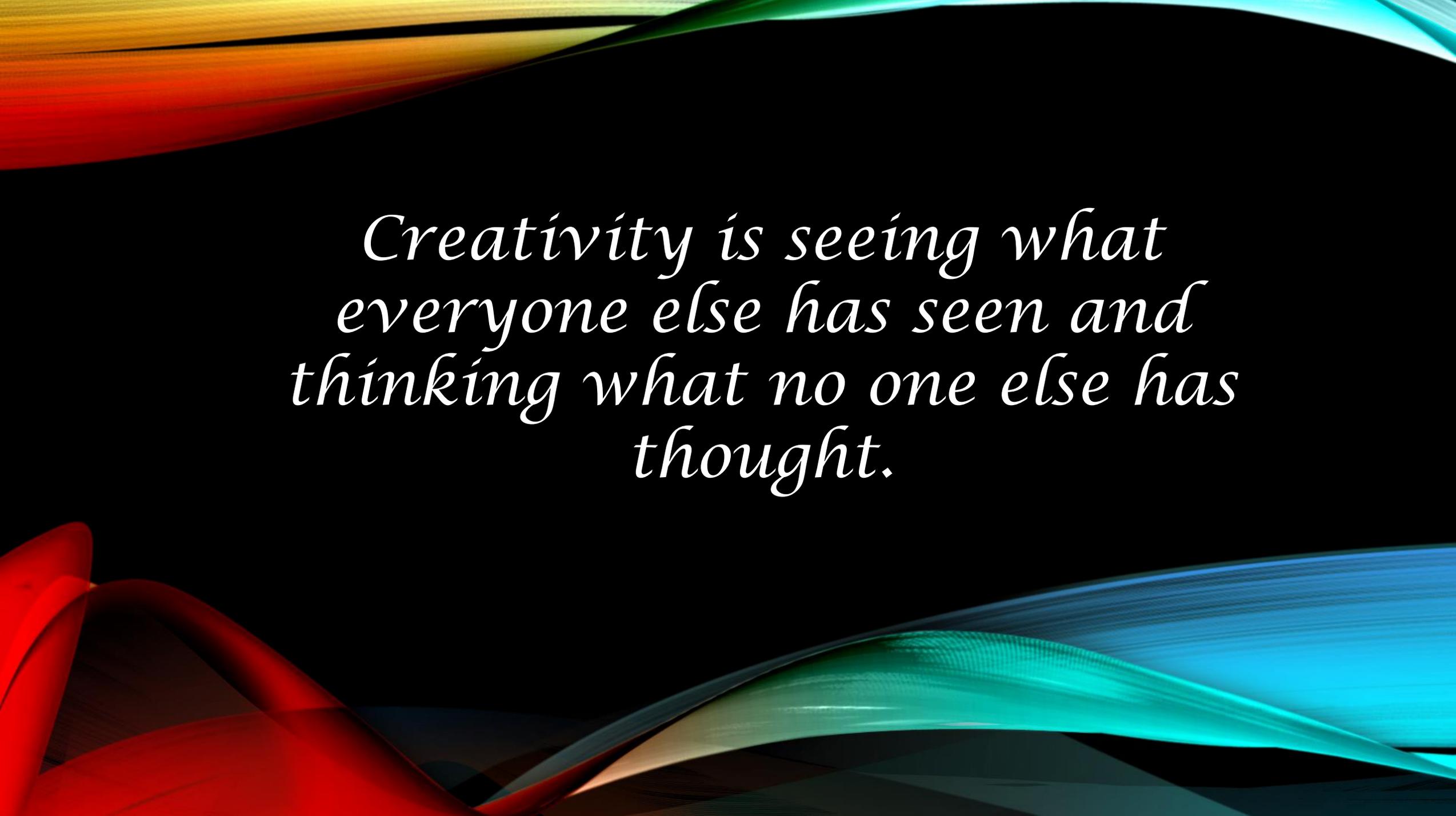




Linda Delean

Idelean@hotmail.com



*Creativity is seeing what
everyone else has seen and
thinking what no one else has
thought.*



An essential aspect of

creativity

is not being

afraid to

fail

Dr. Edwin Land

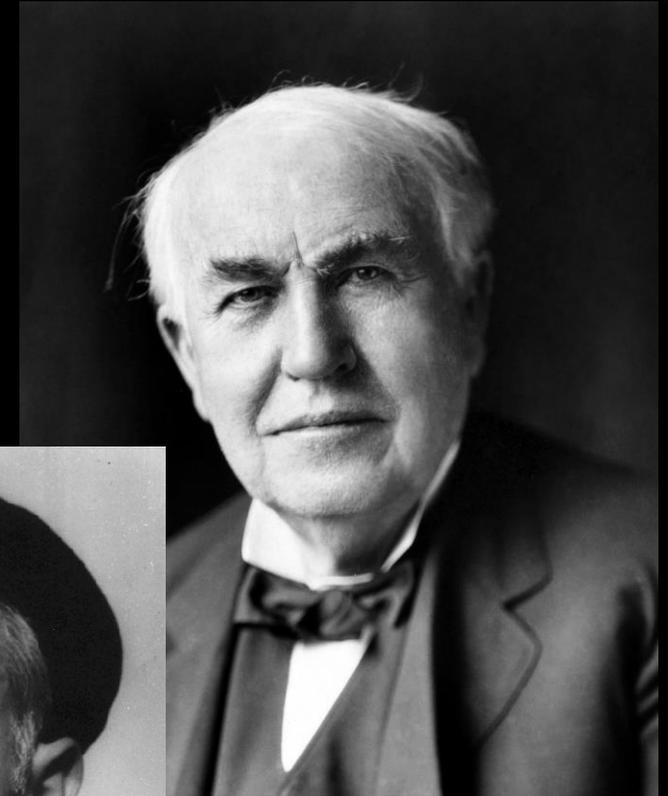
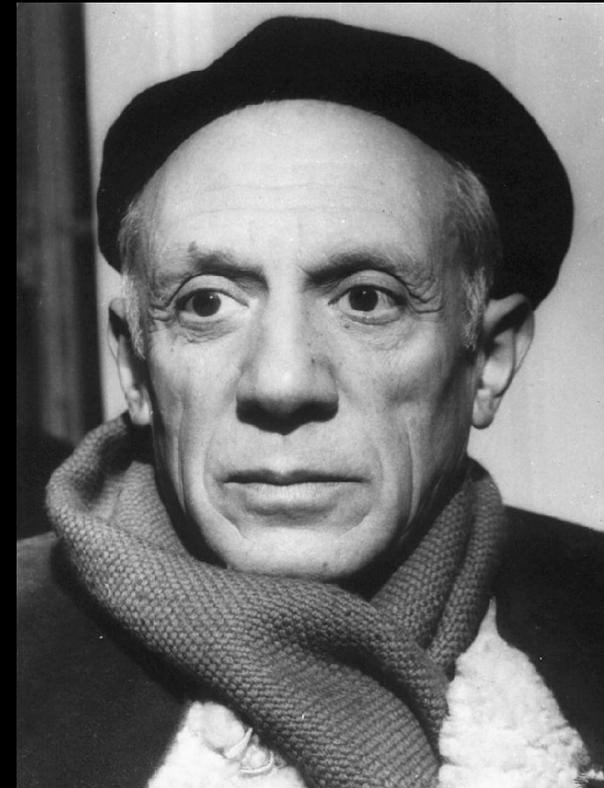
www.Designpromotivate.com



*Creativity
is putting
things
together in
New Ways*

IS CREATIVITY EASY TO RECOGNIZE...?

