NAGC23
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The Dream Trampoline

Strategies for Fostering Creative Thinking

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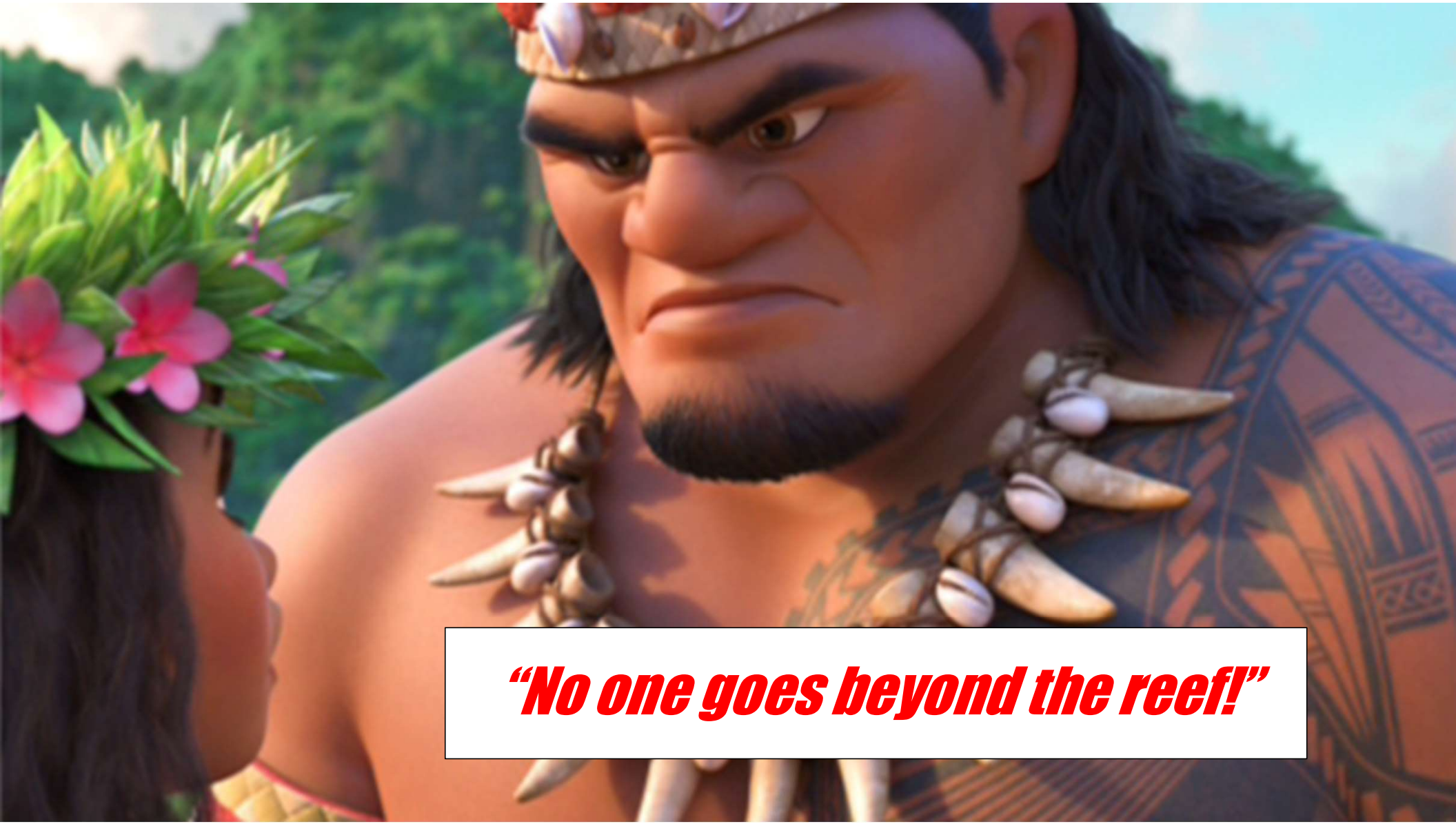
AGENDA

- What is creativity?
- Understandable resistance to creativity
- Particular challenges for gifted kids with creativity
- Dream Trampolines as a path to creativity
- Important characteristics and examples
- Ways to incorporate Dream Trampolines

WHAT IS CREATIVITY?

Aspect	Needed characteristics	Needed activities
• Generating new and unusual ideas, methods, and products *"That's creative!"*	• Perception, imagination, "low walls" to see unusual connections ***Originality***	• Taking advantage of low-wall processes in **all** of our brains
• Generating lots of ideas, letting most fail, finding good seeds	• Resilience, optimism, openness to mistakes ***Fluency and flexibility***	• Practicing dealing well with mistakes, failure

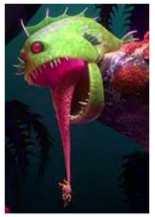
WHO WOULDN'T WANT CREATIVITY?...

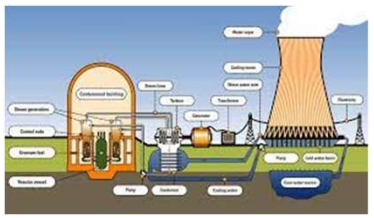

“No one goes beyond the reef!”


"New is always bad!
Never not be afraid!"

THEY'RE NOT *COMPLETELY* WRONG... JUST SHORT-SIGHTED

- Mistakes and failure can sometimes be really, really bad.
- Society communicates this disapproval to kids, including in school...
    - ... even though *no* creativity or innovation means **stagnation, lack of improvement, and vulnerability to game-changing threats.**
- We give **lip service to creativity**, but feel a **gut resistance** to it, particularly when we're uncertain.
    - Unconsciously, "people had a strong association between the concept of creativity and other negative associations like **vomit, poison and agony**," especially when feelings of uncertainty were activated. (Mueller *et al,* 2012; emphasis added)





(Imagine vomit, poison, and agony for yourself.)

