Developing units through the UbD method

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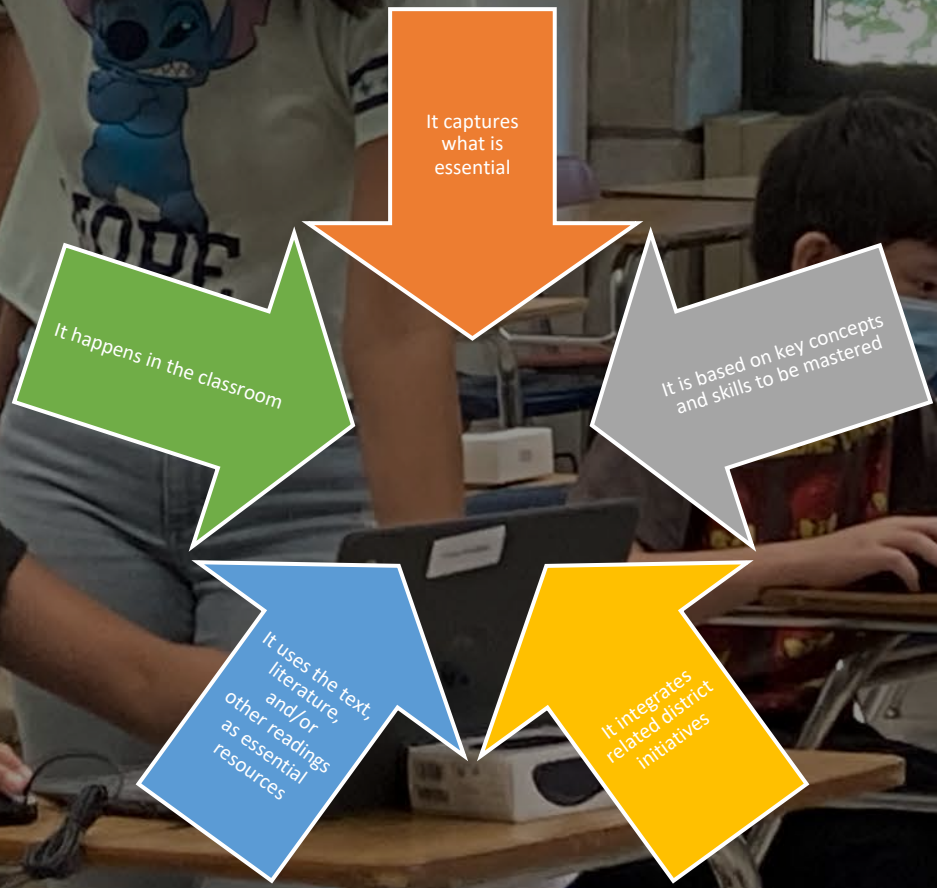
Understanding by Design (UbD), Wiggins & McTighe

