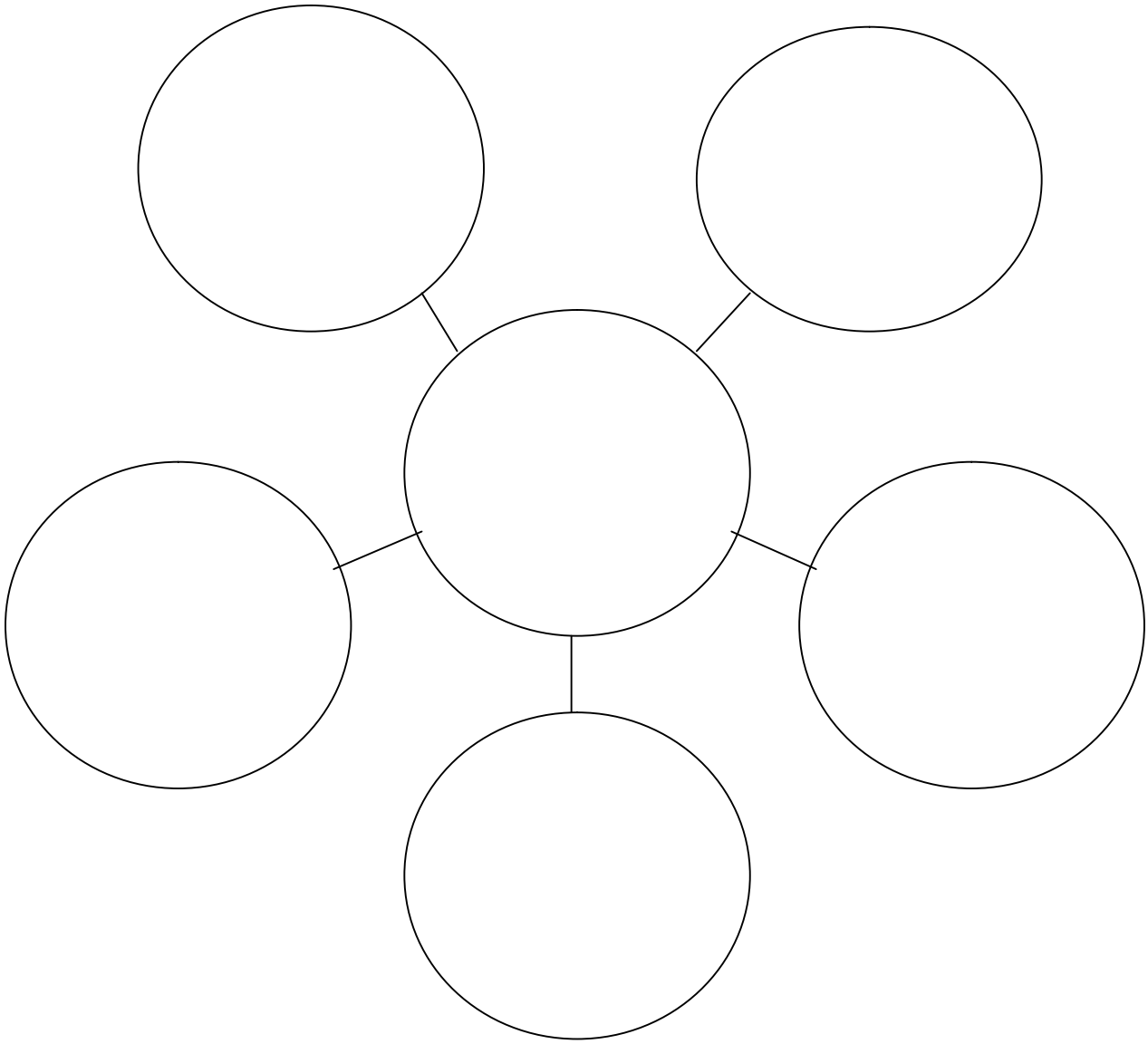
Bubble Map

Thinking Process: Describing

The **Bubble Map** is used for **describing** by using adjectives or adjective phrases.



ent Areas

Bubble Map Examples	ELA	Math	Science	Social Studies
	Expanding vocabulary Describing characters using adjectives	Identifying properties of numbers Describing attributes of geometric figures Establishing criteria for evaluation	Describing properties of objects Identifying essential properties of an organism Establishing criteria for experimentation	Describing key characteristics of cultures (past and present) Analyzing stereotypes Distinguishing between fact and opinion