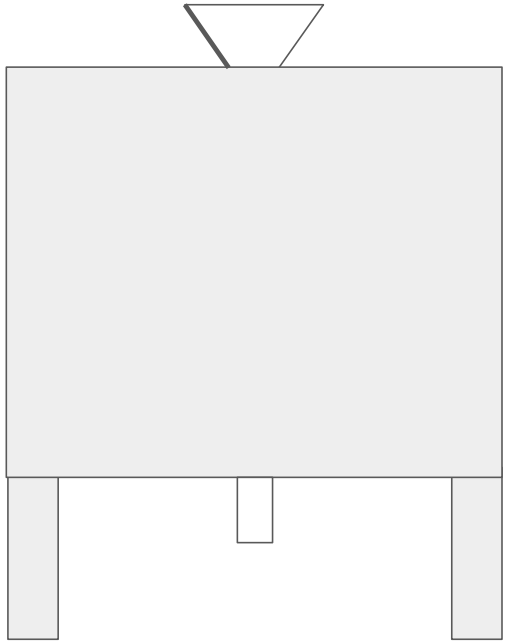
CREATIVITY CAN BE SUPPRESSED... OR CULTIVATED

- Creativity scores among kids in the U.S. have been falling.
    - "Since 1990, even as IQ scores have risen, creative thinking scores [on the Torrance Tests of Creative Thinking] have significantly decreased. **The decrease for kindergartners through third graders was the most significant**." (Kim, K.H., 2011, "The creativity crisis"; emphasis added)
- Standardized testing may be partly to blame.
- People often believe creativity is inherent (fixed mindset).
- But societies, schools, and individuals can **cultivate creativity through environments and practices that value non-conformity**. (Kim, K.H., 2016, *The Creativity Challenge;* emphasis added)

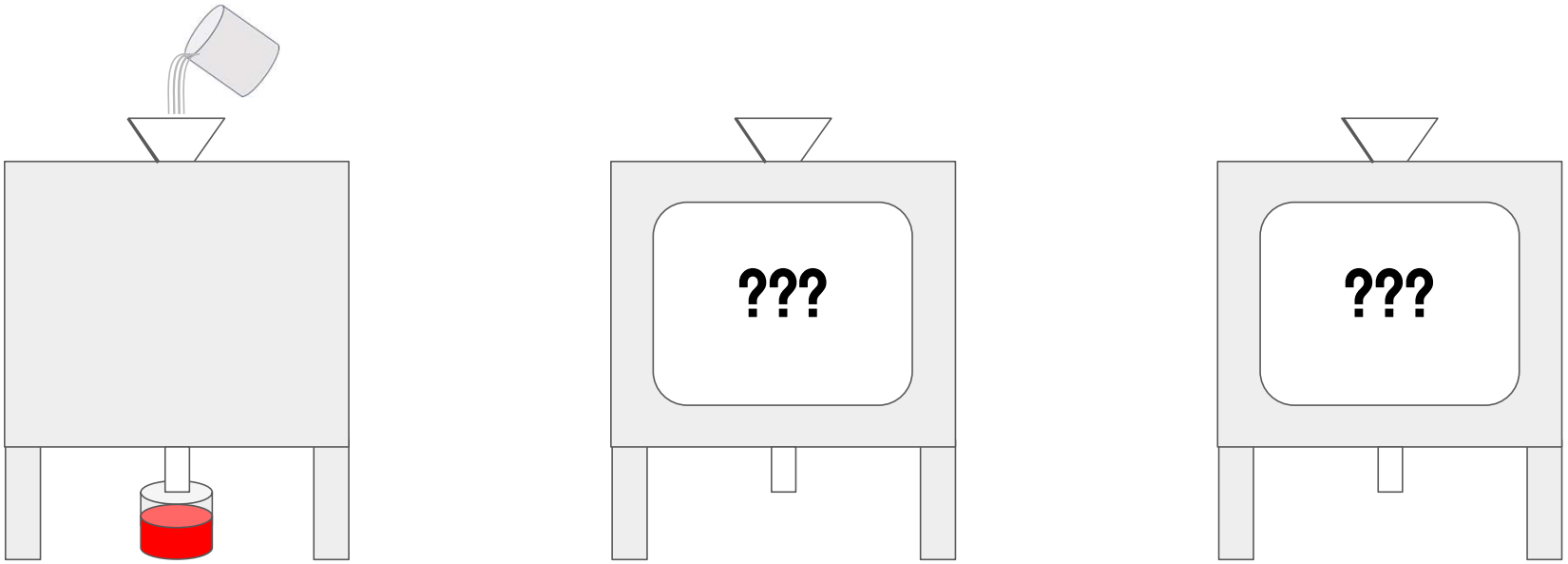
PARTICULAR CHALLENGES FOR GIFTED KIDS AND CREATIVITY

- Creativity ≠ intelligence (Kim, K.H., 2005)
- School reinforces a bias against creativity, especially for gifted students.
    - Kids who test well are rewarded for *not* making many mistakes.
    - "School science" success has little to do with real science success, which requires great creativity (theorists *and* experimentalists).
- Anxiety, self-doubt, and fear of failure can set in after early years.
- Creativity *must* be part of talent identification.
    - Creative gifted kids may not thrive in a traditional school environment.
    - Some tools now include non-conformity among behaviors to watch for.

CREATIVITY IN REAL SCIENCE



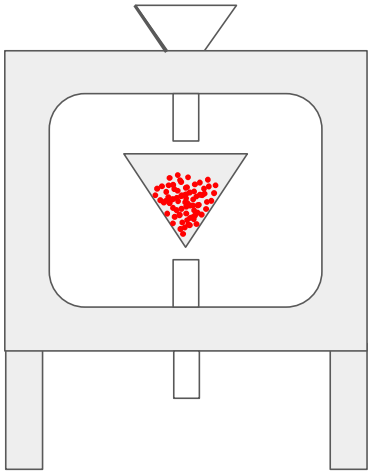
WHAT'S IN THE BOX?