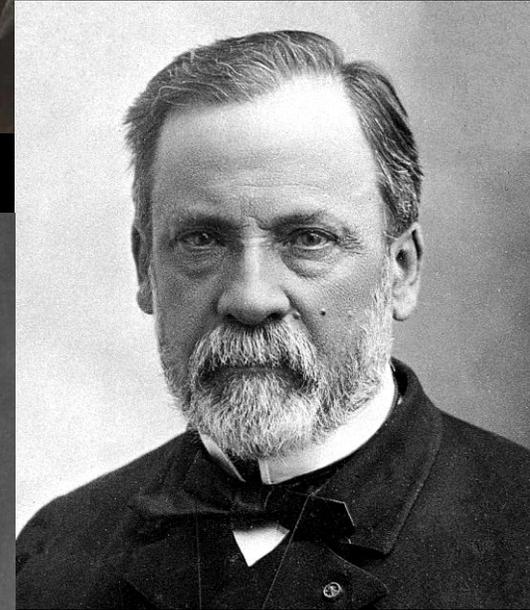
- **Thomas Edison** was told by his teachers that he was too 'stupid' to learn
- **Pablo Picasso** could not read by the age of ten. His father hired a tutor –who gave up and quit



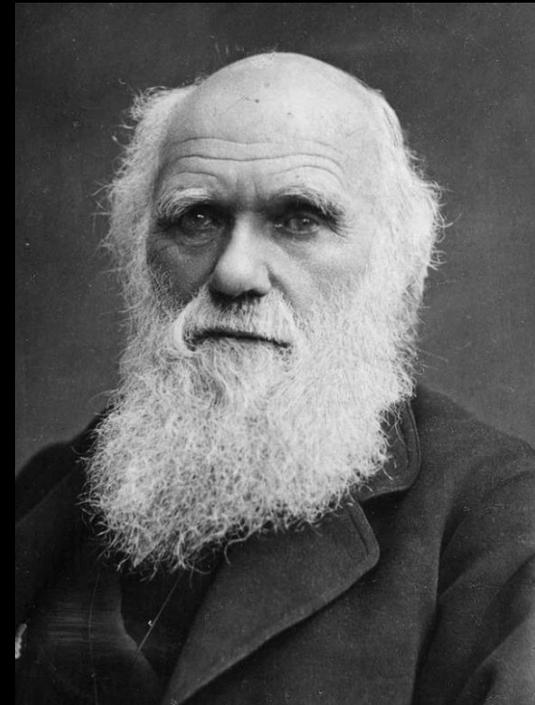
- **Walt Disney** was fired by a newspaper editor because he had no good ideas



- **Louis Pasteur** was rated mediocre in chemistry at the Royal College

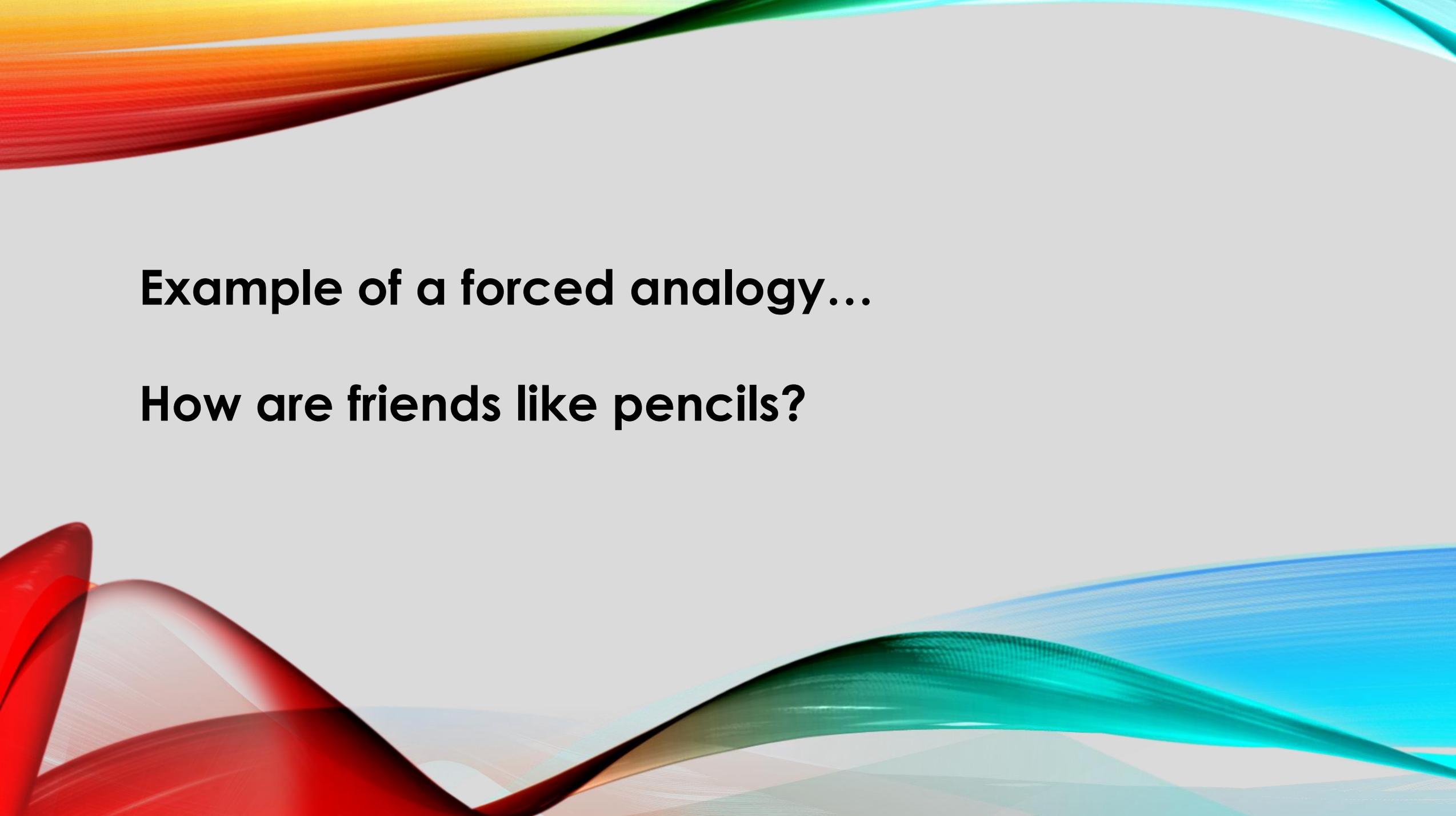


- **Charles Darwin** did poorly in the early grades and failed a university medical course.



