

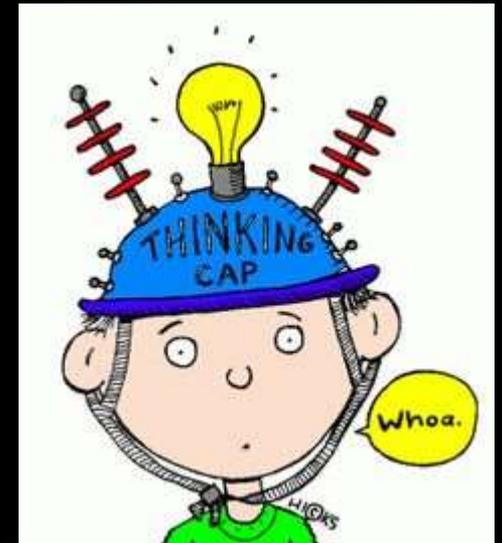




# Intro Questions

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- ▶ **What was the best lesson you ever had in high school?**
  - ▶ Why do you remember?
  - ▶ How did it change your life?
  - ▶ Why was it especially memorable?
  - ▶ Would that lesson work in your classroom?
  - ▶ Would it work if you taught it every day?





- ▶ **What is the purpose of curriculum?**
  - ▶ Why can't we just let students explore whatever they want to learn
  - ▶ Why couldn't students only just pursue their strongest areas of interest and ignore the rest?





# Intro Questions

- ▶ How should curriculum be delivered?
- ▶ What does a bad curriculum look like?
- ▶ What does a good curriculum look like?





# Intro Questions

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- ▶ **Complete the following as many times as you can: Great curriculum will always \_\_\_\_\_**
- ▶ **Complete the following as many times as you can: One way that I know a curriculum won't work is \_\_\_\_\_**
- ▶ **Why are you here? What are your specific goals for today?**



# Order to Creating Curriculum

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Initial Thoughts/Wishes/Goals

Student Learning Objectives &  
Academic Standards

Initial Structure, Flow, and Order

Writing Assessments, Materials, &  
Weekly Content

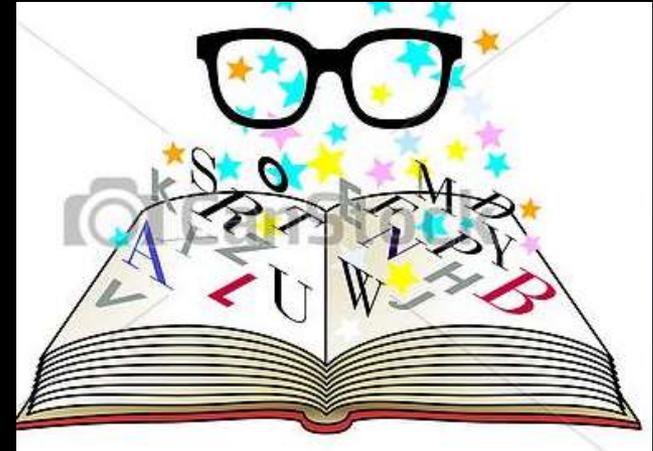
Review, Revise, Reflect



# Steps of writing curriculum

▶ **Before anything else, reflect on what you are teaching.**

- ▶ What is the course? What are your initial thoughts?
- ▶ In a perfect world, what would this course be like?
- ▶ If you had unlimited money/resources, what would you do differently?



▶ **Find a way to make this happen (as much as you can).**

- ▶ Do NOT get bogged down by what you have to do; be inspired by what you can do.
- ▶ The only thing you HAVE to do is what is best for your students.



# Order to Creating Curriculum





# Long-term student objectives

## ▶ **Next, develop long-term student objectives.**

- ▶ How will your students change as they take this course?
- ▶ What aspects of this course will still be a part of their daily lives 5-10-20 years from now?
- ▶ Why does this course exist? How will it create better citizens/activists/professionals as a result of this curriculum?
- ▶ How will these objectives be reinforced by what you are teaching?

## ▶ **Meet with stakeholders to gain perspective.**

- ▶ Consider what society/industry/universities need you to do to prepare students to address their needs and expectations.
- ▶ Meet with these people and ask them to describe the problems that they need you to fix.



# Standards

- ▶ **Third, review the academic standards for the course.**
  - ▶ Cherry pick the most important items and rank them in terms of your long-term objectives.
- ▶ **It is easy to pick way too many topics for the time that you have available.**
  - ▶ Avoid writing curriculum that is a mile wide and an inch deep and make it a goal to write curriculum that is meaningful.
- ▶ **One way to ensure that you don't try to do too much is to choose enough topics to fill  $\frac{1}{2}$  to  $\frac{1}{3}$  of the time that you have available in your semester.**
  - ▶ It is much easier to add topics/units at the end than to eliminate units from a structured curriculum.