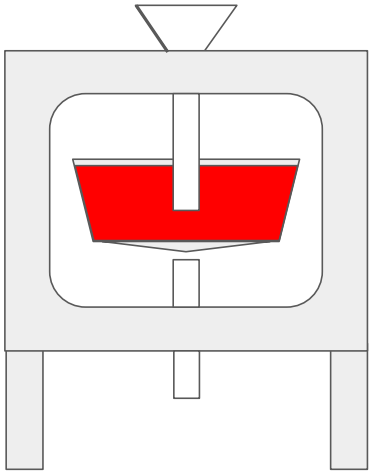
Creativity of the **theorist**

WHAT'S THE NEXT EXPERIMENT?

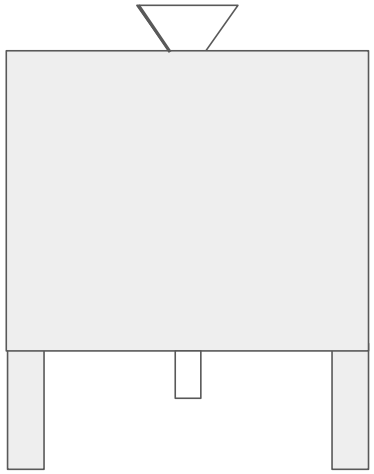
???



Kool-Aid powder model

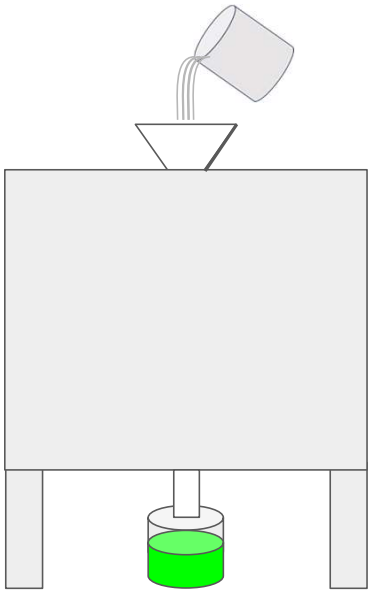


Tank overflow model

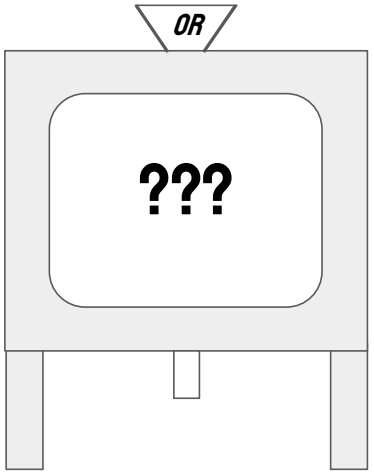


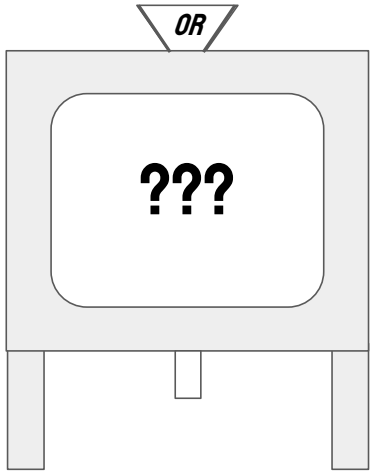
Creativity of the **experimentalist**

Prior support for powder model



NATURE SURPRISES US





More creativity from the theorist, then the experimentalist, etc...

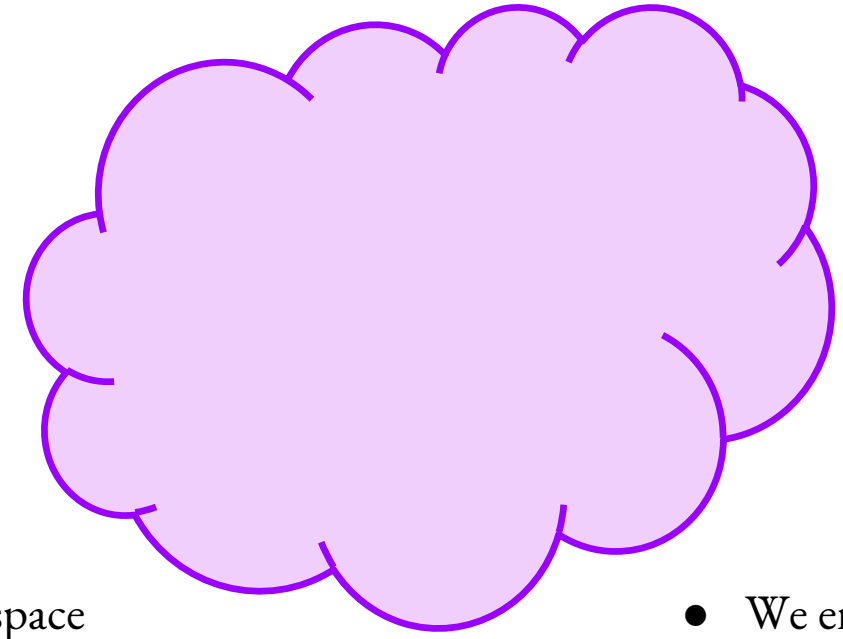
BUT THIS IS NOT HOW WE TEACH SCIENCE.

WE NEED A SEPARATE, SAFE *DREAM SPACE*

Separate

- Doesn't feel like "regular school"