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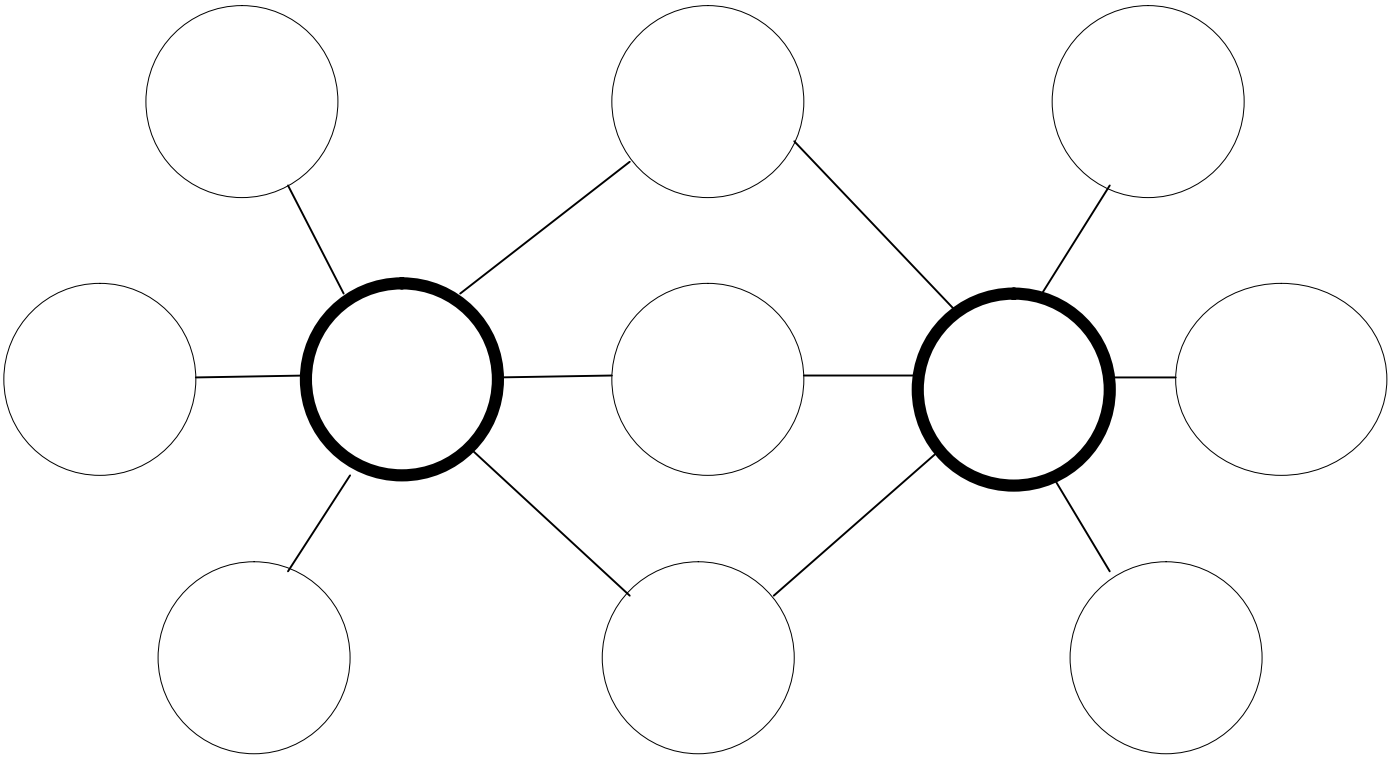
ble Bubble Map

Thinking Process: Comparing and Contrasting

The **Double Bubble Map** is used for comparing and contrasting.



ent Areas

Double Bubble Map Examples	ELA	Math	Science	Social Studies
	Comparing and contrasting characters Comparing and contrasting different texts Comparing and contrasting examples of poetic themes or devices	Comparing and contrasting attributes of numbers Comparing and contrasting attributes of geometric figures Evaluating alternative problem-solving approaches	Comparing and contrasting properties of things Comparing different systems Comparing results from changes during experiments	Comparing and contrasting cultures, countries, etc. Comparing past to present of a culture