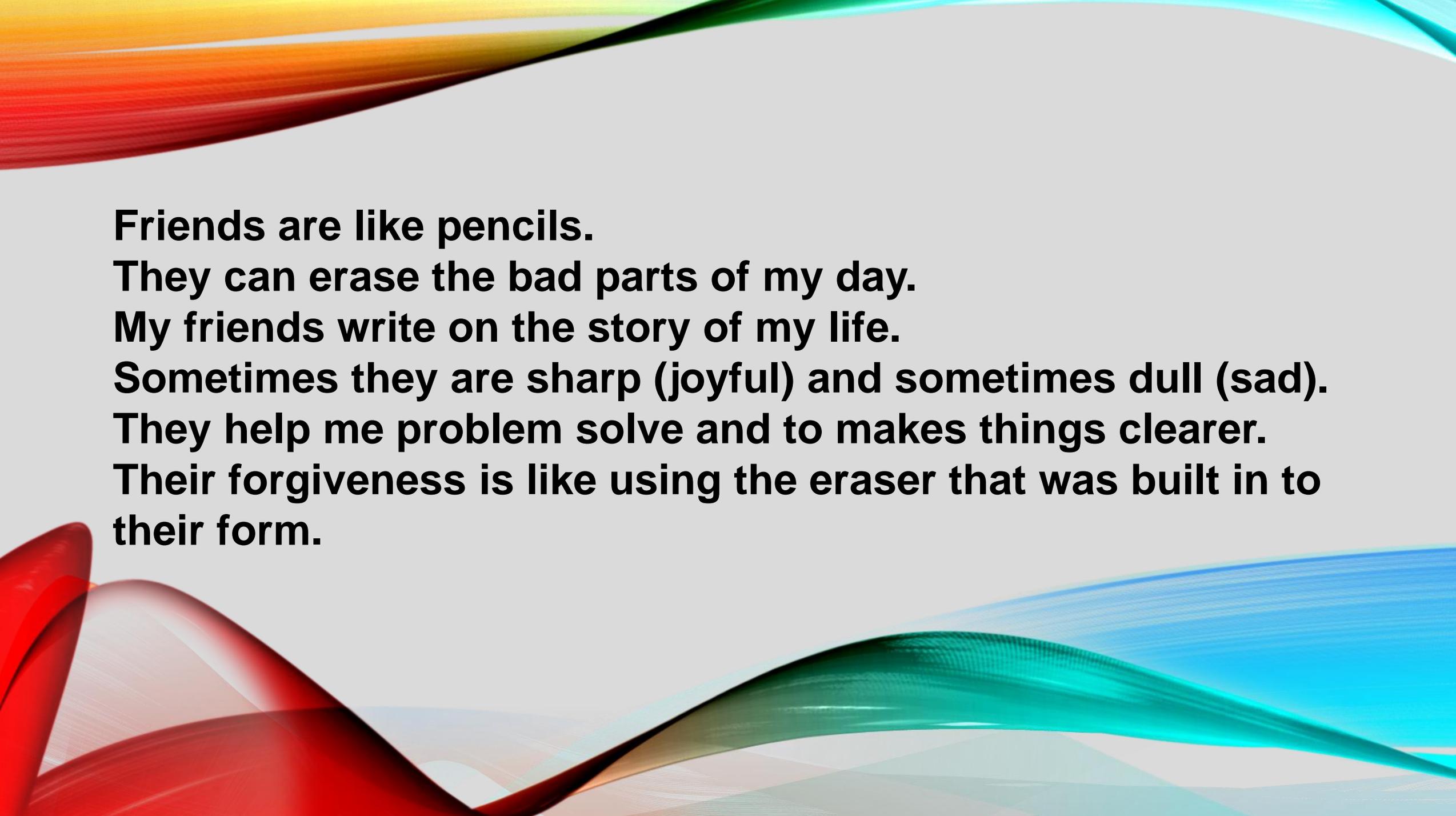
JOSEPH RENZULLI'S MODEL OF GIFTEDNESS





Example of a forced analogy...

How are friends like pencils?



**Friends are like pencils.
They can erase the bad parts of my day.
My friends write on the story of my life.
Sometimes they are sharp (joyful) and sometimes dull (sad).
They help me problem solve and to makes things clearer.
Their forgiveness is like using the eraser that was built in to
their form.**

CHANGING THE PARADIGM



Sir Ken
Robinson
12
minutes

Creative Abilities

It is essential to focus on **HOW** to think.

Creativity and imagination are fostered by advanced thinking patterns.

Educators support students through **structure, guidance, and inspiration.**

*Who are
creative
people?*





Characteristics of Creative Thinkers

- divergent thinking
- collaboration
- problem solving
- idea generating and making associations
- risk taking
- mistakes are opportunities

Characteristics of Creative Thinkers

--time for questions and I wonder...

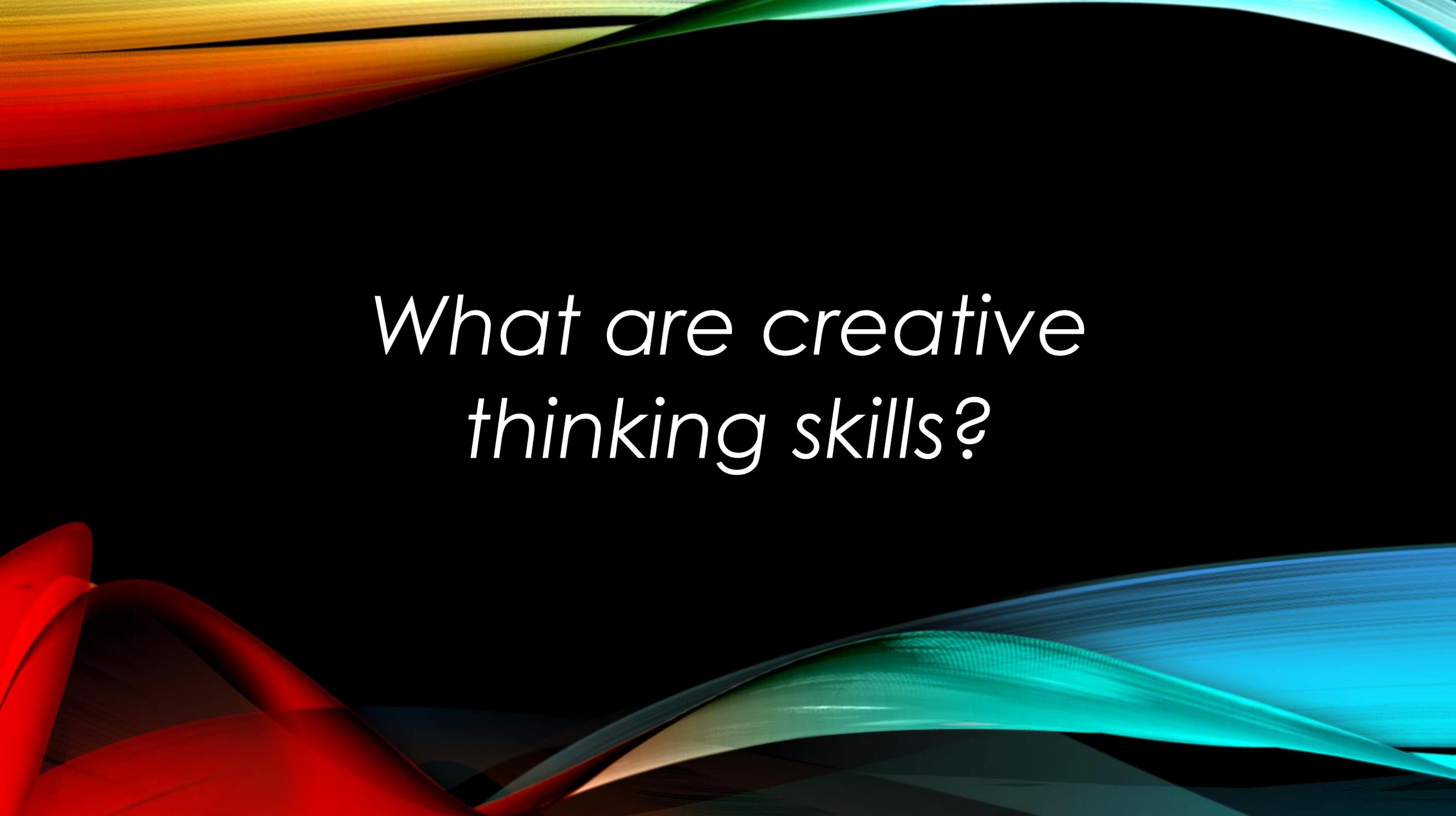
--engaging with experts

--multi-disciplinary

--Growth Mindset

--highly curious and playful

Teach creative skills explicitly!