# Break for Reviewing Standards



# Order to Creating Curriculum

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Initial Thoughts/Wishes/Goals

Student Learning Objectives &  
Academic Standards

Initial Structure, Flow, and Order

Writing Assessments, Materials, &  
Weekly Content

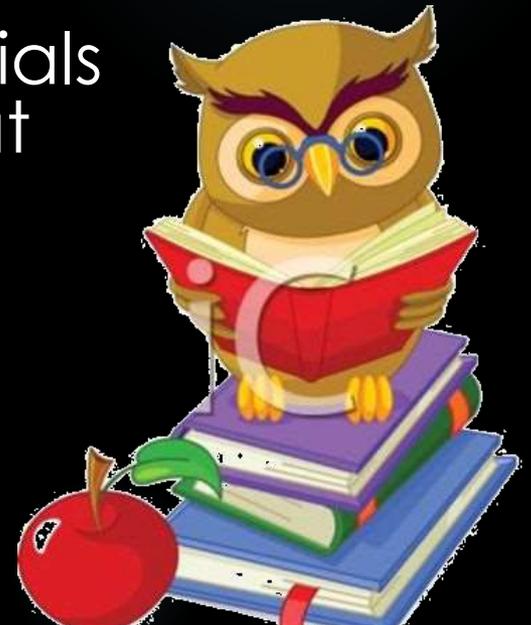
Review, Revise, Reflect





# Standards

- ▶ **After you have reviewed and considered the standards, create an initial structure of what you will cover and how.**
  - ▶ This is your initial framework for your course.
- ▶ **Keep it simple; shoot for four or five major themes/units, each with 3-4 weeks of material and one week of summative assessment.**
  - ▶ If you had to break your materials into 4-5 broad categories, what would they be?
  - ▶ Use this as a guide to help create continuity and flow in your lessons.





# Flow

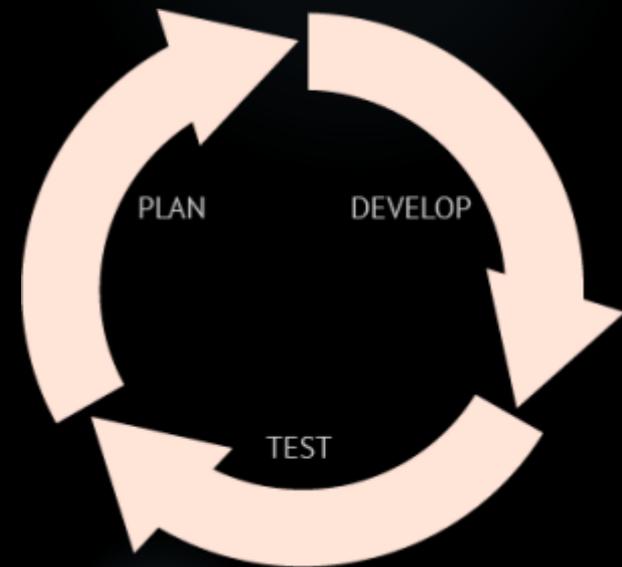
- ▶ **Once you have an idea of the structure of your course, think about the flow of its content.**
  - ▶ What do these items have in common?
  - ▶ Is there a topic(s) that can unit all of these aspects under one/a few common themes?
- ▶ **Create a web diagram and find the links.**
  - ▶ Nothing should stand alone if possible; make sure everything is part of a consistent overarching message that can be segmented into key ideas.
    - ▶ *E.g. Natural Resources can focus on sustainability or maximizing biodiversity.*
    - ▶ *Vet Science can be about maximizing animal welfare.*
    - ▶ *Agribusiness can be about maximizing income (an easy sell to students).*
- ▶ **Create a greater sense of purpose to your class by tying in this theme as often as you can and by reinforcing your concepts with how they relate to the ultimate objective(s) of this course.**



# Order

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- ▶ **Next, create a chronological order for your topics.**
  - ▶ Once you have identified the relationships among your topics, determine a starting point that is necessary to cover before any other topics can be addressed.
- ▶ **This is an iterative process.**
  - ▶ You may change your order repeatedly as you write your materials and as you teach from year to year.
  - ▶ Sometimes the correct order is not obvious until you've done all of your work.





# Order to Creating Curriculum

Initial Thoughts/Wishes/Goals

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Review, Revise, Reflect



# Summative Assessments

- ▶ **Determine how you will measure their performance using summative assessments.**
  - ▶ How will you know if students will retain this material in the long run?
  - ▶ How will you determine if they can use their comprehension and skill in an applied fashion to solve problems?