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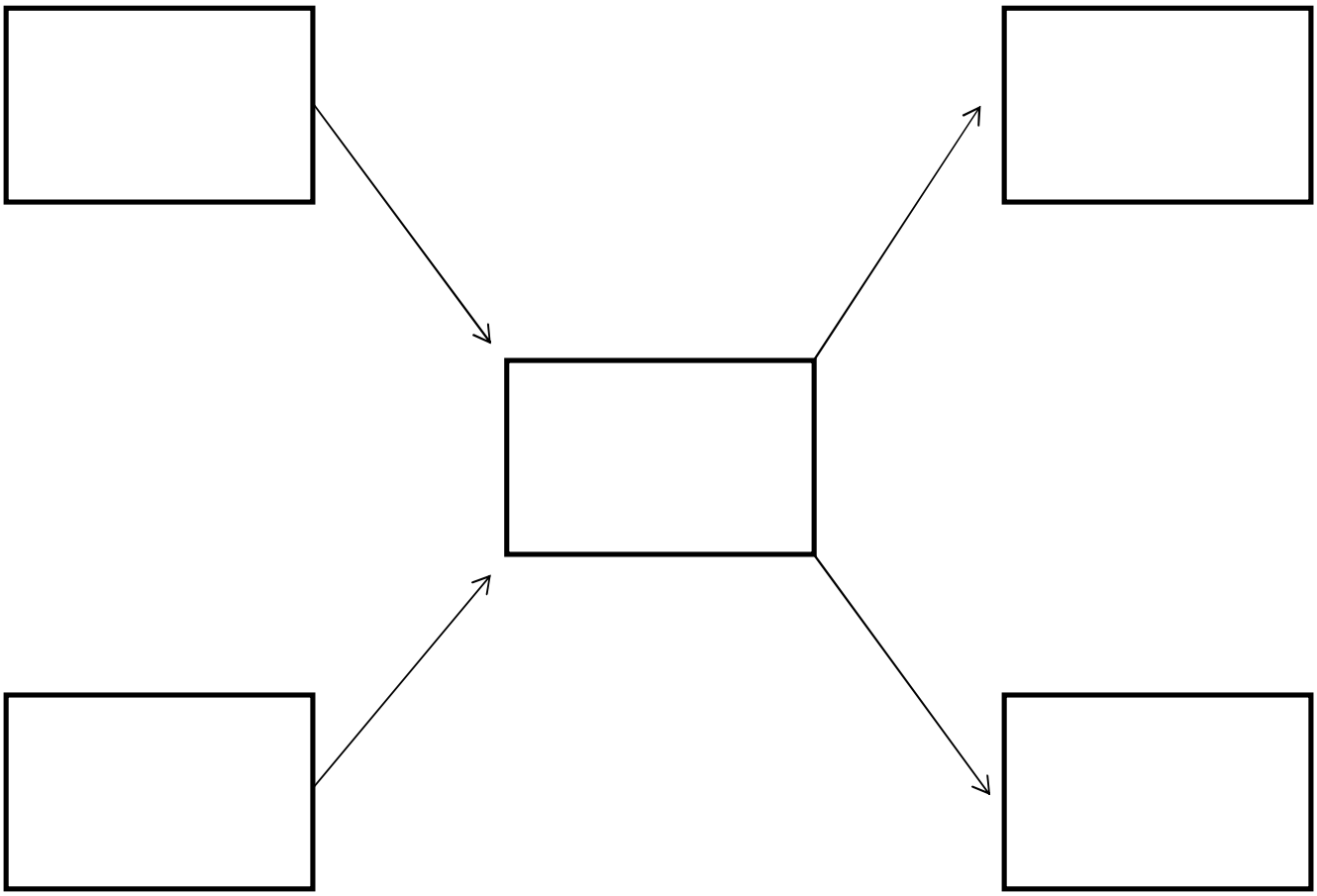
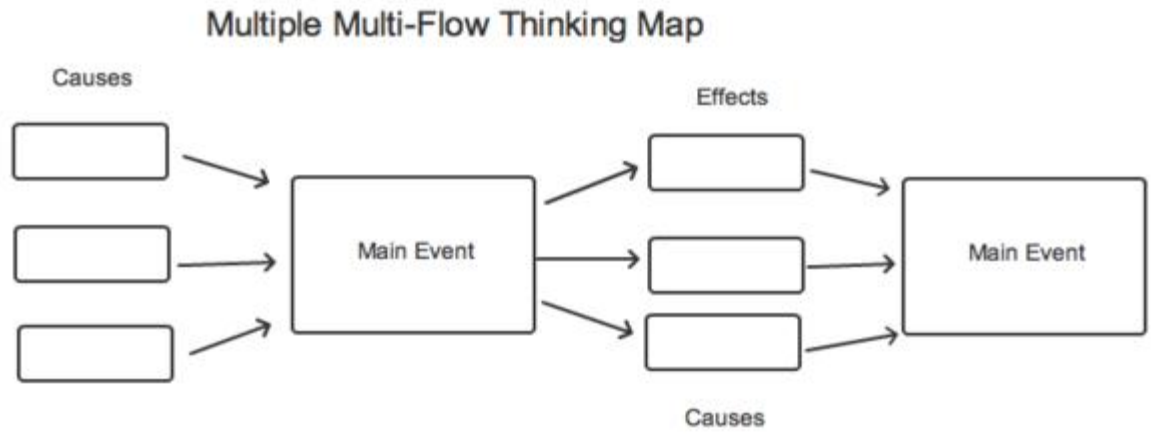
ulti-Flow Map

