

**Thinking Outside the
... Boxed Curriculum**
*Creatively Embedding
Creative Thinking*

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Austin Public Schools #492

Participants will...

Content Objectives

1. Participate in research-supported PD that addresses characteristics of students with gifts & talents [creativity].

NAGC Standard 6.1.1.

2. Embed creative prompts within current curricula.

NAGC Standard 6.3.3. & 6.1.4.

Language Objectives

1. I will write questions for a lesson I will teach that will prompt my students to think creatively.

A

Ask Questions

E

Engage Fully

I

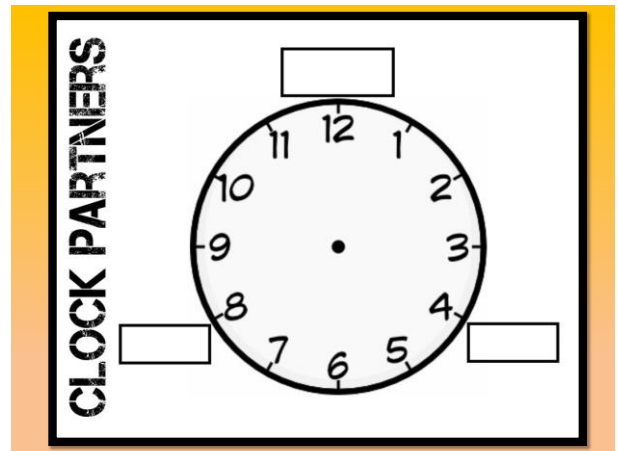
Integrate new information

O

Open your mind to diverse views

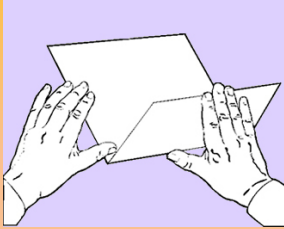
U

Use what you learn



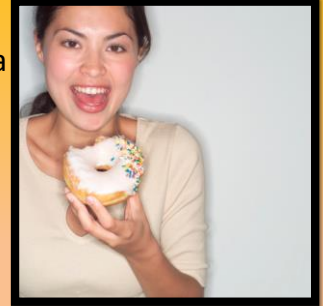
Test Your Creativity!

- Flip the Concept Map Over
- Fold a Sheet of paper in half to create 4 parts.



Section 1

List as many
things that have a
hole through the
middle.



Section 2

Insert 1 of the following words in the blank
below.

Shoelace	desk	pancake
Yo-yo	iPad	shopping cart

What if a _____ could talk?

Write several sentences of what the item would
say if it could talk.

Section 3

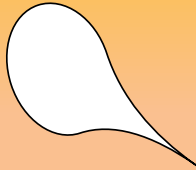
Draw a picture using the letters in
your first name.



Section 4

Use this doodle in part of a larger picture.

Give your picture a title.

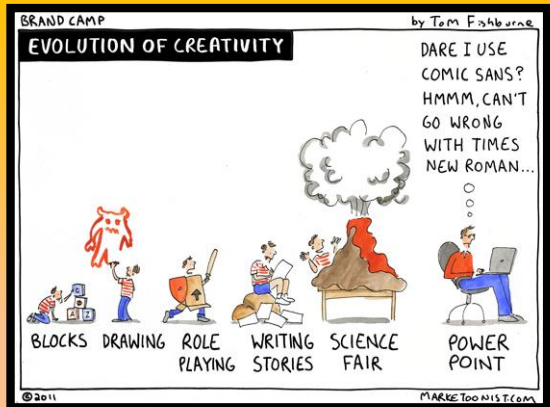


SHARE OUT

WHICH SECTION WAS THE EASIEST FOR YOU TO COMPLETE? MOST DIFFICULT?



WHAT ARE REASONS WHY CREATIVITY HAS BEEN "TAKEN OUT OF THE CLASSROOM?"



Where's the Creativity in the Classroom?

- Creativity has been suppressed by traditional schools – looking for just **1 right answer** and **testing** students on reading for correct answers
- No Child Left Behind [**NCLB**] pressured schools to raise test scores in reading and math → narrowing the focus on curriculum and instruction



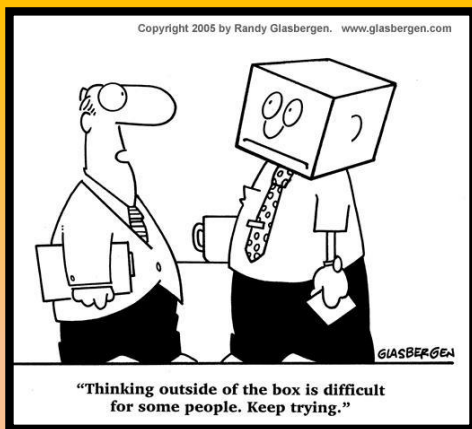
Cash, 2013

Where's the Creativity in the Classroom?