# Weekly Units

- ▶ **Try to create a consistent weekly schedule that creates continuity without creating monotony. I structure my weeks using the following:**
  - ▶ Monday: Introduction/Awareness/Hook
  - ▶ Tuesday: Notes & Core Content
  - ▶ Wednesday: Interaction (inquiry-based lab, problem-based activity, etc.).
  - ▶ Thursday: Review & Quiz (formative assessment - interaction/mastery level)
  - ▶ Friday: Career Skills (career/college profiles, resumes & cover letters, job interviews, etc.).
- ▶ **Don't be afraid to create exceptions, such as a week of nothing but lab or a project, particularly as unit assessments (e.g. portfolios or presentations).**
  - ▶ More on how to create weekly units in the later material.



# Summative Assessments

- ▶ **I increasingly use week-long multi-part summative assessments (project, portfolio, presentation, etc.) to test their ability to apply knowledge in a real-world manner, followed by written assessments.**
  - ▶ While I feel that the multi-part assessment is the better form of measuring learning, I suspect they will do more work to prepare for a standard written exam.
  - ▶ By utilizing both I get the best of both worlds.
  - ▶ I rely on in-class presentations to a) reduce my time spent grading and b) aid their preparation for the written exam.
- ▶ **More on assessment to follow.**



# Order to Creating Curriculum

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# Review, Revise, Reflect

## ▶ **Assess your work.**

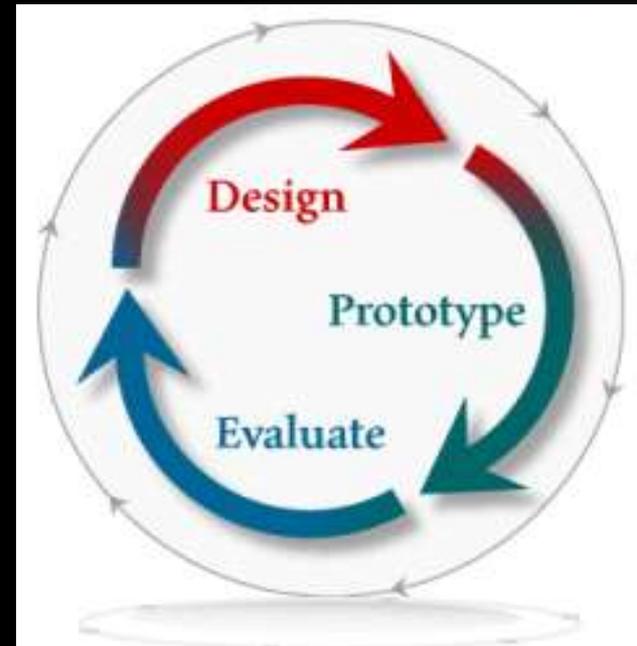
- ▶ Does this do what I want it to do?
- ▶ Is this something that students will find relevant/rigorous/valuable/engaging?
- ▶ Is this feasible given the time I have and given the abilities of my students?

## ▶ **Have others assess your work.**

- ▶ Contact industry/education stakeholders and seek their feedback in order to identify errors, gaps, and areas for improvement.

## ▶ **Teach, Reflect, and Revise**

- ▶ Good teachers have new “first years” regularly.



# Break – Breathe, Relax, Move Around

IF YOU WERE THINKING ABOUT BRIBING ME, NOW  
WOULD BE A GOOD TIME.

# Writing Weekly Units



# Overview

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- ▶ **A weekly unit should tie into a larger theme both for a major unit as well as the entire course.**
  - ▶ Flow is vital to a course; the reason for the inclusion of a topic should be self-evident and part of a logical progression.
- ▶ **A weekly unit should also be a stepping stone towards a tangible attainable goal/skill.**
  - ▶ E.g. a unit on bandaging should accompany a unit on the physiology of wounds as well as a unit on suturing, all of which end with students performing actual skills as part of an assessment.





# Goals of a weekly unit

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- 1. Why was this unit a part of your course?**
- 2. How will students change and what impact will this unit have on your students upon completion?**
- 3. Why must this unit be a part of your course? What would happen if it were omitted?**
- 4. What does your intuition/gut tell you is the right way of developing comprehension and mastery for your students in this unit?**
- 5. What about this unit will excite and engage your students?**



# Goals of a weekly unit

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- 6. What will be challenging about this unit?  
How will you address these challenges.**
- 7. What misconceptions (prior or developing) might derail the learning process?**
- 8. What will you do if this lesson is a complete failure (i.e. what's plan B)?  
What will you do if it lacks the appropriate level of rigor/challenges?**
- 9. How will you know if this unit was successful?**



# Conceptual Mapping

- ▶ **Define the structure of your lesson with a conceptual mapping process (e.g. web mapping).**
  - ▶ A good weekly unit should convey a consistent message regarding a systematic understanding of a concept or skill.
- ▶ **This is part of a backwards design approach in which the activities are chosen after and based on the concepts for which they are meant to support.**
  - ▶ This is in contrast to other forms of curriculum writing in which much of the content is chosen to suit a particular activity or teaching style.