- We create a separate space and lean into its magic



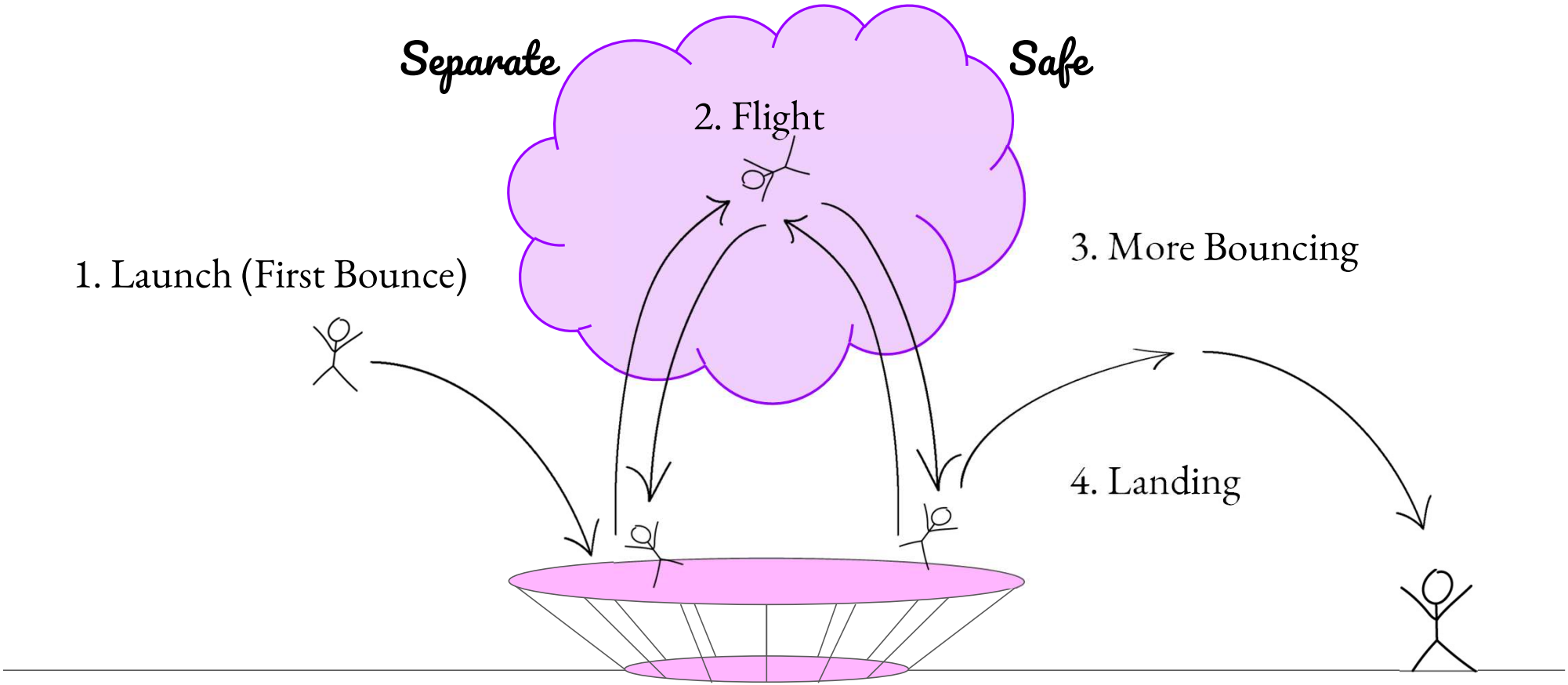
Safe

- Okay to dream, try, create, fail, try again

- We encourage safe risk-taking, expect failure, and learn by mistakes

We build a class community that is kind and mutually supportive

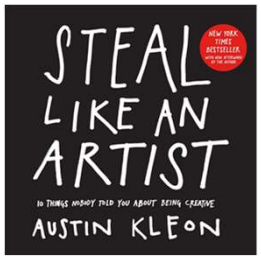
DREAM TRAMPOLINES LET YOU FLY INTO DREAM SPACES



Class community that is kind and mutually supportive

LAUNCH GIVES FUN CHALLENGE AND *SOME* DIRECTION

"Start copying." (Austin Kleon, 2012)

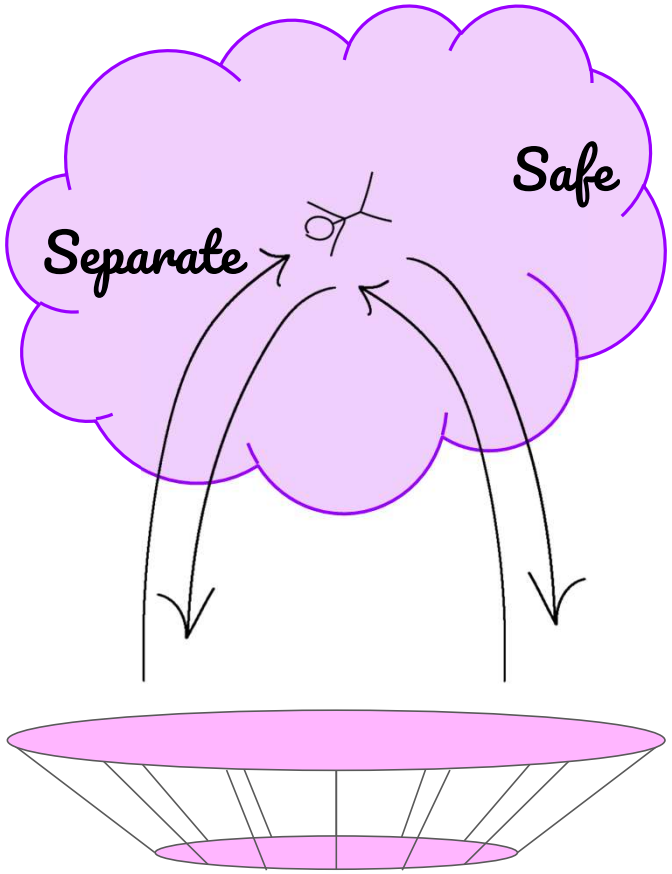


- Creativity is often remixing with constraints.
- "Creativity is subtraction." (Kleon again)
  - 236 different words in *The Cat in the Hat*
  - Editor challenges Dr. Seuss to use just 50
  - Dr. Seuss wins the bet with *Green Eggs and Ham*
- Examples of launch prompts (guided, fun, and challenging)
  - What If storytelling
  - Word Wiz (Primary Education Thinking Skills)
  - Unusual Uses: How many different things can you do with a spoon?
  - How is X like Y?
  - Recopy a poem by X, now write a poem about Y in the style of X.
  - Do a puzzle, maze or cipher; now make your own in the same style.