- This testing environment compelled teachers to **focus on basic reading and math skills**
- Students are not being challenged in learning making creativity difficult
- Students lack the resourcefulness to cope with challenges because they are not succeeding instantly



Cash, 2013

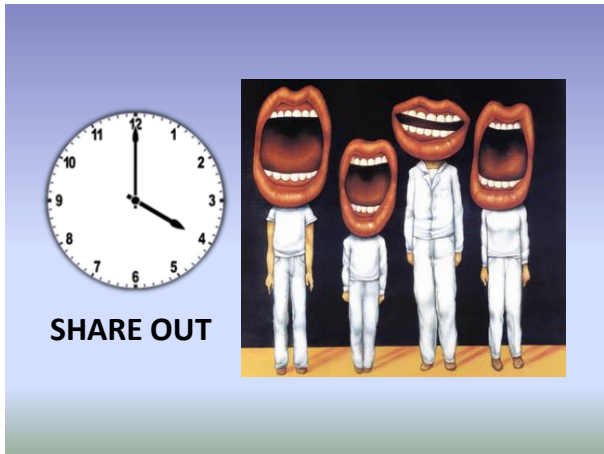


Insert Method

- ! Ideas/Concepts that are unusual or surprising
- + Ideas/Concepts that is new to you
- ? Ideas/Concepts that are confusing

Educational Leadership February 2013 Alane Starko

ARTICLE: CREATIVITY ON THE BRINK?

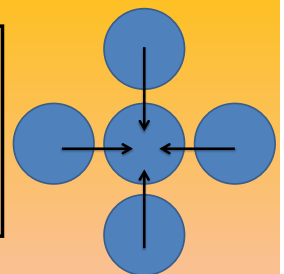


Convergent & Divergent Learning

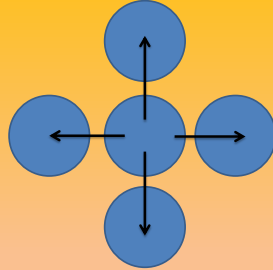
- Effective creative thinkers need both convergent and divergent thinking skills
 - Divergent thinking opens up the possibilities
 - Convergent thinking ensures that the solutions and ideas are workable



Convergent Thinking

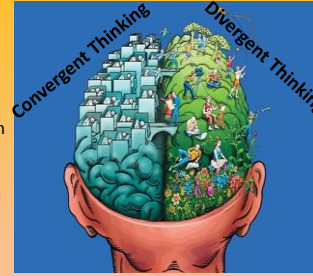


Divergent Thinking



One vs. Other

- “converge on”
- Look deeper, examine, judge, use new ideas to solve or improve upon
- Able to see interrelationships between clues
- Known as critical thinking



- “diverge from”
- Cast your ideas out and away
- Invent, create, expand
- Able to list many responses to questions / brainstorming
- Elaborate and expand on ideas
- Known as creative thinking







**CREATIVE INTEGRATION OF CREATIVITY:
INJECTING CREATIVITY WITHIN CURRENT STRUCTURES**

4 Components of Creativity

MAY THE 'FOURS' BE WITH YOU

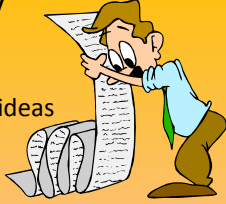
The Four Components of Creative Thinking

 <p>FLUENCY the ability to produce quantities of Ideas</p>	 <p>FLEXIBILITY the ability to create different categories of Ideas, and to perceive an Idea from different points of view</p>
 <p>ORIGINALITY the ability to generate new, different, and unique Ideas that others are not likely to produce</p>	 <p>ELABORATION the ability to expand on an Idea by embellishing it with details, or the ability to create an intricate plan</p>

Adapted from J.P. Guilford's Test of Divergent Thinking and J. Imagination by Simon, 2001. Copyright by Scribner/Doubleday