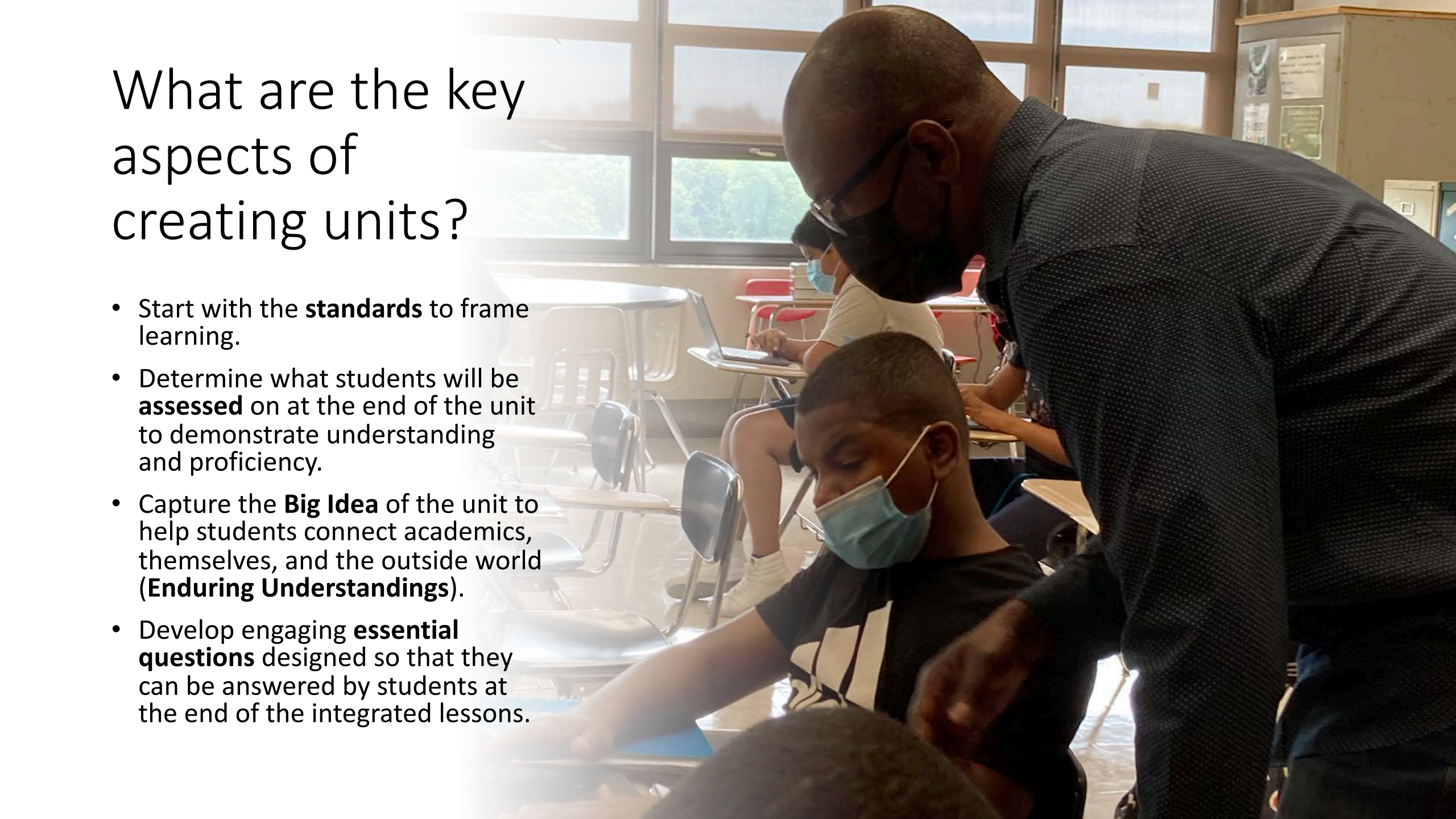
- UbD is an approach to curriculum development that supports higher level learning skills and an inquiry approach to learning.
- Curriculum development using UbD begins with the end goals and works backwards. This process is often referred to as “backwards design.”
- It is focused on student learning and understanding.

What are the basics of curriculum development?

