INTRODUCING
the icons
onboarding students

1

2

META IDEAS:

1. Must share idea behind framework first, not just start showing pictures.
2. Start with only one or two elements at a time. Slowly unroll, like a flower unfurling.
3. Move from known content to unknown, rather than new element + new content.

3

1 **Must share idea behind framework first, not just start showing pictures.**

4

METHOD #1
The Idea of Icons

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We are surrounded by symbols.

6

SYMBOLS:

- share information
- create expectation
- convey emotion
- tell us what to do/not do
- can change meaning

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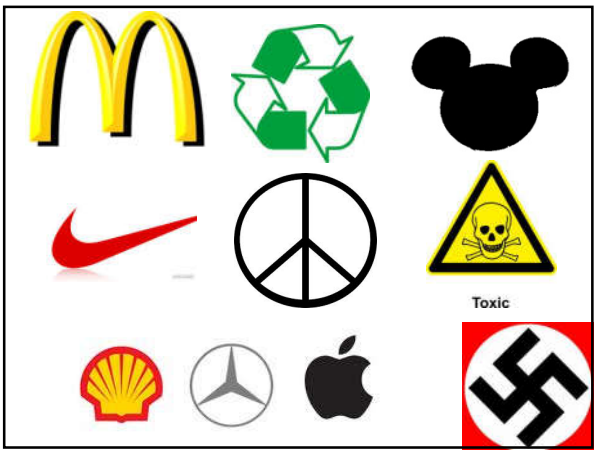

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Think of a Symbol.

Criteria:

- easily recognizable
- emotion level ≥ 6
- be able to describe its effect (create expectation; convey info, etc.)

9

We're going to use a particular set of 11 symbols to help us engage with our learning.

10

11

And they will...

- share information
- create expectation
- give common vocabulary
- tell us what to do/not do
- change meaning

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METHOD #2

A Learning Language

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What does this mean?

Ta | Danke |Merci | Gracias

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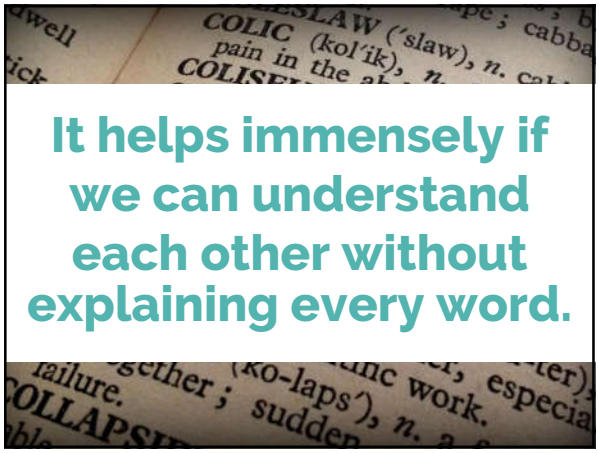

It helps immensely if we can understand each other without explaining every word.

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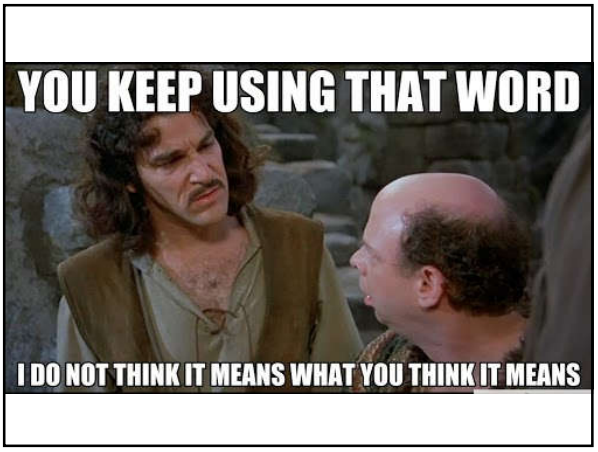

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In learning, we need a set of vocabulary that lets us talk about things across a wide variety of subjects so that we can spend our time actually thinking, rather that just defining words.