*What are creative
thinking skills?*

FLEXIBILITY



Take different approaches to the problem

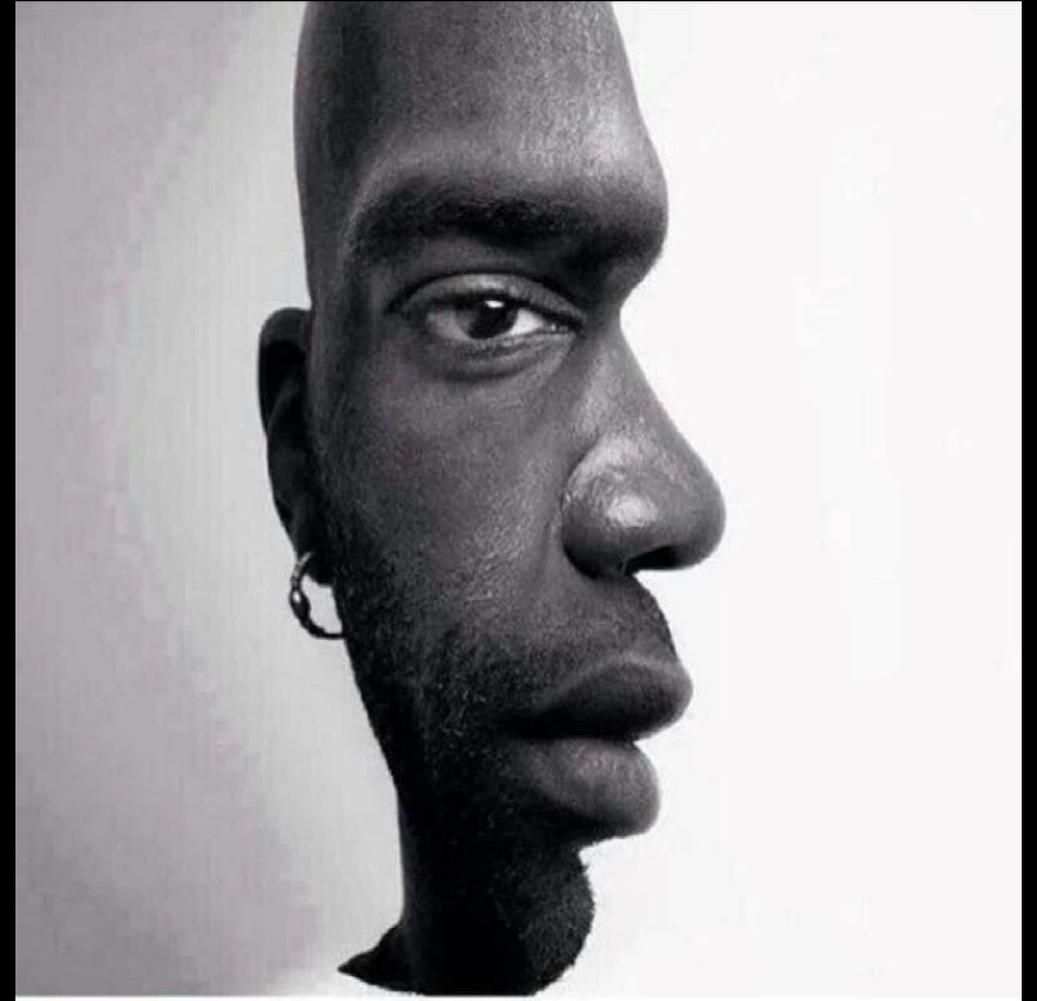
View situations from various perspectives