# Systems learning

- ▶ **By definition, a *system* is a series of interconnected factors and influences that result in an identifiable outcome.**
  - ▶ A system can be a dynamic thing to teach, and a systems-based curriculum can engage students because it can turn what seems like an incredibly-complex and volatile series of events into something that is comprehensible and predictable.
- ▶ **Utilization of systems learning can revolutionize your practice.**
  - ▶ See reading.



# Reading Break – Systems Learning

BE READY TO THINK, PAIR, SHARE



# Narratives

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- ▶ **Once you have mapped your concepts, determine the narrative that will tell the story of these concepts.**
  - ▶ Good instructors can explain complex ideas using accessible language.
  - ▶ Develop your content by first considering how you would explain your topics to a struggling student.
- ▶ **The key to student understanding is to ensure that you can explain concepts in a manner that could be understood by most or all students regardless of ability.**
  - ▶ Often your own understanding and perspective of a topic will evolve and become refined as a result of trying to create a straightforward, simple explanation.
- ▶ **This approach can range from a written narrative to an outline to storyboards.**
  - ▶ How it is done is often a product of teacher styles and the nature of the content.



# Method of Conveyance

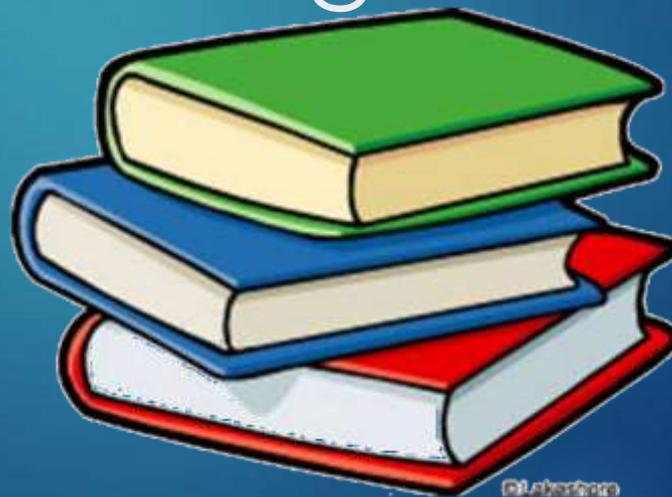
- ▶ **Next, determine your method of conveying the core information.**
  - ▶ Core information is the ‘meat’ of your unit; it consists of the declarative, procedural, social, or personal information that will result in your intended student outcome.
- ▶ **There is no ‘one’ way to convey content information.**
  - ▶ Lectures, inquiry, readings, demonstrations, and workbooks can all be effective for different topics.
- ▶ **The nature of the topic of your unit, the learning style of your students, and your own strengths as a teacher will play a major role in how you choose to convey your information.**



- ▶ **My method of delivering content depends largely on the notesheets method.**
  - ▶ This has enabled me to allow all students to succeed while focusing on key relationships between the elements of different systems.
- ▶ **See Examples**

# Break for Reviewing Notesheets

SEE PRINTED MATERIALS





# Assessments

- ▶ **Two kinds of assessments exist for any given curriculum: formative and summative assessments.**
  - ▶ Formative assessments are what an instructor and/or student uses to check progress and ensure that a student is ready to take a summative assessment.
  - ▶ Summative assessments are the final stage in a curriculum and exist to determine whether or not a student achieved the intended learning outcomes of a curriculum.



- ▶ **In a perfect world, the summative assessment would be developed prior to the core content.**
  - ▶ The generation of the core content materials should ideally be determined by the assessment and not vice versa.
  - ▶ However, knowing how your lesson will come together can be quite difficult until you have developed your content, especially for higher-level materials.



# Summative Can Be Formative

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- ▶ **Summative assessments can also be formative assessments.**
  - ▶ Assessments are not binary; they exist on a spectrum.
  - ▶ What may be your summative assessment in one week might be the formative assessment for later, more-advanced topics.
- ▶ **For example, a lesson on principles of water ecology this week might serve as a basis for methods of water testing the next week. A unit on ATP in one week may be necessary for the comprehension of the Krebs Cycle the following week.**
  - ▶ If you have a 3-5 week unit, the 3-5 weekly summative assessments should build to a final summative assessment at the end of this timeframe.