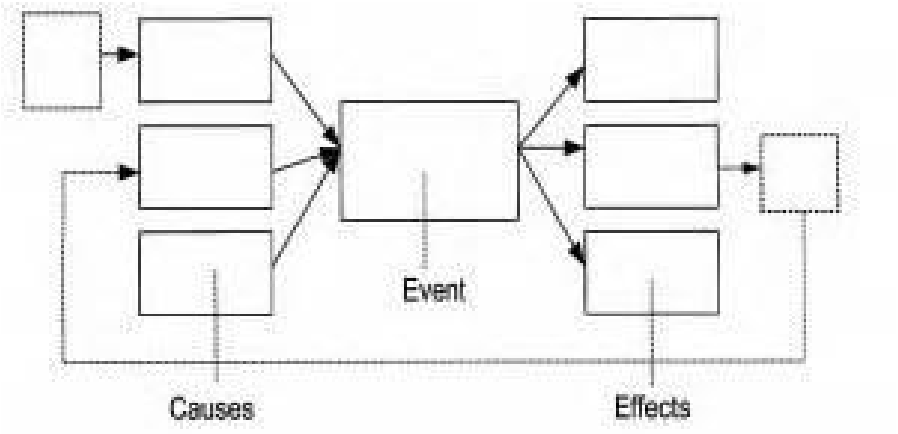
Thinking Process: Cause and Effect

The **Multi-Flow Map** is used for analyzing **Cause and Effect**.



ulti-Flow Map





Use in Core Content Areas

Multi-Flow Map Examples	ELA	Math	Science	Social Studies
	Analyzing cause and effect in literature or expository text Predicting outcomes from previous events	Analyzing cause and effect in mathematical context Following if-then scenarios Identifying causal relationships in word problems Tracing causes and effects during problem-solving	Analyzing cause and effect in scientific context Hypothesizing and predicting outcomes	Analyzing cause and effect in historical context Predicting future events given root causes Identifying short-term and long-term effects for events