ORIGINALITY

Uniqueness

Unconformity

Freedom to take risks



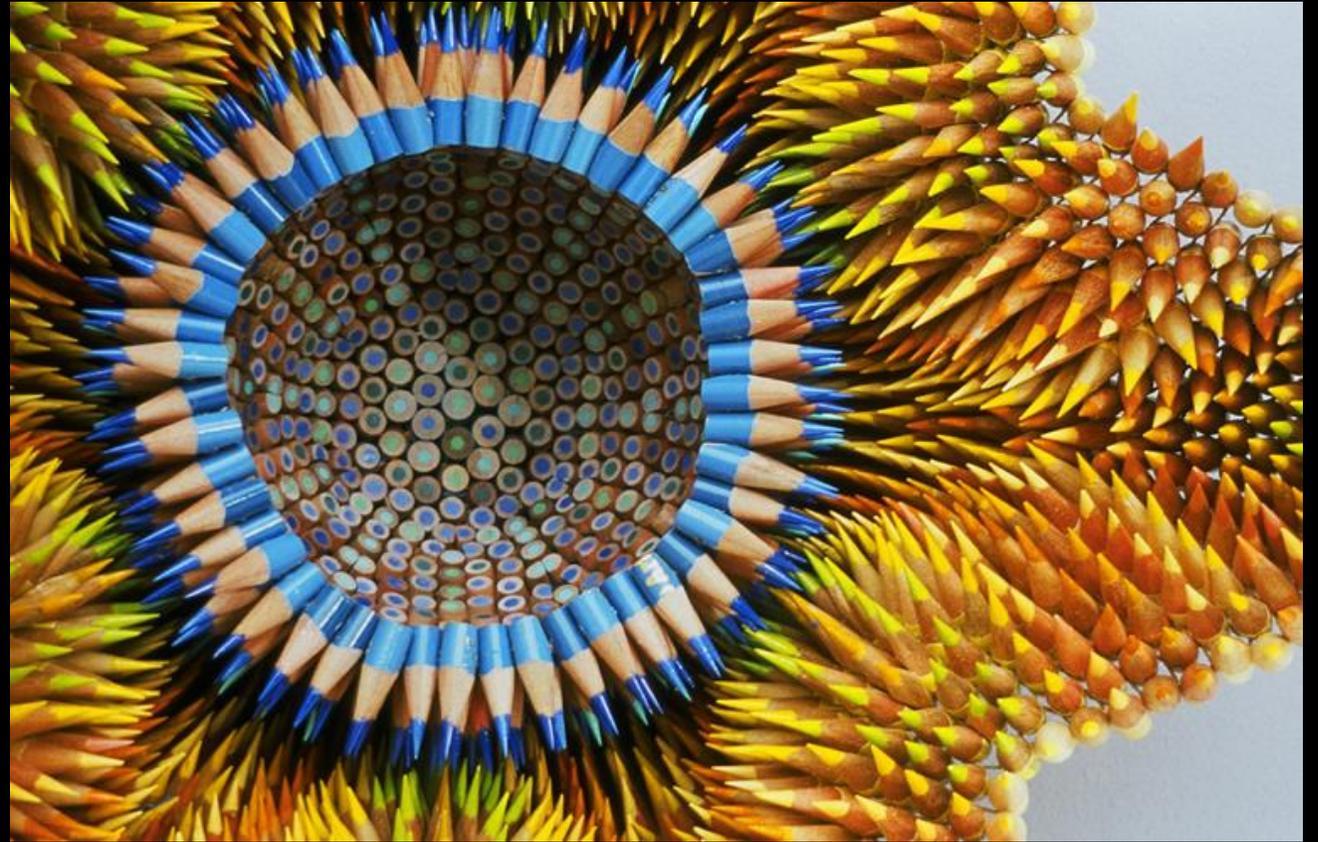
ELABORATION

Add details

Develop

Embellish

Implement a given idea



PROBLEM: FINDING, SENSITIVITY, DEFINING

Defining
Unpacking
Isolating variables
Considering options
See it in context



VISUALIZATION

Ability to imagine



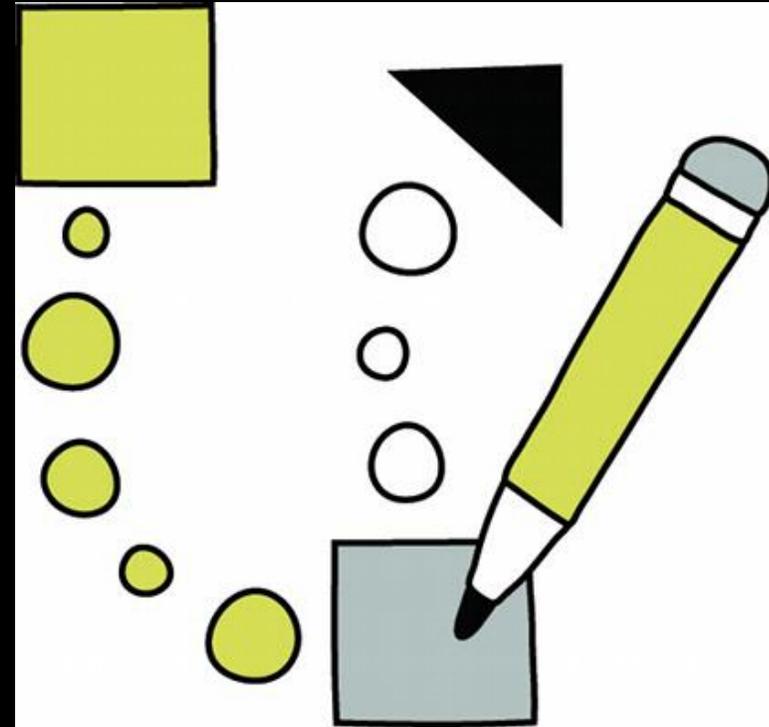


ABILITY TO REGRESS

Think about an issue without
preconceived notions

ANALOGICAL THINKING

Borrow ideas from one context and adapt them to another



EVALUATION AND ANALYSIS



Separate relevant
from irrelevant
considerations

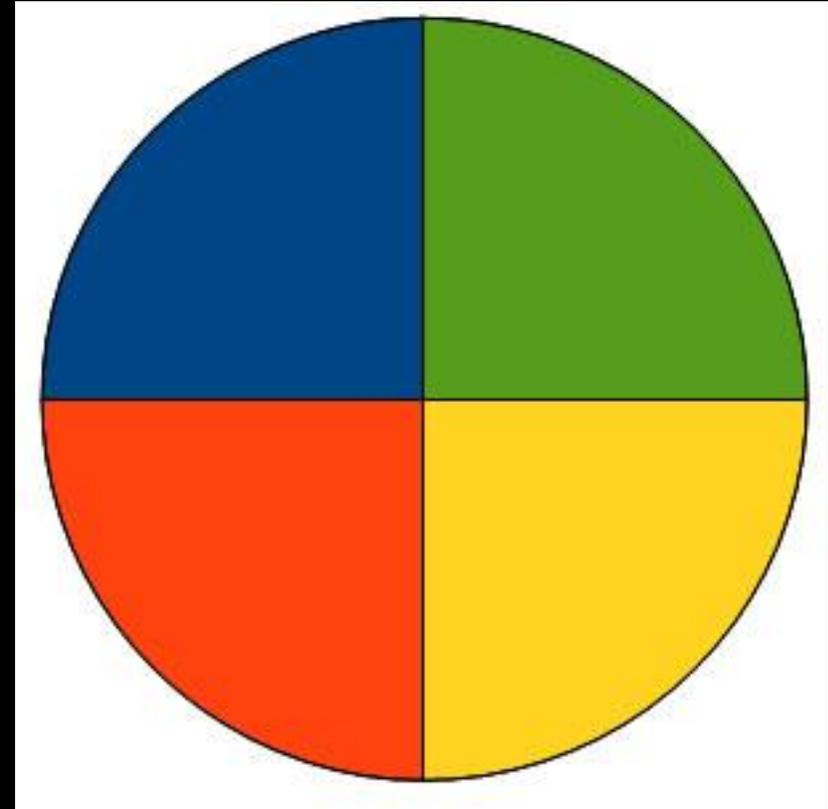
Analyze details,
separate a whole
into parts

SYNTHESIS

Ability to see
relationships

—combine parts into a
whole

-CREATE NEW IDEAS



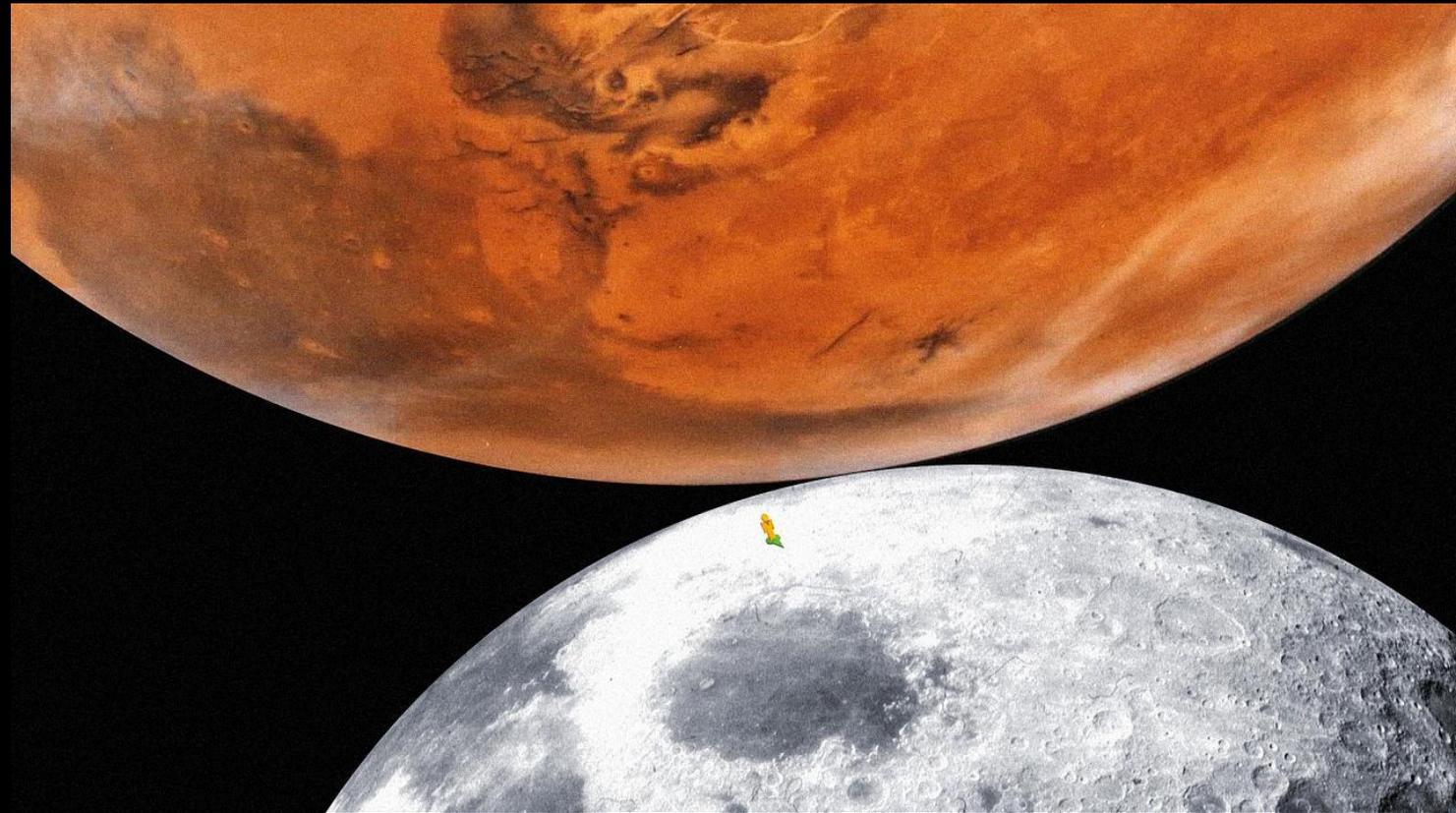
TRANSFORMATION



Adapt something for
new use, meaning,
and applications

EXTEND BOUNDARIES

Ability to go
beyond what
is usual



INTUITION AND PREDICT OUTCOMES

“read between the
lines”