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METHOD #3

Introduce yourself with frames

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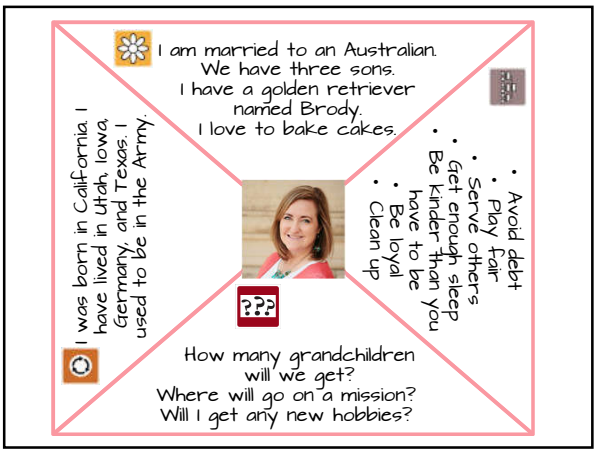

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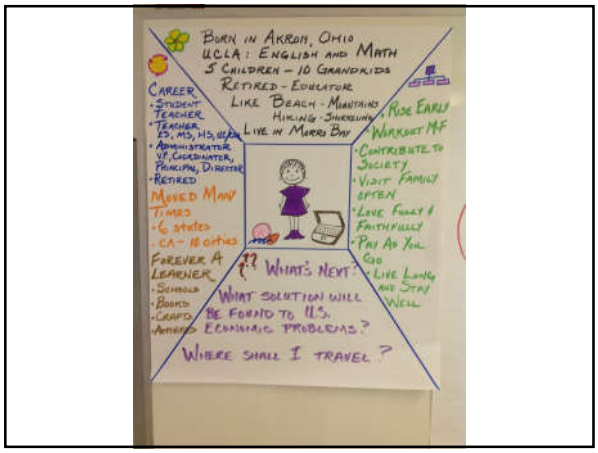

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2 **Start with only one or two elements at a time. Slowly unroll, like a flower unfurling.**

22

Example #1

23

What makes you you?

- family
- hobbies
- profession
- physical features
- education
- personal history
- seen/unseen

24

Details

- characteristics
- unique features
- essential nature
- data
- specifics
- parts

25

26

Details

- characteristics
- unique features
- essential nature
- data
- specifics
- parts

27

Example #2

28

WHAT AM I?

[choose from your discipline]

29

I have to have three sides.

I have to have three angles.

If one of my angles is 90°, I'm right.

The sum of my interior angles is 180°.

30

Can you think of another rule for triangles?

31

RULES INCLUDE:

- standards
- directions
- methods
- organization
- usual behavior

32

RULES INCLUDE:

standards

What if I decided a foot was now 11 inches, rather than 12?

What if I decided you needed an 85 to pass a class or that an A was now a 97?

33

RULES INCLUDE:

directions

What happens if I decide to drive on whatever side of the road I feel like?

What if I started saying "left" instead of "right"?

34

RULES INCLUDE:

methods

Why should people follow the scientific method?

Why do we have specific methods for doing things? Does it matter?

35

RULES INCLUDE:

organization

What if every morning you woke up and everything in your house had been moved?

What if there were no Periodic Table? Easier? Harder?

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RULES INCLUDE:

usual behavior

What if every day, you had no idea how you were getting home from school?

Have you ever known someone who was nice one day & mean the next?

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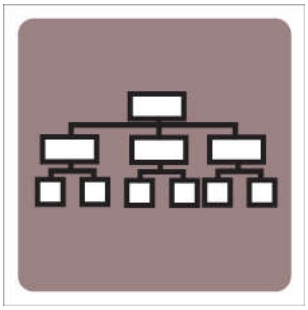

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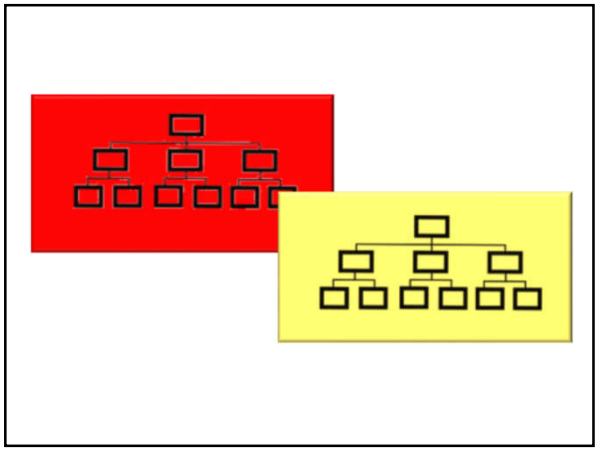

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Example #3

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Titanic WAS NOT sunk by Iceberg – new evidence suggests shock theory to disaster

THE Titanic was NOT sunk after striking an Iceberg, it has sensationally been claimed more than a century since the ship disaster.