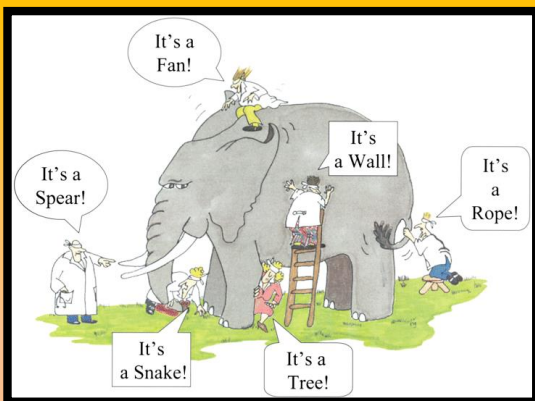
Fluency

- “MANY”
- Ability to generate a lot of ideas
- Brainstorming
- Examples:
 - List as many pink things as you can.
 - List as many things that are swift.
 - List as many things that come in pairs.



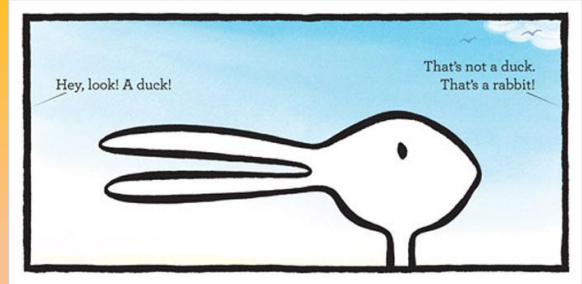
Flexibility

- “DIFFERENT”
- Ability to see things from a different perspective
- Look at problems/ideas from different angles
- Examples:
 - Use a simile to describe an elephant.
 - What items could be bought at HyVee that could be used to stop a flood?
 - How many different ways can you use a straw?

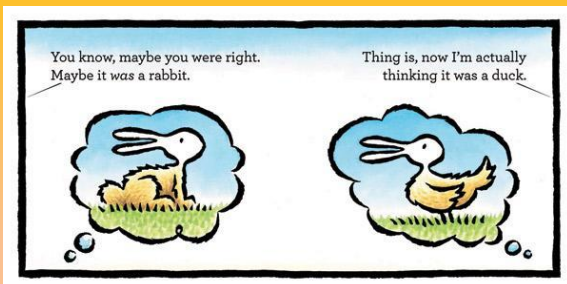




Duck! Rabbit! By Rosenthal & Lichtenheld



Duck! Rabbit! By Rosenthal & Lichtenheld



M.C. Escher



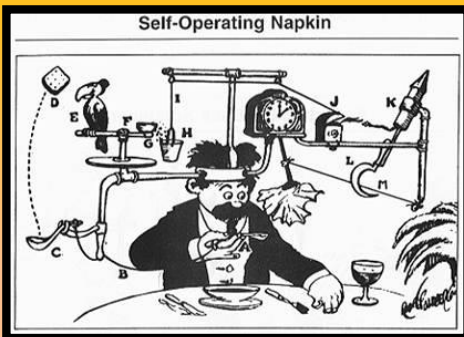


Originality



- “UNIQUE”
- Ability to come up with original ideas
- Development of unique, unusual, novel ideas
- Examples:
 - Create a new use for a pencil.
 - Design your dream boat.
 - Create a new ending to the book.
 - Design a device to clean a messy room.

Rube Goldberg Machines



Elaboration

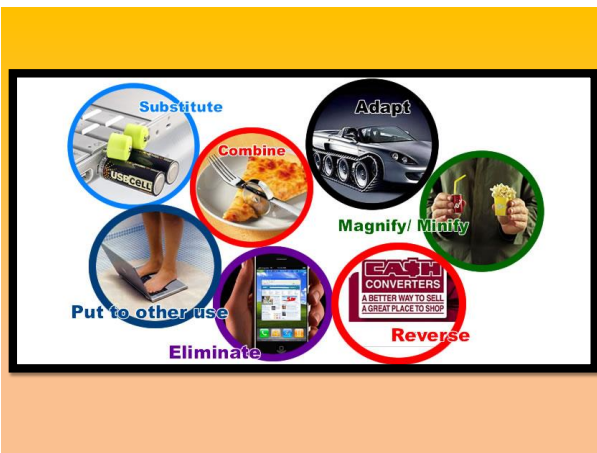


- “DETAILS”
- Ability to make ideas more clear with details
- Requires expanding, embellishing, extending, refining, and stretching ideas
- Examples:
 - How can you make a pencil more effective or interesting?
 - Write what happens before the Pigs build their homes in The Three Little Pigs.