# Multiple Choice

- ▶ **Your final summative assessment should *probably* not be a multiple choice exam.**
  - ▶ Final summative assessments should reflect scenarios and skills that students are likely to encounter in a real-world setting.
- ▶ **Examples could include:**
  - ▶ Developing and presenting a business plan for an actual customer.
  - ▶ Designing, conducting, and assessing an experiment to test a concept in cell biology such as respiration or photosynthesis.
  - ▶ Testing a local waterway and developing a plan to improve the quality of this aquatic ecosystem.



# Assessment Evolution

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- ▶ **Assessments should evolve and will take time.**
  - ▶ Multiple choice exams can be the stepping stone towards better forms of assessments at later dates.
    - ▶ *This has been the case for me 😊*
  - ▶ Good assessments take time and practice to develop.
  - ▶ Use what you must until you can replace it with something better.



- ▶ **Sometimes multiple choice tests are necessary.**
  - ▶ In a perfect world, everything would be real-world, inquiry-based, and encourage students to work in teams to apply their knowledge to solve legitimate problems through intrinsic motivation.
  - ▶ We don't live in that world.



- ▶ **Furthermore, multiple choice assessments have advantages:**
  1. They do not require prohibitively-long answers which may be unfair to students who are struggling or have special needs.
  2. You can assess a lot more knowledge in the same amount of time.
  3. Assessments students will have in the future will likely include large amounts of multiple choice questions; regardless of their value, not preparing students for this reality may be a major disadvantage for them.
  4. They save time and can reduce your/their stress.



# The Experts

- ▶ **Salend:** “Although multiple choice items typically assess recall of important information, they can also assess students’ application of content.”
- ▶ **Brookhart: Keys to good multiple choice questions:**
  - ▶ Ask a direct question.
  - ▶ Use clear, normal language.
  - ▶ All options are plausible answers; a student who does not understand a concept could not tell a wrong answer from a right answer.
  - ▶ Wrong choices reflect anticipated errors in student thinking.
  - ▶ It is not just a test of their memory.



# The Experts

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## ▶ **Brookhart: strategies for good MC questions:**

1. Have students interpret visual materials such as graphs, tables, scenarios, etc.

▶ *E.g. Based on the results shown in the graph, the most logical conclusion is...*

2. Interpret a text, story, or scenario.

▶ *E.g. The most likely diagnosis of these symptoms would be...*

3. Critique the work of hypothetical student(s).

▶ *E.g. Who's interpretation of cellular respiration is least accurate?*

## ▶ **Multiple choice exams can also be enhanced by including non-multiple choice components.**

▶ This can be as simple as asking students to justify why they chose one option over the remaining items.



- ▶ **So multiple choice can be effective, but there may be a better way...**



- ▶ **“A performance-based assessment measures students' ability to apply the skills and knowledge learned from a unit or units of study.”**
  - ▶ “The most genuine assessments require students to complete a task that closely mirrors the responsibilities of a professional, e.g., artist, engineer, laboratory technician, financial analyst, or consumer advocate.”



- ▶ **First and foremost, the assessment accurately measures one or more specific course standards.**
- ▶ **Additionally, it is:**
  - ▶ Complex
  - ▶ Authentic
  - ▶ Process/product-oriented
  - ▶ Open-ended
  - ▶ Time-bound
- ▶ Source: [http://www.edutopia.org/blog/performance-based-assessment-reviewing-basics-patricia-hilliard?utm\\_source=facebook&utm\\_medium=socialflow](http://www.edutopia.org/blog/performance-based-assessment-reviewing-basics-patricia-hilliard?utm_source=facebook&utm_medium=socialflow)



# WUHS Performance-based Assessment

- ▶ **In my program, most of my courses end with a major PBA. Examples include:**
  - ▶ Agriscience: develop a new and unique scientific experiment about a novel, relevant question in cell biology. Conduct the experiment, statistically analyze the results, and present your results to the class.
  - ▶ Vet Pet Care: complete a physical exam and respond to an emergency situation.
  - ▶ Large Animal Vet Science: conduct a physical exam and diagnose a infectious, reproductive, or digestive disorder. Prescribe the appropriate treatment and describe how to prevent this in the future.



# WUHS Performance-based Assessment

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- ▶ Landscape Design: utilize your abilities to design, draft, and create landscape architectural designs in order to gain approval to plan, implement, and finish a design on the school grounds.
- ▶ Agribusiness: develop a functional business plan for something you could do after high school to make additional money.