By SEAN MARTIN
PUBLISHED: 04:12, Wed, Jan 4, 2017 | UPDATED: 07:40, Wed, Jan 4, 2017

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Millennium Problems

Yang–Mills and Mass Gap
Experiment and computer simulations suggest the existence of a "mass gap" in the solution to the quantum versions of the Yang-Mills equations. But no proof of this property is known.

Riemann Hypothesis
The prime number theorem determines the average distribution of the primes. The Riemann hypothesis tells us about the deviation from the average. Formulated in Riemann's 1859 paper, it asserts that all the 'non-obvious' zeros of the zeta function are complex numbers with real part 1/2.

P vs NP Problem
If it is easy to check that a solution to a problem is correct, is it also easy to solve the problem? This is the essence of the P vs NP question. Typical of the NP problems is that of the Hamiltonian Path Problem: given N cities to visit, how can one do this without visiting a city twice? If you give me a solution, I can easily check that it is correct. But I cannot so easily find a solution.

Navier–Stokes Equation
This is the equation which governs the flow of fluids such as water and air. However, there is no proof for the most basic questions one can ask: do solutions exist, and are they unique? Why ask for a proof? Because a proof gives not only certitude, but also understanding.

Hodge Conjecture
The answer to this conjecture determines how much of the topology of the solution set of a system of algebraic equations can be defined in terms of further algebraic equations. The Hodge conjecture is known in certain special cases, e.g., when the solution set has dimension less than four. But in dimension four it is unknown.

Poincaré Conjecture
In 1904 the French mathematician Henri Poincaré asked if the three dimensional sphere is characterized as the unique simply connected three manifold. This question, the Poincaré conjecture, was a special case of Thurston's geometrization conjecture. Perelman's proof tells us that every three manifold is built from a set of standard pieces, each with one of eight well-understood geometries.

Birch and Swinnerton-Dyer Conjecture
Supported by much experimental evidence, this conjecture relates the number of points on an elliptic curve mod p to the rank of the group of

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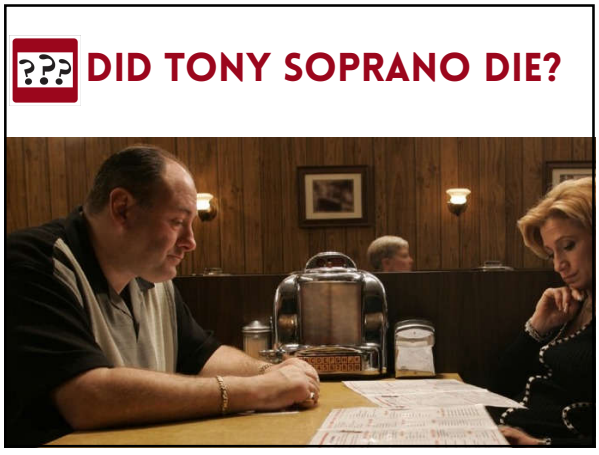

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UNANSWERED QUESTIONS

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What do you not know the answer to because that answer is not available?

49

What is something you do not know the answer to but you could find with currently available knowledge?

50

What is something you know, but other people disagree with you about?

51

Dice Game

- What's a question you have for which there is no real answer?
- How reliable is your go-to answer source?
- What kinds of ?s cause disagreement?
- Why do some kids thrive in school and others languish?
- What is something your students often think about school that is wrong?
- What something parents often believe about school that is not true?

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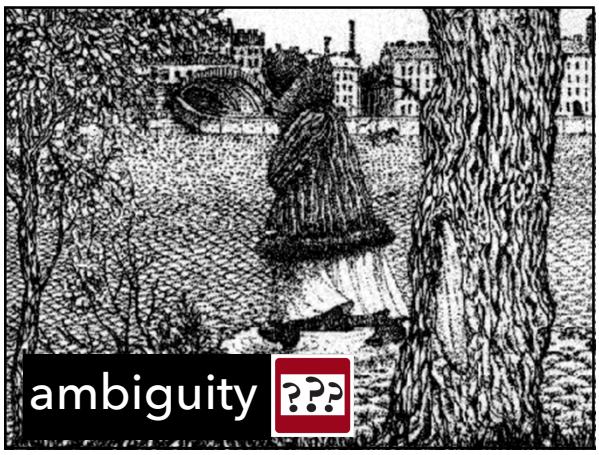

