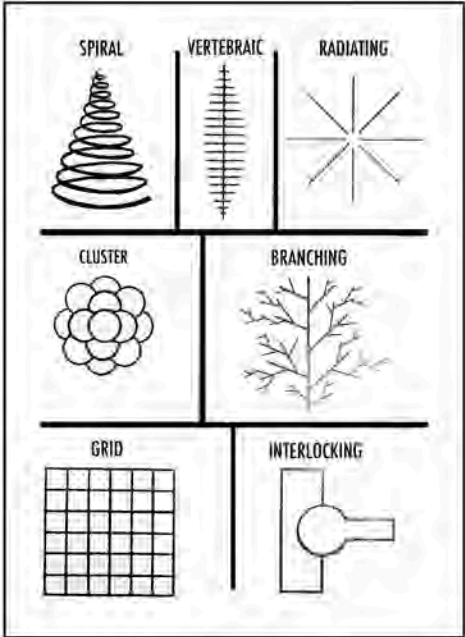


QUALITIES THAT DESCRIBE YOU	BEINGS, PLACES, THINGS, IDEAS, ACTIVITIES THAT SHARE THIS QUALITY



SPIRAL (EXAMPLE: TORNADO)

VERTEBRAIC (EXAMPLE: FISH BONE)

RADIATING (EXAMPLE: SNOWFLAKE)

CLUSTER (EXAMPLE: FLOWER)

BRANCHING (EXAMPLE: TREE)

GRID (EXAMPLE: GAME BOARD)

INTERLOCKING (EXAMPLE: JOINTS)

Add	Communicate	Compare
Subtract	Energize	Classify
Combine	Push	Convert
Substitute	Pull	Regulate
Limit	Harness	Program
Re-order	Capture	Design
Measure	Release	Melt
Relocate	Extract	Freeze
Repeat	Assess	Liquify
Exchange	Monitor	Refine
Hide	Predict	Elaborate
Reverse	Define	Adapt
Conceal	Inspect	Reverse
Disconnect	Construct	Repurpose
Exaggerate	Estimate	Translate
Magnify	Test	Mimic
Transmit	Observe	Assemble
Destroy	Summarize	Burn
Transform	Convert	Edit
Calculate	Count	Negotiate

Choose an action word from the list and brainstorm other words (nouns, adjectives, or verbs) that relate to this action.

DIVERGENT THINKING TOOLS

CREATIVE CONCEPTUAL STRATEGY
Transformative strategies: <ol style="list-style-type: none"> <i>Change scale:</i> Make an object or image larger or smaller <i>Reinterpret:</i> Change the style in which an image is rendered. <i>Construct in an unusual medium:</i> Construct an object out of surprising materials. <i>Translate:</i> Transform something into a different mode, code, or language.
Combinatory strategies: <ol style="list-style-type: none"> <i>Hybridize:</i> Mix and replace parts of two or more entities <i>Synthesize:</i> Combine multiple things
Juxtaposition strategies: <ol style="list-style-type: none"> <i>Recontextualize:</i> Change the context of an object, image, or idea. <i>Collage/juxtapose:</i> Juxtapose imagery to develop or reveal a concept that unites them. <i>Assemble:</i> Place objects adjacent to each other to develop and reveal a concept that unites them. <i>Layer:</i> Superimpose an image onto another image or form. <i>Appropriate:</i> Use an existing image or style to draw upon its inherent meaning. <i>Format:</i> Present and idea, movement, or relationship in a graphic format. <i>Reformat:</i> Present an idea in a format from a nonart discipline to draw on the format's inherent meaning. <i>Mimic:</i> Use the methods of a nonart discipline. <i>Enact:</i> Take on the persona of a practitioner in another discipline.
Extension strategies: <ol style="list-style-type: none"> <i>Extend:</i> Take images and ideas to logical or absurd conclusions or into fiction and fantasy. <i>Amplify/magnify:</i> Exaggerate a phenomenon; make it larger than life, and call attention to it. <i>Elaborate:</i> Take an idea or image further, add on to it, spin it, or take it to the absurd. <i>Project:</i> Imagine, speculate, or envision what could come next.
Distillation strategies: <ol style="list-style-type: none"> <i>Make use of metonymy:</i> Use a part of something to stand for the whole <i>Map:</i> Organize ideas and imagery graphically. <i>Edit:</i> Remove extraneous things. <i>Abstract:</i> Make visible the simple form within a complex one; pare a form down to its essentials; pare down information to the underlying concepts or relationships.
Associative strategies: <ol style="list-style-type: none"> <i>Use visual analogy:</i> Compare one thing to another <i>Use metaphor:</i> Case one thing as another <i>Use metaphor of materials:</i> Construct an object or image out of materials that have meaning in themselves. <i>Recategorize:</i> Place something in a new category or in multiple categories. <i>Substitute:</i> Replace something with something similar or very different.

SCAMPER STRATEGY
S: Substitute: To have a person or thing act or serve in place of another: Who else? What else? Other place? Time?
C: Combine: To bring together, to unite or force fit. Combine what? Bring who together? Combine purposes? Ideas? Materials?
A: Adapt: To adjust for the purpose of suiting a condition. Re-shape? Tone down? Tune up? Accommodate? Agree?
M: Modify: To alter, change form or quality. Other color? Sound? Motion? Form? Size? Shape? Taste? Odor?
M: Magnify: To enlarge, make greater in form or quality. Add what to make higher? Stronger? Thicker? Longer?
M: Minify: To make less, minimize. Make what smaller? Lighter? Slower? Less frequent? Shrink? Reduce?
P: Put to other uses: Use for purpose other than originally intended. New uses as is? Other places to use? Use when? How?
E: Eliminate: To remove, omit, or get rid of a quality. What to cut out? Remove? Simplify?
R: Rearrange: To place opposite or contrary. Turn what around? Upside down? Inside out? Sideways?
R: Reverse: Change order or sequence. Other pattern? Layout? Plan? Regroup? Redistribute?

METAPHOR GENERATOR

QUALITIES/ATTRIBUTES	BEINGS/PLACES/THINGS/IDEAS/ACTIVITIES THAT SHARE THIS ATTRIBUTE

Marshall, J. & Donahue, D. (2014). *Art-centered learning across the curriculum: Integrating contemporary art in the secondary school classroom*. New York, NY: Teachers College Press.

Nemeth, J. (2015). Metaphors, puns, and chance combinations: Creative thinking strategies and art practice. In F. Bastos & E. Zimmerman (Eds.), *Connecting creativity research and practice in art education* (pp.236-243). Reston, VA: NAEA.

Science Concepts

Life Science

- Systems of the body and how they work together (digestion, nervous system, metabolism, cardiovascular, etc.)
- Plant systems including photosynthesis
- Ecosystems: interdependence of animals and plants within them
- Energy flow within the food web, identifying the producers, decomposers, consumers, predators, and prey

Earth Science:

- Water cycle and the role of evaporation, precipitation, and condensation
- Solar system and how planets and other bodies orbit the sun in predictable paths
- Earth's layers and changing surface

Physical Science:

- Identify states of matter (solid, liquid, and gas) and transformation between these states
- Energy Conversion
- Force: the exertion of push and pull on different objects
- Effect of friction on objects