- ▶ **You might notice that many of these PBA's are similar to CDEs. This is not a coincidence!**
  - ▶ When done well, summative assessments and CDEs can be very similar and complement each other very nicely.
- ▶ **However, a PBA should not be used solely to prepare students for a CDE!**
  - ▶ The CDE is not the objective of any course; however, a CDE may very easily align to the objectives of a course.



# Supporting Materials

- ▶ **Next, create your supporting materials.**
  - ▶ Supporting materials exist to introduce, reinforce, formatively assess, and prepare students for the summative assessment.
  - ▶ While it is tempting to teach a unit because “we have a really cool lab”, a lab should exist to support a unit (not vice versa).
- ▶ **Supporting materials can vary widely.**
  - ▶ While inquiry-based labs are ideal scientific situations, they are not always the most ideal formats to teach a concept (e.g. “Montessori School of Dentistry” article in The Onion).



# Inquiry Based Learning

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- ▶ **“Inquiry ... requires more than simply answering questions or getting a right answer. It espouses investigation, exploration, search, quest, research, pursuit, and study. It is enhanced by involvement with a community of learners, each learning from the other in social interaction.” (Kuklthau, Maniotes & Caspari, 2007, p. 2).**
- ▶ **Inquiry-based learning is an approach to teaching and learning that places students’ questions, ideas and observations at the centre of the learning experience. Educators play an active role throughout the process by establishing a culture where ideas are respectfully challenged, tested, redefined and viewed as improvable, moving children from a position of wondering to a position of enacted understanding and further questioning (Scardamalia, 2002). Source: [www.edu.gov.on.ca](http://www.edu.gov.on.ca)**



# Inquiry-based Learning

- ▶ **There are many benefits to implementing inquiry-based learning programs. These benefits include the following:**
  - ▶ Leads to more motivated students (Harada)
  - ▶ Helps develop information literacy
  - ▶ Helps develop critical thinking skills
  - ▶ Results in better long term retention of information (Bruner)
  - ▶ Helps develop deeper understanding of subjects (Youthlearn)
  - ▶ Helps students become better learners and helps prepare them to be life-long learners (Bruner)



# Inquiry-based Learning

- ▶ Encourages self-direction (Harada)
- ▶ Reinforces physical, emotional and cognitive growth (Youthlearn)
- ▶ Encourages development of interpersonal and team skills (Harada)
- ▶ Emphasizes intrinsic rather than extrinsic rewards (Bruner)
- ▶ Can give students the opportunity to teach and learn from each other



# Inquiry-based Learning

- ▶ May engage students who do not function well in a more traditional learning environment
  - ▶ Validates the knowledge and experiences of students, including those from minorities and disadvantaged groups (Youthlearn)
  - ▶ Can be adapted for any age group
  - ▶ Pace and content can be adapted to suit individual learning needs of students
- ▶ *source: [courseweb.lis.illinois.edu](http://courseweb.lis.illinois.edu)*



# Inquiry-based Learning

- ▶ **Regarding students' abilities to do scientific inquiry, NSTA recommends that teachers help students**
  - ▶ Learn how to identify and ask appropriate questions that can be answered through scientific investigations.
  - ▶ Design and conduct investigations to collect the evidence needed to answer a variety of questions.
  - ▶ Use appropriate equipment and tools to interpret and analyze data.
  - ▶ Learn how to draw conclusions and think critically and logically to create explanations based on their evidence.
  - ▶ Communicate and defend their results to their peers and others.
  - ▶ Source:  
<http://www.nsta.org/about/positions/inquiry.aspx>



# Inquiry-based Learning

- ▶ **So why not all inquiry-based learning? Food for thought:**
  - ▶ Inquiry is thought to enhance mastery of a topic but could inquiry get in the way of grasping a challenging concept?
  - ▶ Can/should all subjects be taught in an inquiry-based manner? (e.g. should a student be taught to suture using inquiry?).
  - ▶ Could inquiry-based learning reduce the amount of content that is learned?
  - ▶ Does inquiry have to be All or Nothing? Could you partially incorporate inquiry?
  - ▶ Could inquiry-based learning great a greater obstacle to learning for students with unique challenges (e.g. those with frequent absences, or those with a background that may make grasping the nature of the questions more difficult)?



# My thoughts

## ▶ **My thoughts...**

- ▶ Some negative experiences as a student under this method have shown me the limits of this approach.
- ▶ Some constrained options as a student teacher had indicated that sometimes practitioners are too quick to utilize new practices without necessarily reflecting on the best application of that tool.
- ▶ Success as a professional with measured and prescribed approach to IBL have provided anecdotal evidence of the value of this approach.