FLIGHT IS PLAYFUL, FUN, WEIGHTLESS, FEARLESS

"Play lies at the core of creativity and innovation."
(Brown and Vaught, 2010)

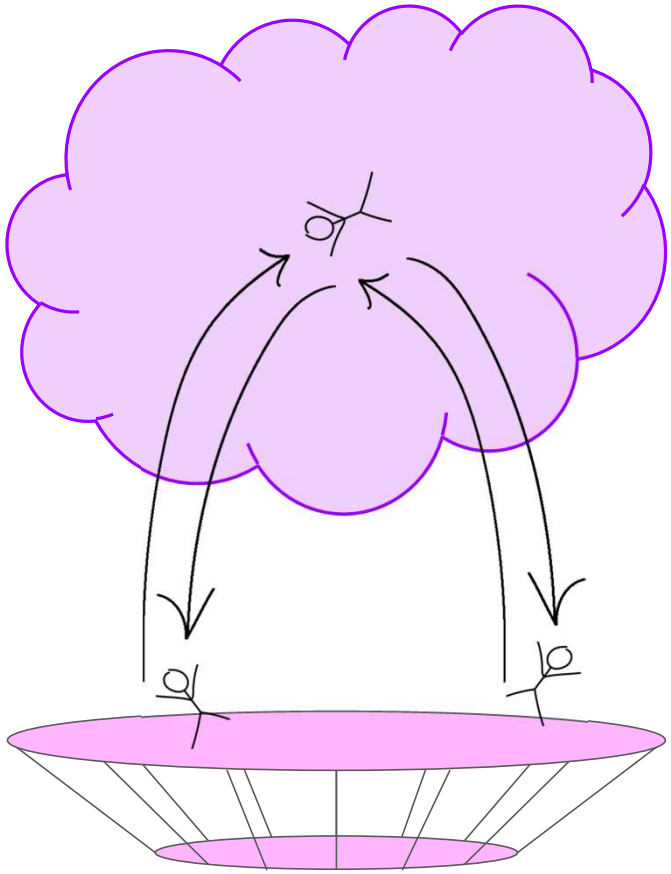
- Fun, humorous
- Improvising, experimenting
- For its own sake
- Flow state
  - Freedom from time
  - Un-self-conscious



- "Mind-wandering" is good!
  = Diffuse-mode thinking
  = Divergent, "low walls"
  = Incubation
  = "Generative power of unconscious thought" (Dijksterhuis) – may be better at associations and integrations
- Open-ended physical materials
  - JPL needs tinkerers!

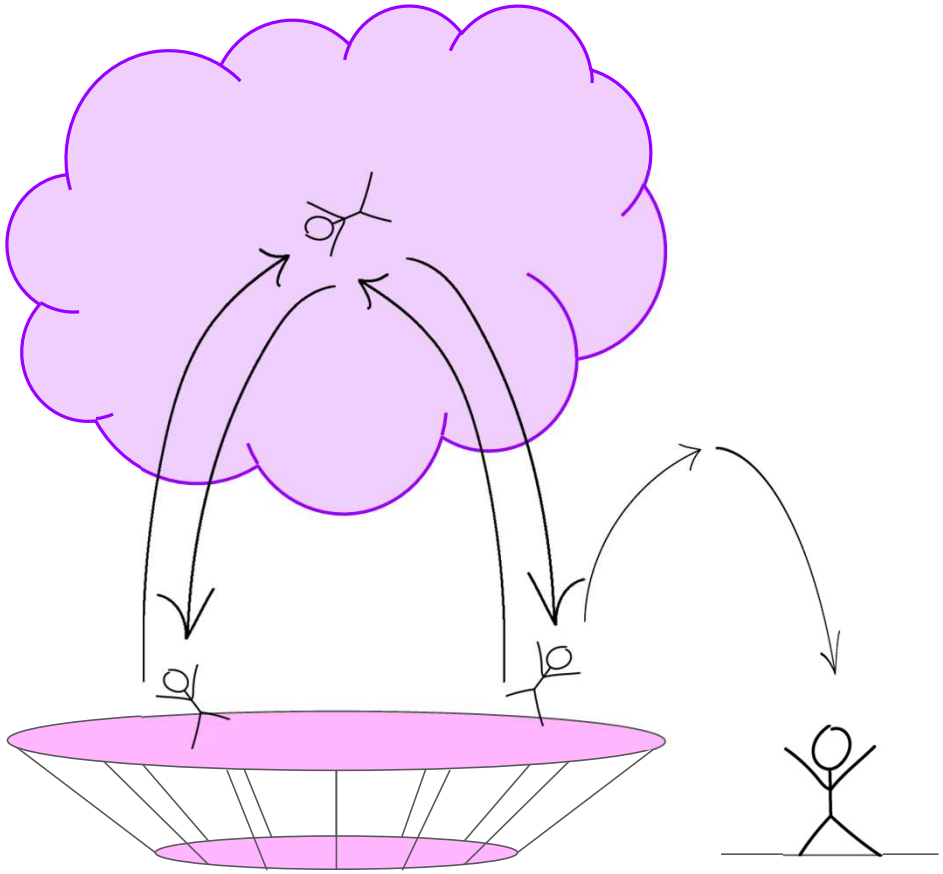
Class community that is kind and mutually supportive