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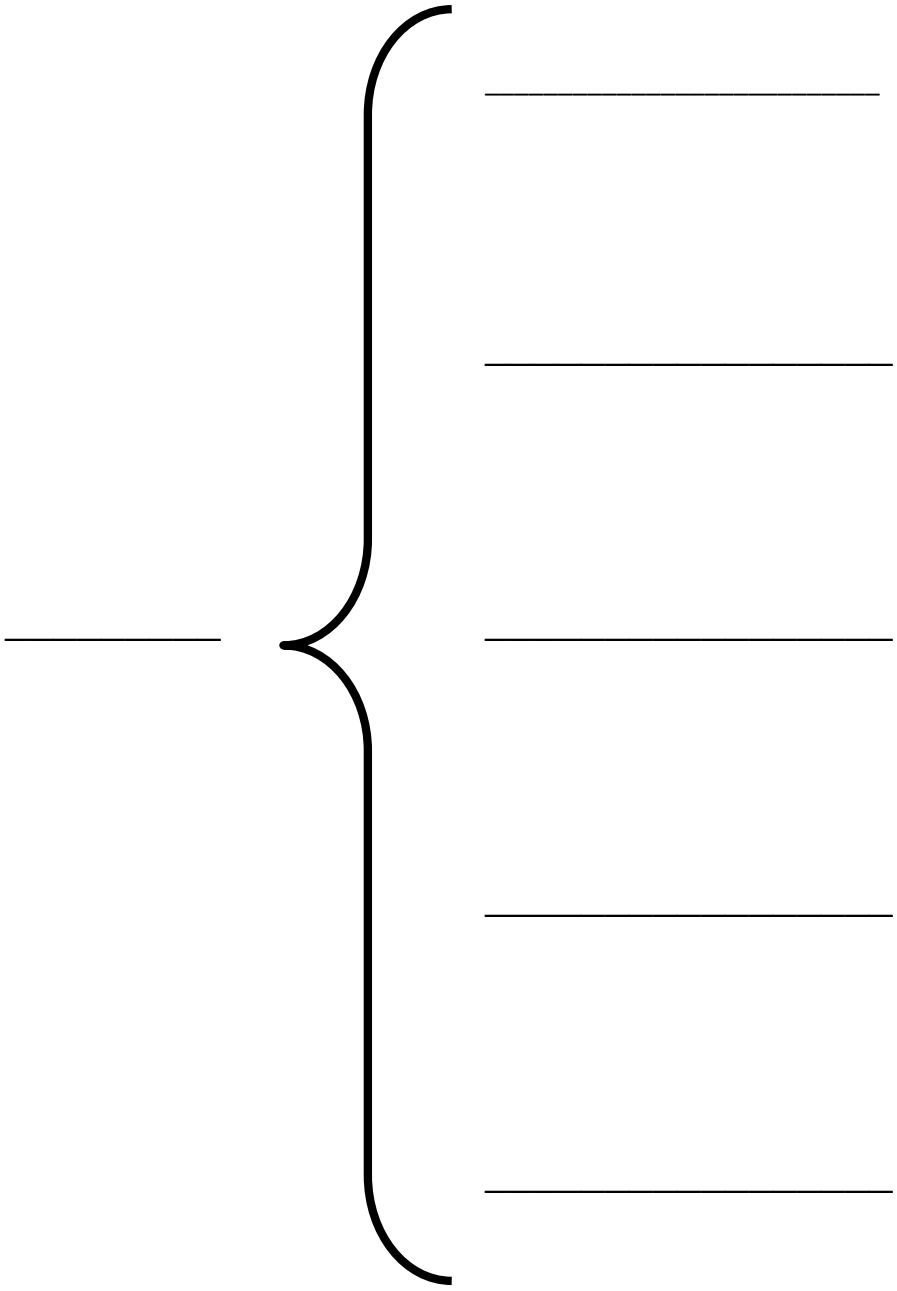
Brace Map

Thinking Process: Parts-Whole

The **Brace Map** is used for seeing the structural analysis of **whole to parts** relationships.



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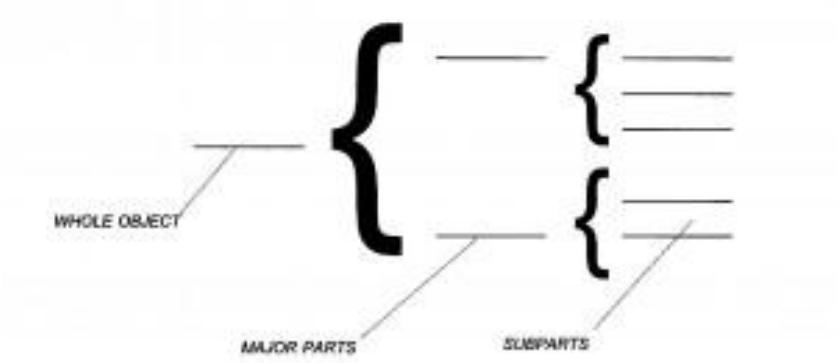