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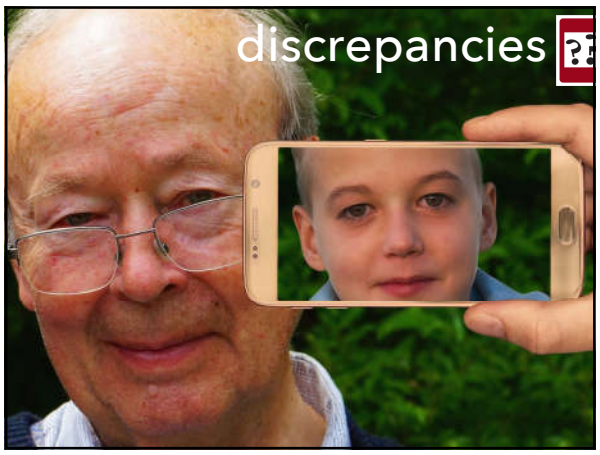

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comfort with ambiguity and a sense of wonder

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key factor in being a disciplinarian

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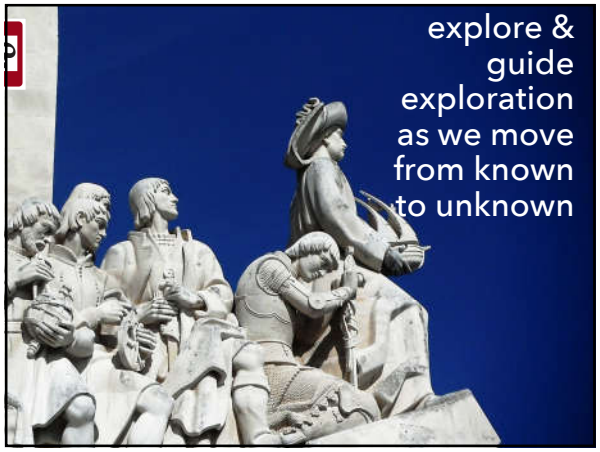

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Always circle back to availability & reliability of resources.

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Example #4

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Let's Play a Game

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Okay/Not Okay

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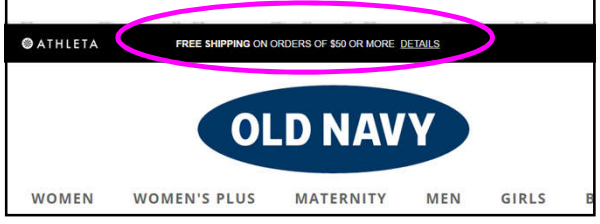
Ordering something you don't really want to get your order to qualify for free shipping, knowing you're going to send it back.



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Taking shampoo/ conditioner/ soap from hotel rooms, even if you didn't use it while you were there.

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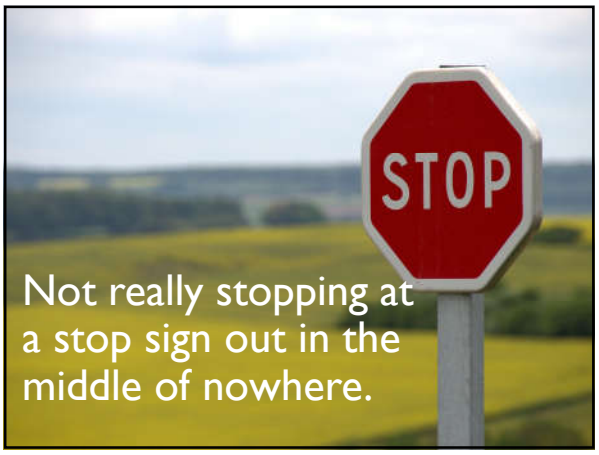