BOUNCING REDIRECTS YOU *GENTLY* BACK INTO DREAM SPACE



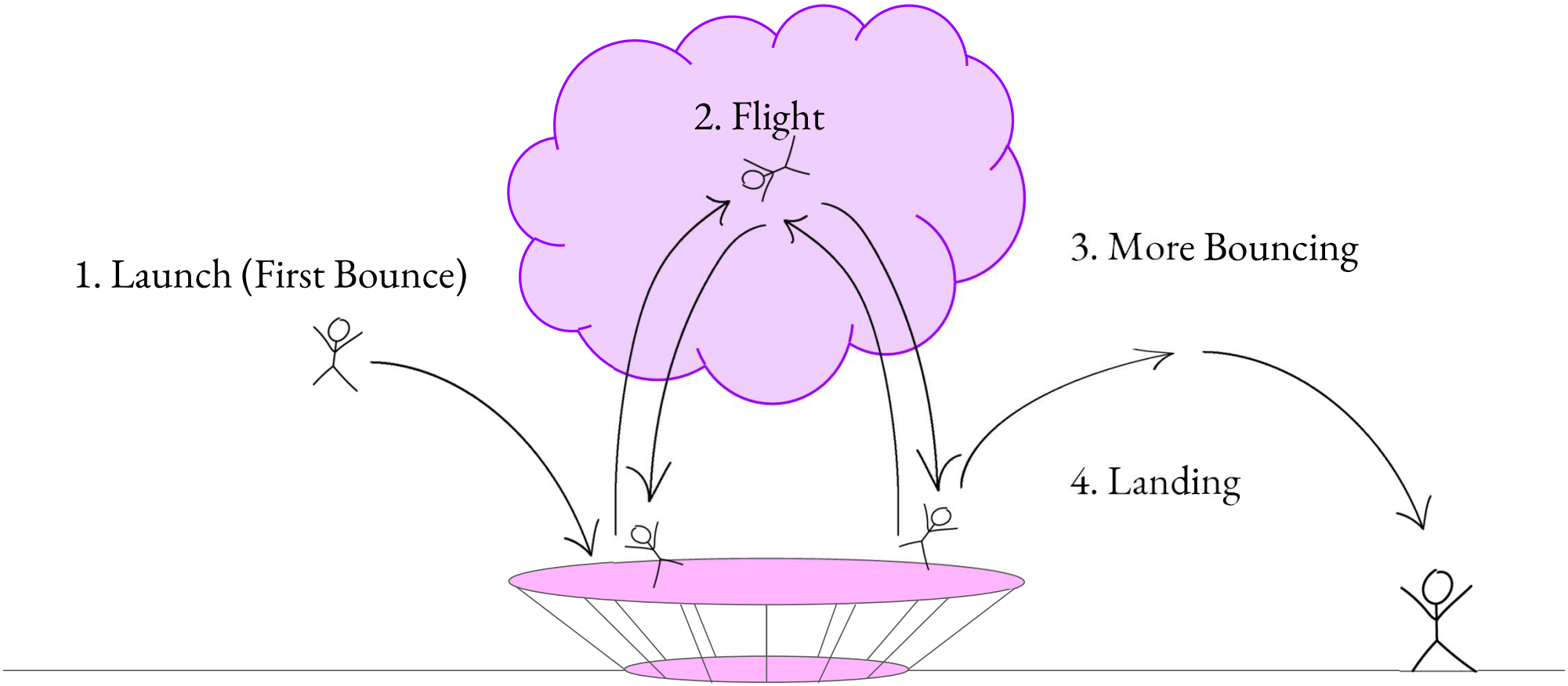
- **SCAMPER** (Eberle)
  - **S**ubstitute **P**ut to other uses
    Combine **E**liminate
    Adjust **R**everse/rearrange
    Modify/magnify/minify
- **Yes, and...** = classic technique of improv comedy
  - Accept what's in front of you and add something new
- **Oblique Strategies** cards by artists Brian Eno and Peter Schmidt: draw them randomly to help break through creative blocks, e.g. "Is it finished?"
- **Any follow-on question**, quick and light
  - When brainstorming fantastical creatures:
    "What does your creature like to eat for lunch?"

LANDING LETS YOU CELEBRATE AND REFLECT



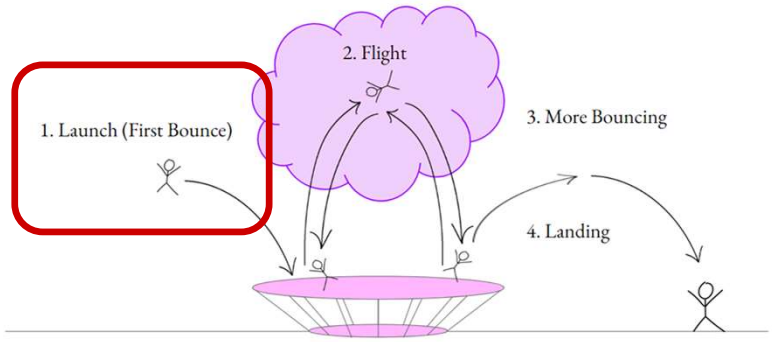
- Value everything
  - Especially process, variety, and volume
- Reflect, but keep celebrating the ***good***
  - Don't dwell on the bad
  - Avoid critiquing, criticizing, or comparing
- Prioritize volunteers for sharing
  - Don't force it
- If you must edit, do it ***later!***
  - Take a break and celebrate again

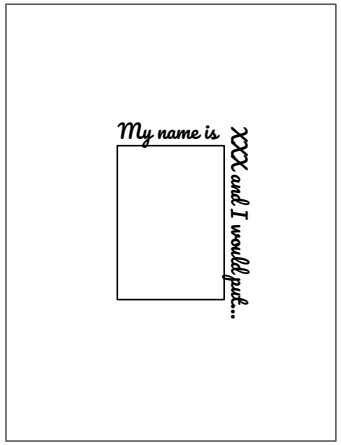
DO THIS A *LOT.* NORMALIZE IDEA GENERATION.



Class community that is kind and mutually supportive

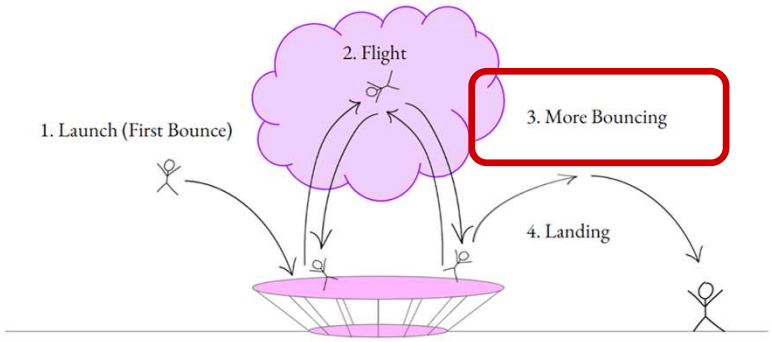
EXAMPLE DREAM TRAMPOLINE: "AROUND THE RAFT"