# My Thoughts

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- ▶ **I was once a “EVERYTHING SHOULD BE INQUIRY” kind of teacher due to my training.**
  - ▶ Experience, reflection, and critical analysis of my effectiveness changed this.
  - ▶ Few curricular options are “ALWAYS GREAT SO DO MORE” like some proponents of IBL have suggested is the case for IBL.
  - ▶ Be careful when drinking the Kool-Aid’s of education!
- ▶ **Like any medication, application of curriculum needs to be prescribed, measured, proportional, and appropriate.**
  - ▶ Aspirin works well but that doesn’t mean we should maximize our daily dose.
  - ▶ Similarly inquiry is important but not at the expense of other learning objectives.

## ► Tips for sensible IBL

- It should never interfere with the acquisition of comprehension; it should only enhance it.
  - *If there is a better way than IBL, use it.*
- Students should never have to question what they're supposed to know but students should always be able to understand how we know something because of IBL.
  - *"How do I know I am not wrong?" - IBL*
- The time spent on IBL does not have to be significant but significant opportunities for lengthy IBL should be encountered throughout a student's education.
- IBL can exist outside of a laboratory and can exist outside of science; do not artificially constrain IBL to parameters that do not exist.



- ▶ Not all subjects work well for IBL. There are better ways to teach some topics.
- ▶ Often the discussion at the end of IBL is as (or more) important as the process under which IBL occurs. Be sure to allow time for reflection.
- ▶ Inquiry is good but it is not everything. Use common sense and good judgment as a practitioner. Make sure the objectives necessitate the use of IBL and make sure the application of IBL is consistent with your objectives for your unit and class.



## ▶ How I do this.

- ▶ I am a huge proponent of using IBL as a way to enhance the comprehension of a topic more so than using IBL to teach a topic.
- ▶ **For example, when my students complete a unit on respiration, this is followed by a week of work in the laboratory using fermenters and yeast to test their ideas.**
  - ▶ Students begin with a review on a **Monday**, conduct a 'cookie cutter lab' on a **Tuesday**, review and analyze their data on a **Wednesday** with adjustments and new hypotheses formed through discussion and analysis, repeat their experiment on a **Thursday** with modifications, and present their findings orally on a **Friday**.