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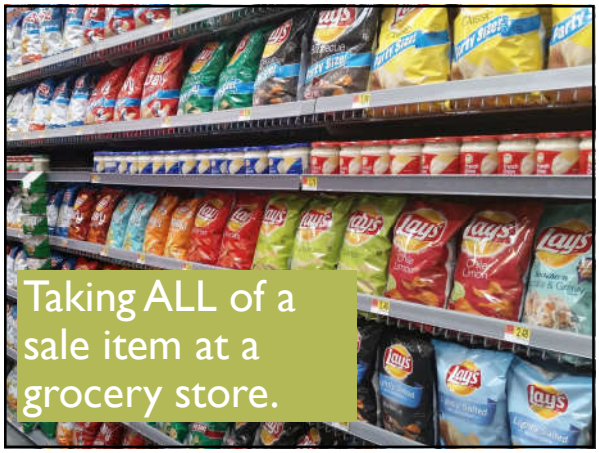

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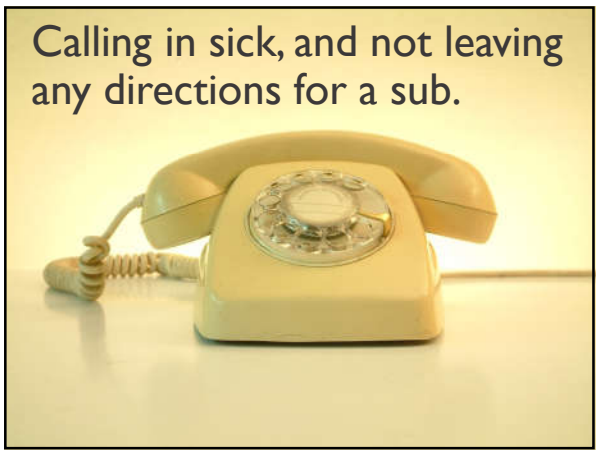

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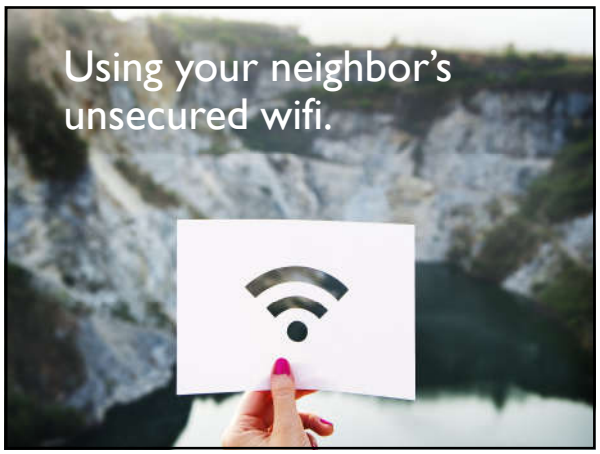

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Telling your friend you know his/her spouse is having an affair (it's true).

79

Buy an item of clothing to wear for a special occasion, and leaving the tag on so you can return it after the event.

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Ethics

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Ethics

82

Values What is Right?

fairness philosophies

controversy

STANDARDS

JUSTICE morals

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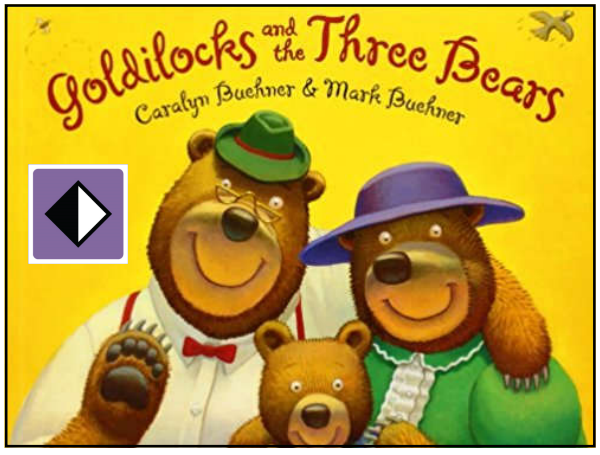

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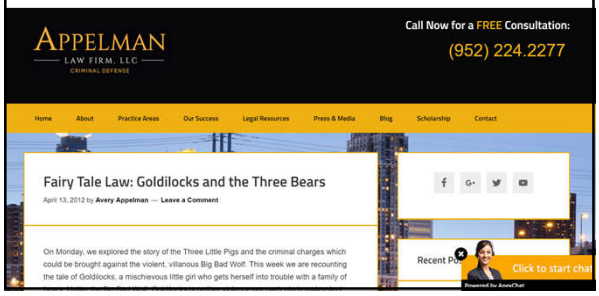
Apparently, I'm not the only one who's worried about this.