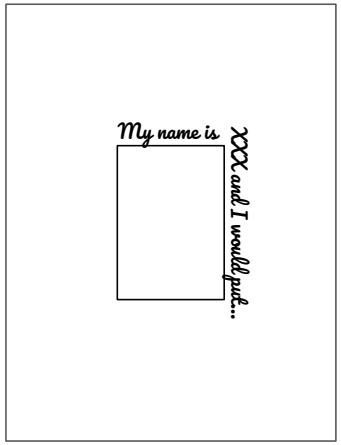


1. Draw a rectangle in the middle of a blank piece of paper.
2. Think of a creative student of yours, or someone you know.
3. We're going to do a RAFT writing exercise:
   Role: This student
   Audience: Teachers
   Format: Brainstorm
   Topic: What this student will put on this raft
4. Copy this text around the outside of the box, spiralling outward: **"My name is XXX, and I would put something interesting on this raft. I might start loading this raft by..."**

BOUNCING



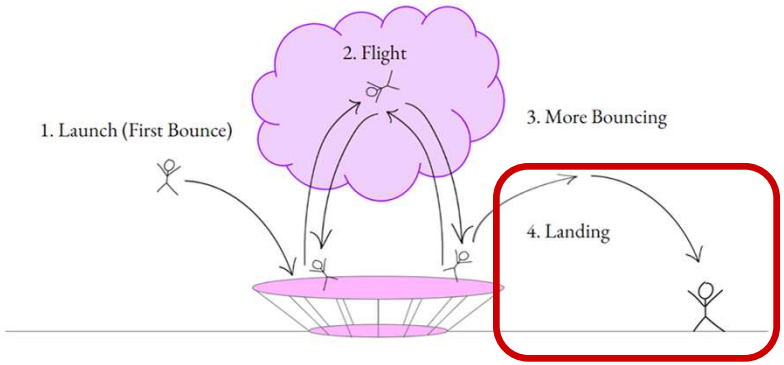
1. Continue the story. Free-write—don't stop. Keep your pen or pencil moving! If you find yourself running out of ideas, write **"...and I might seem to be running out of ideas, but because I'm Student XXX, here's what else I'd put on this raft..."**

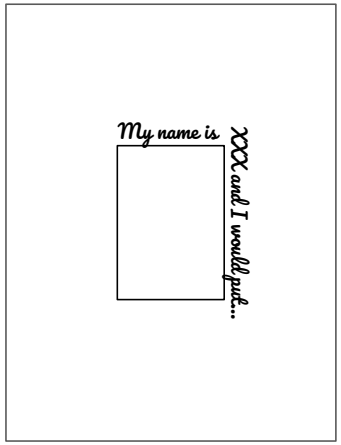


1. Add: **"Now I make things *SILLIER* by..."**

1. Add: **"Now I decide to *GET <u>REALLY</u> CRAZY* and..."**

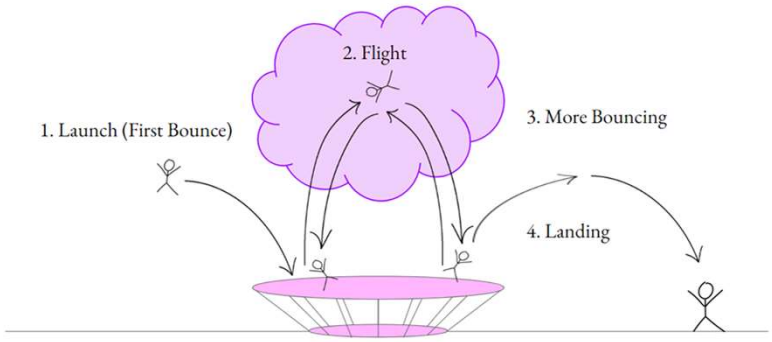
LANDING

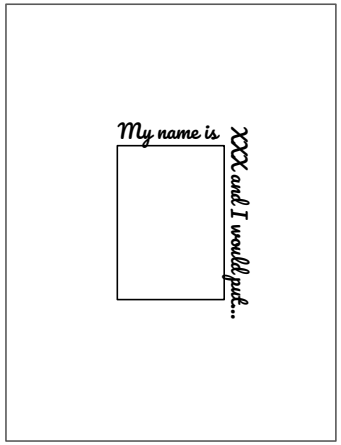




1. Celebrate first: **you kept writing!**
    a. Even if you paused, **you dived back in!**
    b. Even if you stopped, **you wrote a lot!**
2. How was it? Who did you think about?
3. What went ***surprisingly well*** about this process?
4. Anything else to share?
5. This was a "Do X as Y" exercise, where Y = your creative student or friend.
    a. This may have helped you step outside yourself and enter the dream space more easily and un-self-consciously.

RAFT WRITING CAN INFUSE MOMENTS OF CREATIVITY INTO INSTRUCTION





Math

Role: Mixed Number (like 2¾)
Audience: Math Teachers
Format: Letter
Topic: I want to be renamed something else!