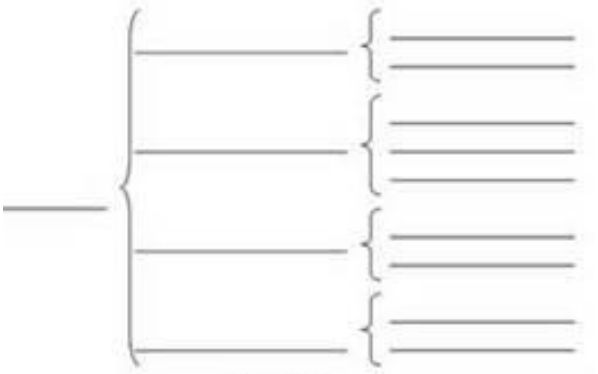

Brace Map

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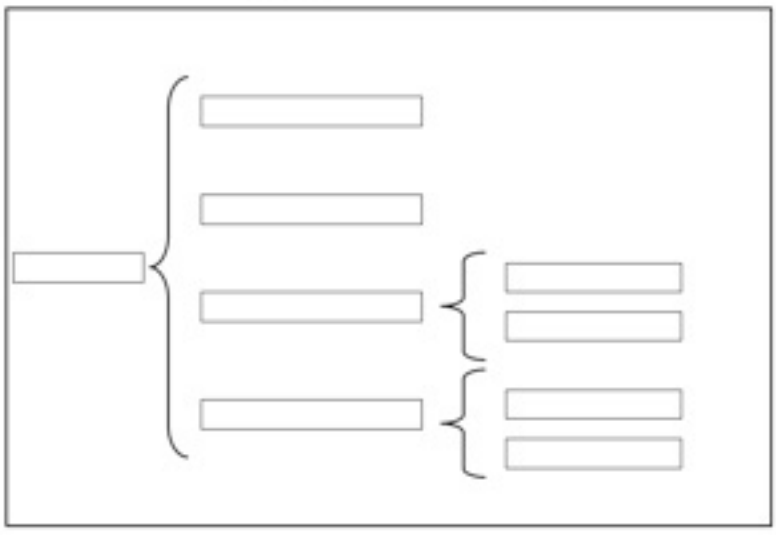

ent Areas

Brace Map Examples	ELA	Math	Science	Social Studies
	Breaking down compound words Illustrating syllables Analyzing technical reading (Ex. the organizational breakdown of a computer system) Organizing and writing technical pieces – example: technical manual	Illustrating place value and expanded form Analyzing geometric figures Illustrating fractional relationships Charting prime factorization Teaching the problem solving method	Utilizing the steps of the scientific method Observing and recording anatomy of specific animals Illustrating parts of a cell	Analyzing relationships between continents, regions, etc. (Ex. the regions of SC) Identifying whole regions and sub-regions in reference to geography Developing spatial reasoning for mapping

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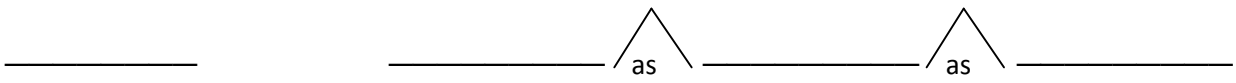
ridge Map

Thinking Process: Seeing Analogies

The **Bridge Map** is used for seeing analogies.



RF

[RF = Relating Factor]

ent Areas

Bridge Map Examples	ELA	Math	Science	Social Studies
	Comprehending analogies, metaphors, and similes Developing analogies for writing	Applying analogical thinking Solving problems using ratios and fractions Using analogies for finding and solving problems	Learning abstract concepts by analogy Inventing using analogical thinking	Using analogies to compare similar historical relationships Comprehending analogies used by authors Understanding concepts in history by analogy of past and present

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ng Maps Overview

Thinking Map	Thinking Process	Key Words
Flow Pages 5-7	Sequencing	Sequence, Put in order, Order, Recount/Retell, What happens next, Cycles, Patterns, Processes, Change, Solve multi-step problems
Circle Pages 8-9	Defining in Context Brainstorming	Context, Context clues, List, Define, Tell everything that you know, Brainstorm, Identify, Relate prior knowledge, Tell about, Explore the meaning, Discuss
Bubble Pages 13-14	Describing	Describe, Use vivid language, Observe using the 5 senses, Describe feelings, attributes, characteristics, properties, adjectives, qualities
Double Bubble Pages 15-16	Comparing and Contrasting	Compare/Contrast, Discuss similarities/differences, Distinguish between, Differentiate
Tree Pages 10-12	Classifying	Classify, Sort, Group, Categorize, Give sufficient and related details, Types of, Kinds of, List and elaborate, Taxonomy
Brace Pages 20-22	Illustrating Part to Whole Relationship	Parts of, Take apart, Show structure, Physical components, Anatomy
Multi-Flow Pages 17-19	Analyzing Cause and Effect	Causes and effects, Discuss consequences, What would happen if, Predict, Change, Identify motives, Why, Results, Outcomes, Benefits
Bridge Pages 23-24	Seeing Analogies	Identify the common relationship, Guess the rule, Interpret symbols, Simile, Metaphor, Allegory, Ratio