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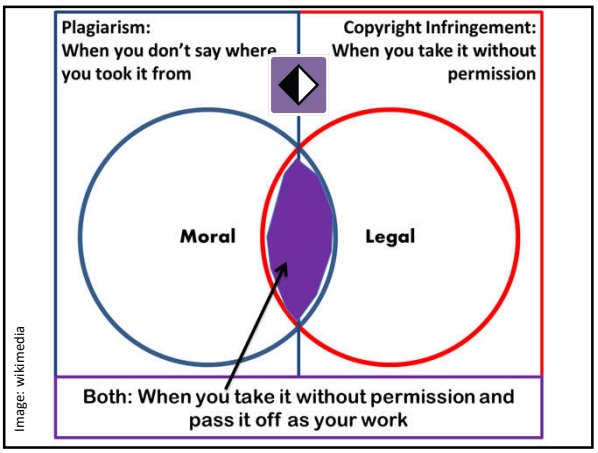

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People accuse me of

plagiarism.

Their words, not mine.

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3 **Move from known content to unknown, rather than new element + new content.**

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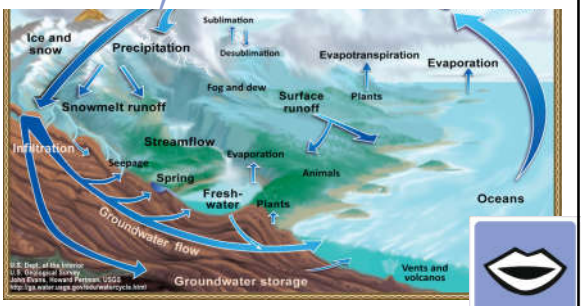
We talked about the words scientists use to discuss the water cycle.



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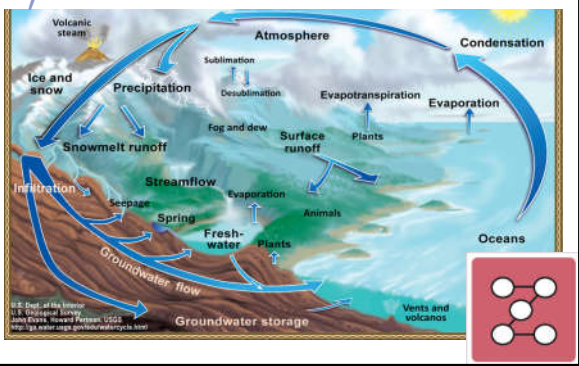
Now, we'll look at the water cycle with a different lens.



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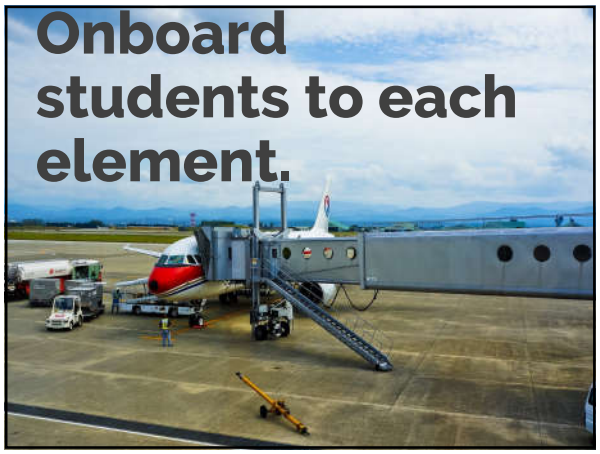

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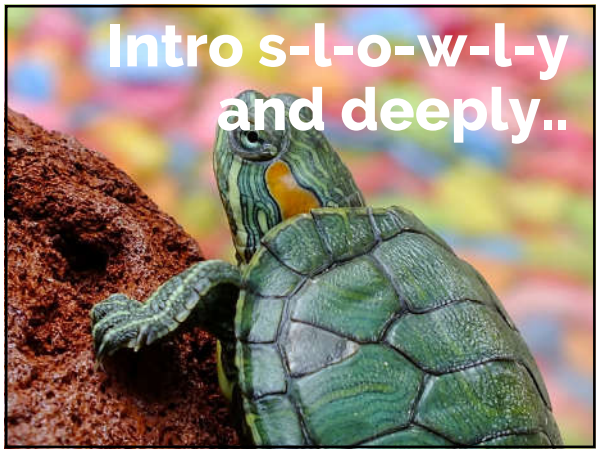

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