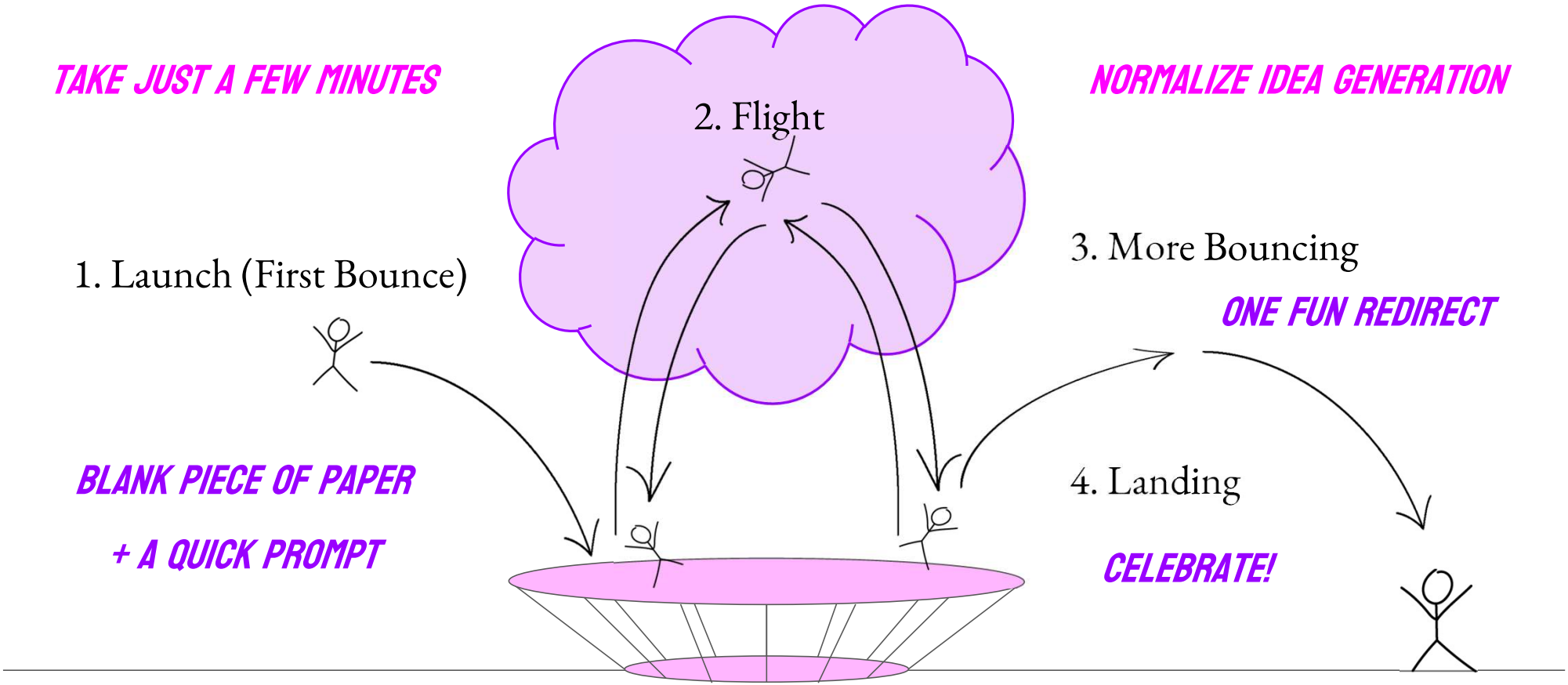
Social Studies

Role: King George
Audience: British Parliament
Format: Speech
Topic: Boston Tea Party

Science

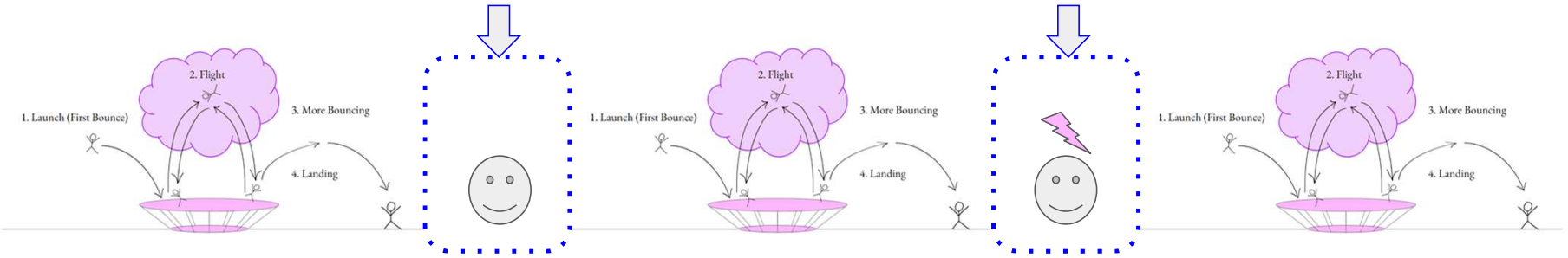
Role: Earth
Audience: Sun
Format: Love Letter
Topic: How we work together so well

THE MAIN WAY TO INCORPORATE DREAM TRAMPOLINES: *JUST DO IT!*



Class community that is kind and mutually supportive

TIME AND SPACE *BETWEEN* ARE CRUCIAL FOR INCUBATION



- True incubation requires space between focused-mode attacks on a problem.
  - Walks in nature
  - Showers (keep a notebook!)
  - NOT focused-mode brain-work on something else! (Oakley)
- We should help kids create, manage, and protect these intervals.
  - School is usually on a "manager's schedule," not a "maker's schedule."
  - Commitments and modern attention magnets leave little time/space for incubation.

THE DREAM TRAMPOLINE — TAKEAWAYS

1. Although creativity is publicly celebrated, it is unconsciously—and strongly—resisted by society and individuals, especially under conditions of uncertainty. Gifted children (specifically ones experiencing rewards in traditional school environments) may face particular challenges with creativity, due to anxiety and fear of failure.
2. The development of creativity in group environments requires a separate, safe place—a dream space—in which we not only tolerate mistakes but actively encourage experimentation and failure, and in which we foster a class community that is truly kind and mutually supportive.
3. Dream Trampoline activities have four important stages: (1) Launch (initial direction), (2) Flight in the dream space, (3) More Bouncing (redirects), and (4) Landing (celebration).
4. In the Flight stage, play and fun are mission-critical. It is crucial to value "mind-wandering"—divergent, diffuse-mode thinking that is not necessarily outcome-oriented. In addition, we need to cultivate incubation periods between bouts of focused-mode, convergent thinking.
5. Carefully calibrated structure in the other stages (Launch, More Bouncing, and Landing) is beneficial to the creative process itself, as well as to the development of creative faculties over time.

RESOURCES: CREATIVITY TOOLS AND RESEARCH

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STAY IN TOUCH!

1. Start an email to Leslie: leslie.kerner@silverquicken.com
2. Put “I’m interested” in the subject.
3. Hit send!

Or… just scan the QR code and hit “Send”!