Foresee different
solutions and
alternatives

LINESLINESLINES

read

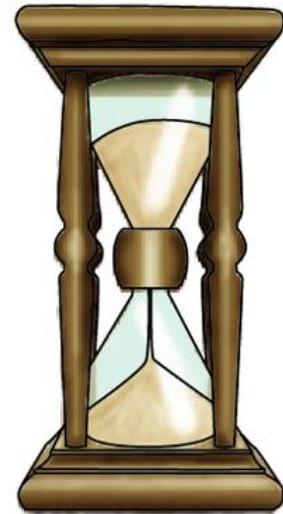
LINESLINESLINES

read

LINESLINESLINES

RESIST PREMATURE CLOSURE

Ability to defer
judgement



Have Patience

CONCENTRATION

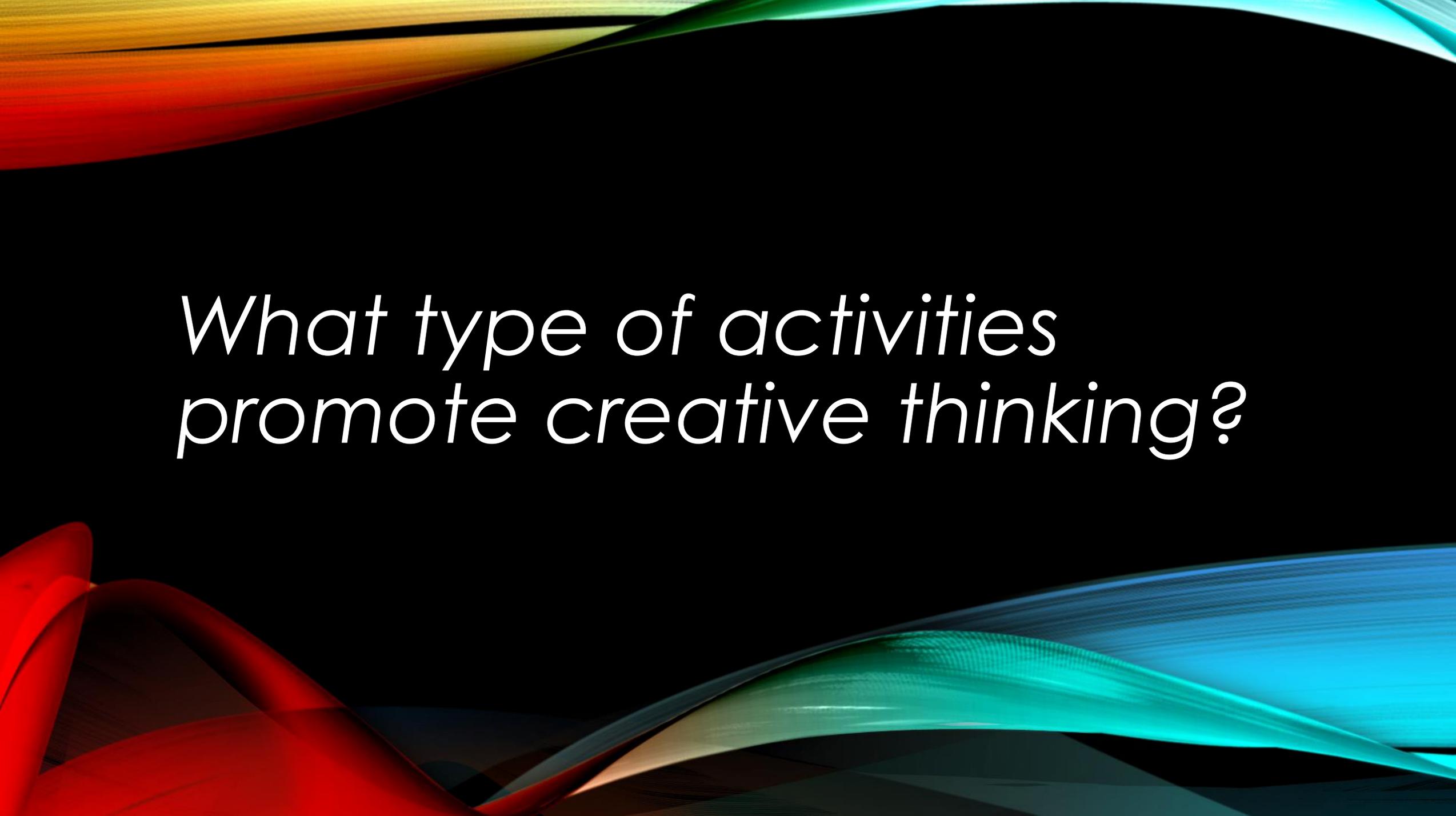


Focus for a long
time, not
distracted

AESTHETIC THINKING

Sensitivity to
and the
appreciation of
beauty in art,
design, and
nature





*What type of activities
promote creative thinking?*

TYPES OF CREATIVE ACTIVITIES

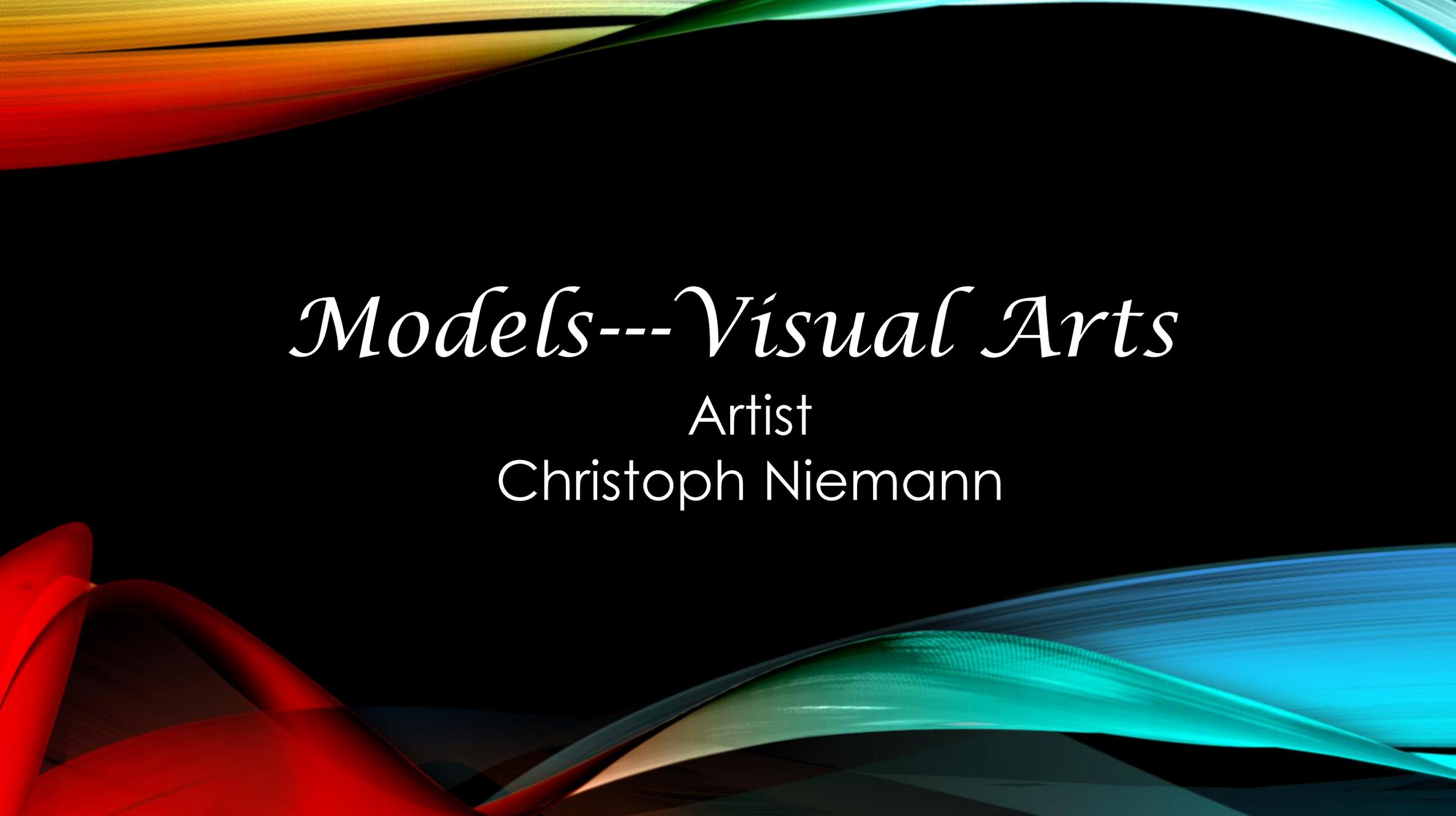
Activities we want to engage students in...