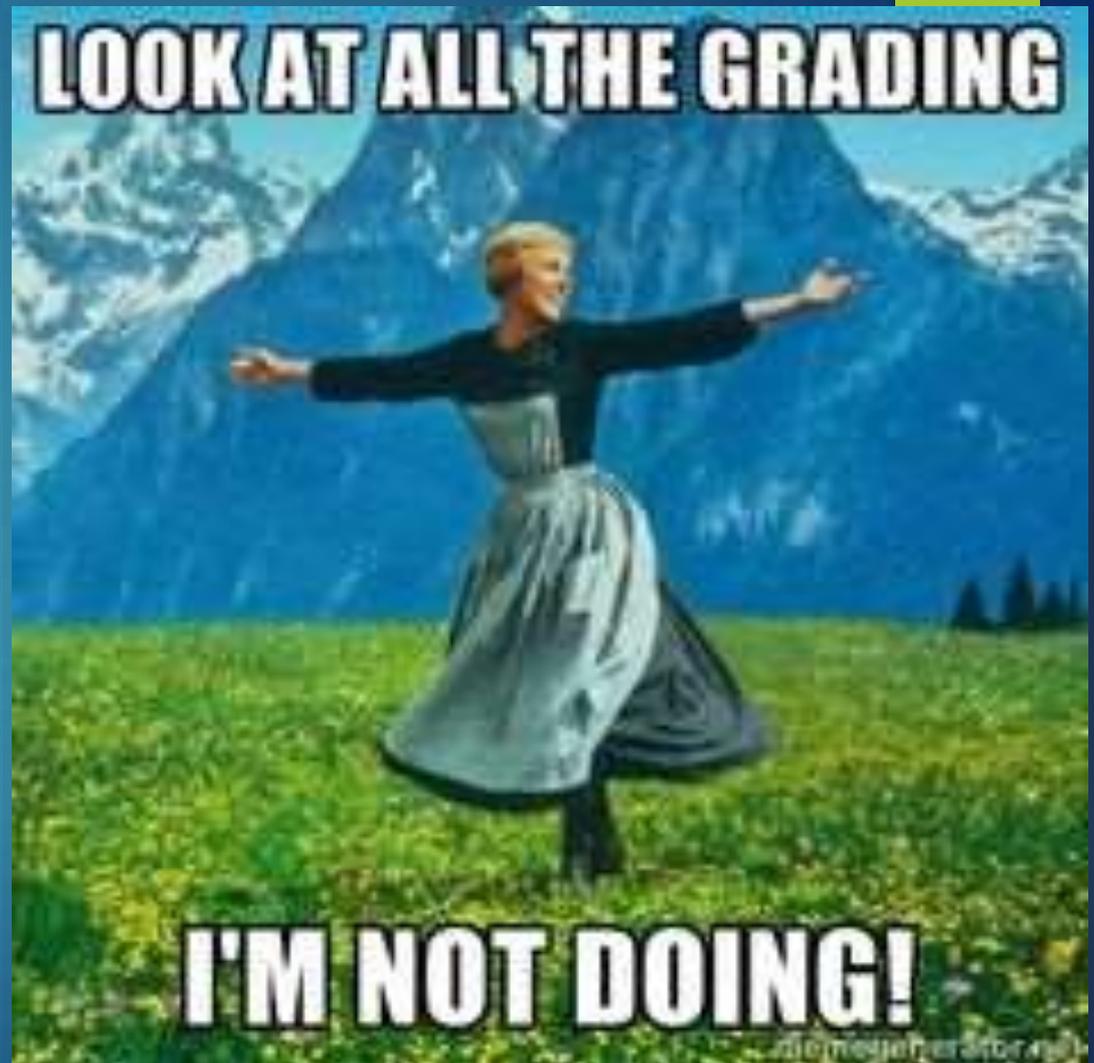
# Benefits of this version of IBL

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- ▶ Students do not have to question what they are supposed to know (that should have been obvious during the previous week).
- ▶ Students do not have to be overwhelmed by lengthy lab protocols (this is why they go through the 'cookie cutter lab' the first time).
- ▶ Repeated opportunities allow for ample reflection and application.
- ▶ Those who failed to master the material the previous week can be pulled for small group sessions and re-immersed with their teams part way through the week.

# Grading

EVERYONE HATES IT





# Reflection

- ▶ **Have you ever had a situation in which you realized a student was passing tests and quizzes but clearly did not grasp most of the material (or, vice-versa, clearly understood the material but was failing the assessments)?**
  - ▶ How did you know that this was the case?
  - ▶ What did this reveal about your curriculum and teaching?
  - ▶ What did you do about it?



# Reflection

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- ▶ **Could a coach of a team use grades to improve the performance of the athletes on that team?**
  - ▶ Would a quarterback become more effective if they were given a letter grade?
  - ▶ Would a sprinter become faster if they were given a percentile score?



# Schools & Teachers

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- ▶ **What is your opinion about giving each school a 'grade'?**
  - ▶ How is it a good thing?
  - ▶ How could this be a bad thing?
  - ▶ Can a single letter reflect the performance of an entire school?
  
- ▶ **What is your opinion about giving each teacher a 'grade'?**
  - ▶ How is it a good thing?
  - ▶ How could this be a bad thing?
  - ▶ Can a single letter reflect the performance of professional?



# Existing Research

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*Research tends to support three conclusions:*

- 1. Grades diminish student interest in whatever they're learning.**
- 2. Grades create a preference for the easiest possible task.**
- 3. Grades tend to reduce the quality of student thinking.**



Why we typically think grading is necessary.

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1. **Student Motivation** – they won't do it otherwise.
2. **Achievement** – students need a goal to strive to.
3. **Quantification** – how well are students learning?
4. **Curriculum** – is my teaching working?

*But is this actually the case with grading?*



# Why we typically think grading is necessary.

- 1. Student Motivation – extrinsic motivation (better grades) differs from intrinsic motivation (a desire to learn), and often extrinsic motivation erodes intrinsic motivation.**
- 2. Achievement – the more students are led to focus on *how well* they are doing, the less engaged they tend to be with *what* they're doing.**
- 3. Quantification – there is value in assessing learning, but it is not always possible to measure learning.**
  - ▶ “The measurable outcomes may be the least significant.”
- 4. Curriculum – measuring the collection of facts and skills pales in value to the ability of students to use those facts and skills. Curriculum can be hijacked by assessment.**



# What should we be striving for? (according to A. Kohn)

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- 1. On a district basis, move towards an outcome in which teachers replace letter and number grades with narrative assessments and/or student-teacher conferences.**
  - ▶ Qualitative assessments of student performances in either writing or by discussion can result in more meaningful outcomes and a greater intrinsic desire for the student to learn.
- 2. Within a classroom, teachers should strive to stop putting number/letter grades on individual assignments and offer only qualitative feedback.**
- 3. Find more opportunities to allow students to negotiate their grade or grade themselves.**

# Worktime!

LET'S WRITE SOME CURRICULUM!