Curiosity	Fluency	Flexibility	Originality	Elaboration
What might happen if...?	How many ___ can you think of?	Can you think of a different way to ___?	What is a new, original way to ___?	What else can you tell me about ___?
Why do you suppose ___ is true?	Make a list of...	What are different ways to look at this?	How could you make it different?	What can you add to make it more interesting?
I wonder...?	What are all the ways you could...	___ is to ___ as ___ is to ___ [analogy]	Create a new...	
What if...?	How many examples of ___ can you think of?	In what ways are ___ and ___ alike?	Invent a new...	How can you complete this?
Why does...?	What comes to mind when you think of ___?	What else is possible?	How can you change ___ to make ___?	Using these guidelines, what can you create/develop?
			Combine ___ and ___ to make something new.	What new ideas can you add?
			Create an ideal ___ for a ___	



S.C.A.M.P.E.R.



Substitute



Combine



Adapt



Magnify



Put to Other Uses



Eliminate (or Minify)



Rearrange (or Reverse)



Substitute	Combine	Adapt	Magnify
<p>Can I replace or change any parts?</p> <p>Can I replace someone involved?</p> <p>Can the rules be changed?</p> <p>Can I use other ingredients or materials?</p> <p>Can I use other processes or procedures?</p> <p>Can I change its shape?</p> <p>Can I change its color, roughness, sound or smell?</p> <p>What if I change its name?</p> <p>Can I substitute one part for another?</p> <p>Can I use this idea in a different place?</p> <p>Can I change my feelings or attitude towards it?</p>	<p>What ideas or parts can be combined?</p> <p>Can I combine or recombine its parts' purposes?</p> <p>Can I combine or merge it with other objects?</p> <p>What can be combined to maximize the number of uses?</p> <p>What materials could be combined?</p> <p>Can I combine different talents to improve it?</p>	<p>What else is like it? Is there something similar to it, but in a different context?</p> <p>Does the past offer any lessons with similar ideas?</p> <p>What other ideas does it suggest?</p> <p>What could I copy, borrow or steal?</p> <p>Whom could I emulate?</p> <p>What ideas could I incorporate?</p> <p>What processes can be adapted?</p> <p>What different contexts can I put my concept in?</p> <p>What ideas outside my field can I incorporate?</p>	<p>What can be magnified or made larger?</p> <p>What can be exaggerated or overstated?</p> <p>What can be made higher, bigger or stronger?</p> <p>Can I increase its frequency?</p> <p>What can be duplicated? Can I make multiple copies?</p> <p>Can I add extra features or somehow add extra value?</p>

Put to Other Use	Eliminate	Rearrange
<p>What else can it be used for?</p> <p>Can it be used by people other than those it was originally intended for?</p> <p>How would a child use it? An older person?</p> <p>How would people with different disabilities use it?</p> <p>Are there new ways to use it in its current shape or form?</p> <p>Are there other possible uses if it's modified?</p> <p>If I knew nothing about it, would I figure out the purpose of this idea?</p> <p>Can I use this idea in other markets or industries?</p>	<p>How can I simplify it?</p> <p>What parts can be removed without altering its function?</p> <p>What's non-essential or unnecessary?</p> <p>Can the rules be eliminated?</p> <p>What if I made it smaller?</p> <p>What feature can I understate or omit?</p> <p>Should I split it into different parts?</p> <p>Can I compact or make it smaller?</p>	<p>What other arrangement might be better?</p> <p>Can I interchange components?</p> <p>Are there other patterns, layouts or sequences I can use?</p> <p>Can I transpose cause and effect?</p> <p>Can I change pace or change the schedule of delivery?</p> <p>Can I transpose positives and negatives?</p> <p>Should I turn it around? Up instead of down? Down instead of up?</p> <p>What if I consider it backwards?</p> <p>What if I try doing the exact opposite of what I originally intended?</p>