- Making connections and associations
- Generating ideas and extending them
- Changing perspectives
- Making predictions
- Combining ideas and separating them
- Modifying ideas
- Recognizing perspectives and assumptions
- Understanding the bigger picture and context
- Utilizing new and former knowledge





*What are specific activities
that promote creativity?*



Models---Visual Arts

Artist

Christoph Niemann



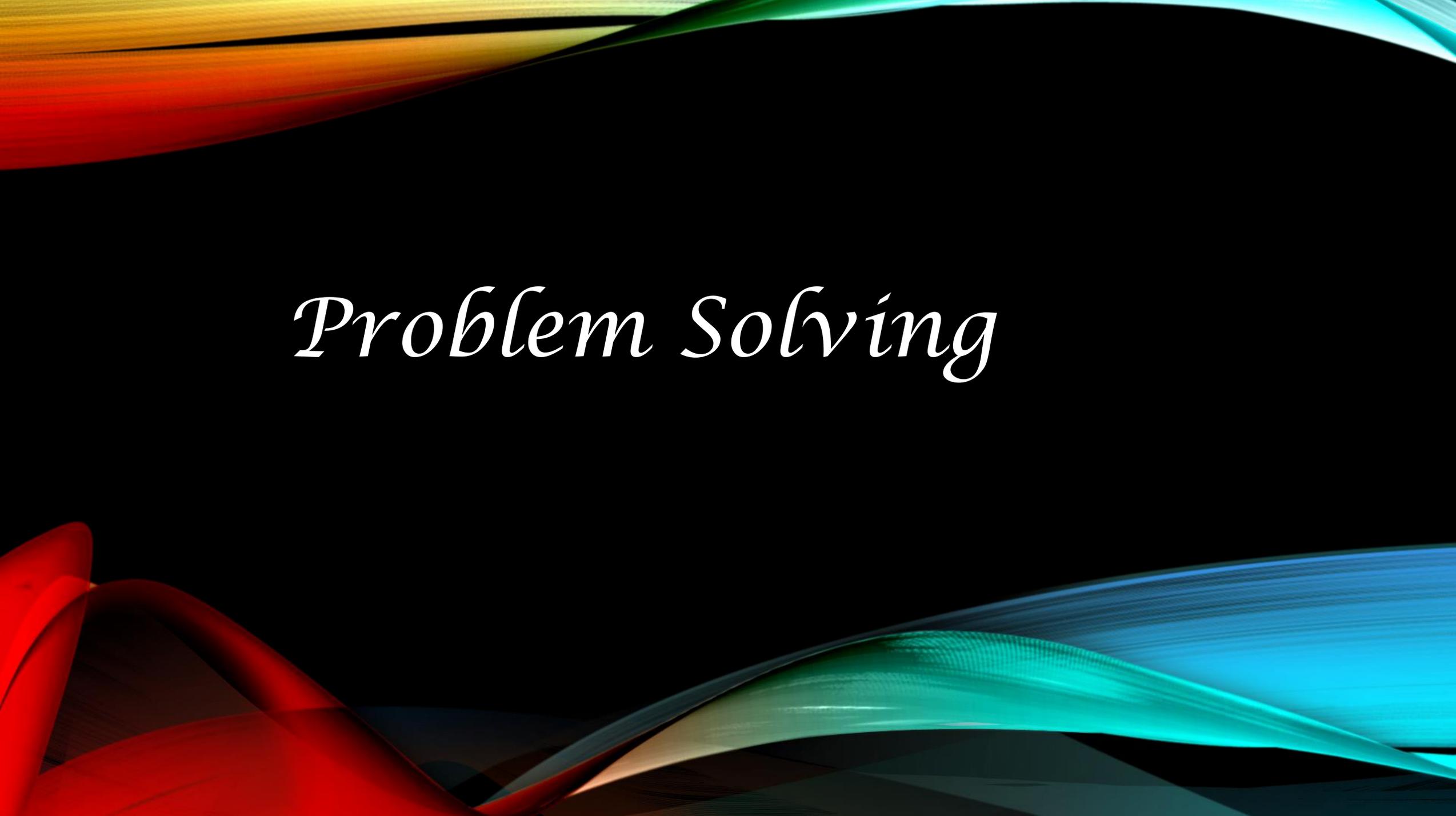
Christoph
Niemann



Christoph
Niemann



Christoph
Niemann



Problem Solving

Activity



What are the next 3 letters in the following sequence?

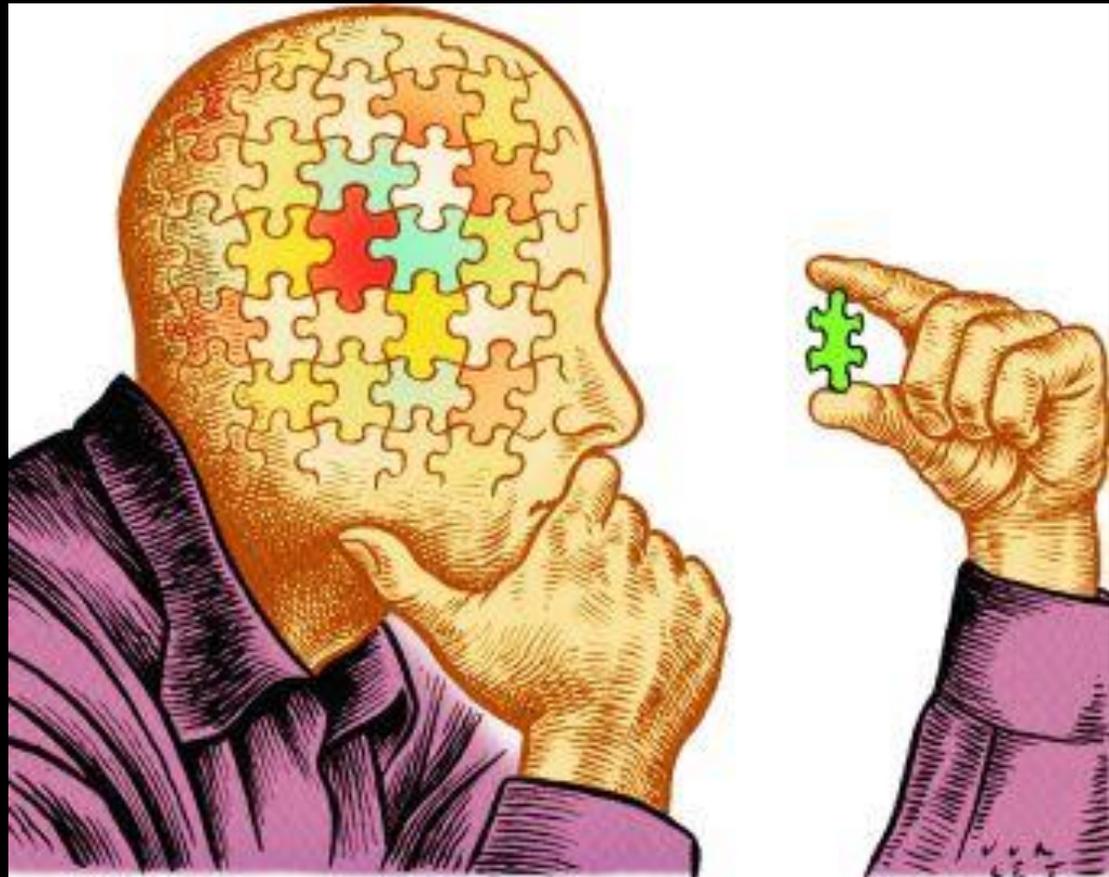
J, F, M, A, M, J, J, A, __, __, __



Structured Protocols

OSBORN'S SEVEN-STEP MODEL FOR CREATIVE THINKING

1. Orientation
2. Preparation
3. Analysis
4. Ideation
5. Incubation
6. Synthesis
7. Evaluation



Think aloud

make thinking explicit ...

What is the author's thinking?

What are the underlying assumptions?

How do we know?

How can we weigh opinions against facts?





Four corners

- consider different stances
- dialogue with others who have differing viewpoints

The classroom is labelled with four points of view

Strongly Agree

Agree

Disagree

Strongly Disagree

Problem Reversal

The world is full of opposites. Of course, any attribute, concept or idea is meaningless without its opposite.

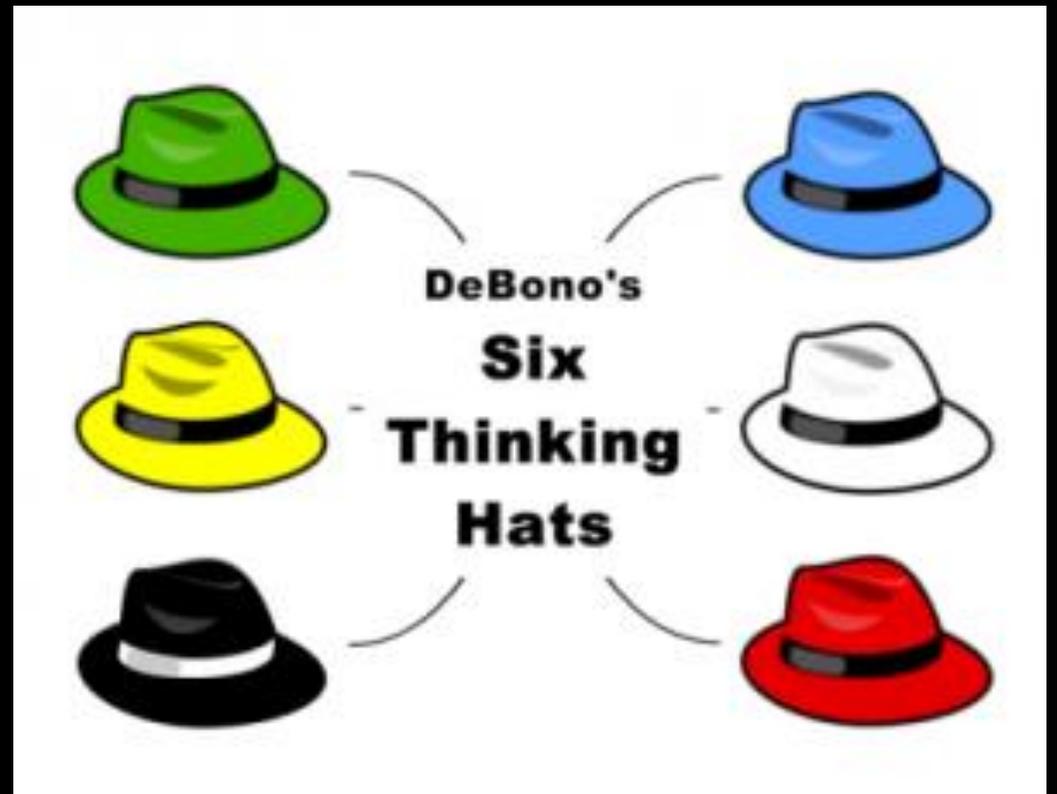
The method

- State your problem in reverse. Change a positive statement into a negative one.
- Try to define what something is not.
- Figure out what everybody else is not doing.



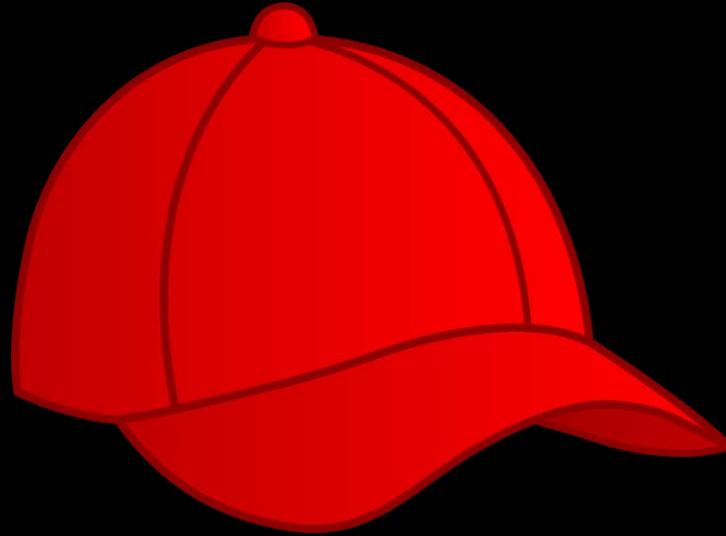
Six Thinking Hats

The six hats represent six modes of thinking and are directions to think rather than labels for thinking.





facts
figures
information
needs
gaps.



intuition
feelings
emotions.



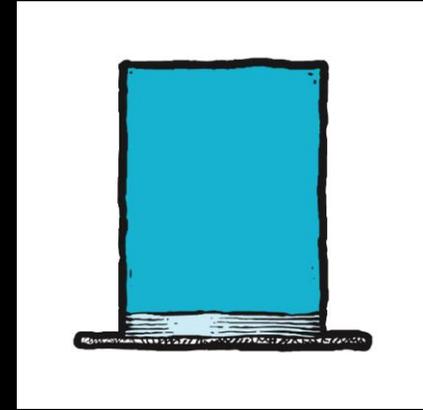
judgment
caution



Benefits
Value



Creativity
Alternatives
Proposals...
What potential
is there in
change?



This is the
overview or
process control
hat.

It looks not at
the subject itself
but at the
'thinking' about
the subject.

Applied Imagination

Consider...Who, what, where, when, how, why?

Then...

- Adapt?
- Modify?
- Substitute?
- Magnify/Maximise? m
- Minimise/Eliminate?
- Rearrange?
- Reversal?
- Combine?

Superman

Pet vacation

Foldable
stool/table
purse/picnic
basket



Forced Analogy

Forced analogy is a very useful and fun-filled method of generating ideas. The idea is to compare the problem with something else that has little or nothing in common and gaining new insights as a result.

Example: my friend is like a pencil



Create story endings
Story Telling

**The Lady and
the Tiger**



Brainstorming

- stimulate ideas in a sort of chain reaction of ideas
- Suspend judgment
- Every idea is accepted and recorded
- Encourage people to build on the ideas of others
- Encourage way-out and odd ideas



Attribute Listing

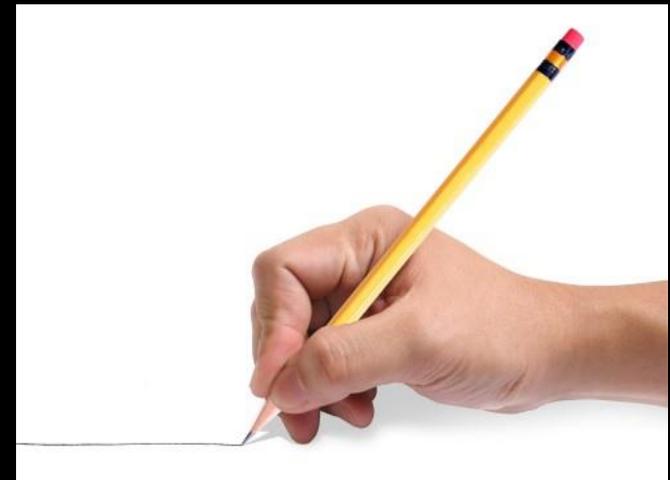


Attribute listing is breaking the problem down into smaller and smaller bits and seeing what you discover when you do.

Visual Thinking

We think in different ways and two complementary modes are visual thinking and verbal thinking. The method liberates your thinking from the world of words by utilising the power of patterns, shapes and pictures.

Example: Math problem solving



Assumption Smashing

A useful technique of generating ideas is to list the assumptions of the problem, and then explore what happens as you drop each of these assumptions individually or in combination.





Linda Delean

ldelean@hotmail.com



The Delean Carter 
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