Substitute	Combine	Adapt	Magnify	Put to Other Use	Eliminate	Rearrange
alternate, colorize, exchange, fill in for, relieve, rename, repack, replace, reposition, reserve, shape, stand in for, surrogate, swap, switch, take the place of	become one, blend, bring together, come together, commingle, conjoin, fuse, intermix, join, link, merge, mingle, mix, package, relate, unite	adapt oneself, adapt, adjust, alter, amend, bend, change, conform, copy, emulate, familiarize, find your feet, fit, get a feel for, get used to, incorporate, make suitable, match, modify, readjust, refashion, revise, rework, settle in, transform, vary	amplify, augment, boost, enlarge, expand, extend, grow, heighten, increase, intensify, lengthen, make seem more important, multiply, overemphasize, overstress, raise, strengthen, stretch out	apply, behave, benefit, bring into play, contextualize, deplete, draw on consume, employ, enjoy, exercise, exhaust, expend, get through, handle, luxuriate, make use of, manage, manipulate, operate, reposition, source, spend, take advantage of, tap, treat, use up, utilize, wear out, work	abolish, control, curb, destroy, disregard, do away with, eradicate, exclude, excrete, expel, exterminate, get rid of, lessen, limit, liquidate, lower, moderate, modulate, pass, play down, purge, reduce, reject, restrain, restrict, shorten, simplify, temper, throw out, tone down, waste, wipe out	adjourn, annul, back up, change the date, change, delay, drive backward, go backward, invalidate, invert, move backward, move, overturn, postpone, put off, readjust, rearrange, relocate, reorder, reorganize, repeal, reposition, reschedule, reshuffle, retreat, swap, switch, turn around, undo, withdraw

Science Grade 4 [Scott Foresman]

Science Objective

The student knows characteristics that allow members within a species to survive and reproduce.

1 | Introduce

Quick ACTIVITY TRANSPARENCY 5

- Show students a picture of a polar bear. Have them list some of the reasons why a polar bear can survive in its habitat. Ask: **Would a polar bear be comfortable in a warm place? Why or why not?**
- Continue with other animals, such as a hummingbird.

Access Prior Knowledge

Discuss with students some of the physical traits they are born with, such as eye color. Have students review the chart on page 18. Discuss how different traits may help animals to survive in their environments.


Set Purpose

Tell students that they are going to read about animal adaptations. Help students set a **purpose for reading**, such as to identify the traits that help animals survive in their environments.

Lesson 6

How do animals adapt?

How do animals adapt to their environment? This chart lists some of the physical traits that animals are born with. Some of these traits help animals survive in their environments.



Integrate Creativity

What would happen if a polar bear moved to Minnesota? How about Hawaii? [Curiosity/Eliminate]

What if a duck had human toes? [Curiosity/Substitute]

What if a turtle's shell was soft? [Curiosity/Adapt]

Make a list of animals that have webbed toes. [Fluency]

Make a list of animals that are hair stripes. [Fluency]

In what ways is an octopus and a monkey like? [Flexibility]

Wolf is to elephant as hummingbird is to ____? [Flexibility]

Create a zoo exhibit that would showcase both penguins and Canadian Geese. How would the exhibit look so both animals would survive? [Originality/Adapt/Put to other use]

Combine two animals from the same habitat to create a new animal. What adaptations would this new animal have to survive? [Elaboration/Combine]

How would you add creativity?

Lesson Objectives

- Describe analog and digital clocks.
- Define A.M. and P.M.
- Link times to daily activities.
- Tell time to the hour.

Vocabulary

clock, minute hand, analog clock, digital clock, hour hand

The Day at a Glance

Today's Goals	Materials	Going Further
<p>1 Teaching the Lesson</p> <p>A1: Discuss the features and functions of clocks.</p> <p>A2: Show the time by drawing hands on a clock and read time to the hour.</p> <p>2 Going Further</p> <p>Differentiated instruction</p> <p>3 Homework</p>	<p>Lesson Activities Student Activity Book pp. 195-202 (includes Paper Clock, Family Letter)</p> <p>Homework and Remembering pp. 129-130</p> <p>Demonstration clock or Time Poster</p> <p>Dry-erase markers</p> <p>Scissors</p> <p>Paper plates</p> <p>Prong fasteners</p> <p>Analog clock</p>	<p>Activity Cards G-1</p> <p>MathBoard materials</p> <p>Clocks</p> <p>Math Journals</p>

Keeping Skills Sharp

Math ~ Grade 2 ~ [Math Expressions]



SHARE OUT
SHARE TWO CREATIVE
QUESTIONS OR ACTIVITIES
YOU DEVELOPED FOR THE
MATH LESSON.

Activity

- Use the FFEO or SCAMPER prompts to add creative questions or activities the one lesson in the district curriculum.
- Choose a lesson that you will be teaching soon.
- Work in individually, in pairs, or small groups.

3-2-1 Exit Slip [Handout]

- Write 3 things you now know or remember from this session.
- Write 2 connections you made to your professional practice or private life.
- Write 1 question you still have & would like David to call/email/talk me about.

EXIT SLIP

Austin Public Schools



ENGAGING AND EMPOWERING
ALL LEARNERS FOR LIFE!

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