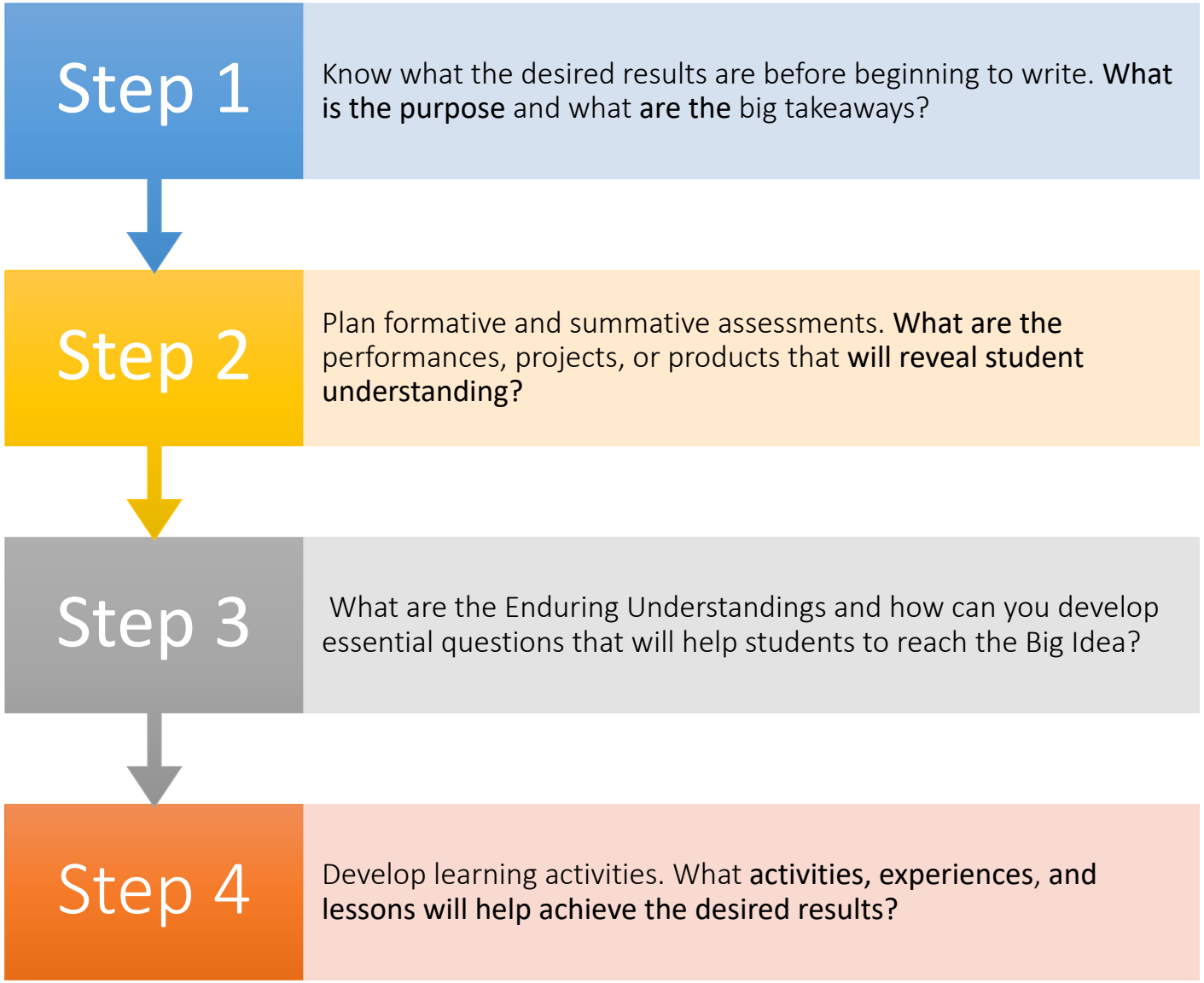


What are the key aspects of creating units?

- Start with the **standards** to frame learning.
- Determine what students will be **assessed** on at the end of the unit to demonstrate understanding and proficiency.
- Capture the **Big Idea** of the unit to help students connect academics, themselves, and the outside world (**Enduring Understandings**).
- Develop engaging **essential questions** designed so that they can be answered by students at the end of the integrated lessons.



A 4-step process to curriculum planning



Unit Development – The Standards

- Are the knowledge and skills from the selected content standards applicable to other content areas?
- How do these provide value beyond a single test?

Unit Development – The Standards

- Applying NYSED content and skill standards to unit development is central in the process.
- When selecting standards, choose the most rigorous. Other skills/content can and should be embedded.
- Select 1-3 standards that the unit will target. (Less is more in this case.)
- The standards should ***connect*** *content and skills* and be ***central*** to the unit vs. just peripheral
- The standards can be accessed easily through the NYSED website as well as many of our programs. These help teachers to *target support* for their students and *prioritize* the most important elements. (See example on next slide)

yonkerspublicschools.rubiconatlas.org/Atlas/Analyze/Standards/Profiling/View/Overview?BackL

Yonkers Public Schools | My Atlas | All Curriculum | Reports | Communities | Admin

- Unit Overview
- Scope and Sequence
- Comparative Unit Calendar
- Standards Overview
- Standards Analysis
- Assessment Methods

Standards Overview

1. Choose the Content Area:

NYS: Physical Education (2020)

2. Choose the Grades:

Uncheck All

- [ ] NYS: PreK
- [ ] NYS: Kindergarten
- [ ] NYS: 1st Grade
- [ ] NYS: 2nd Grade

[ ] Hide Standards not Targete

NYS: Physical Education (20
NYS: 6th Grade

Standard 1

Demonstrates competency in a variety of motor skills and movement patterns.

Sports Skills and Games

- 1.1.6. Demonstrates emerging forms of specialized skills in a variety of games and sports.

Dance, Movement, and Rhythmic Activities

- 1.2.6. Demonstrates emerging forms of specialized skills in dance, movement, and rhythmic activiti

Fitness Activities

An example from standards (ELA)

Standard	Content	Skills
Production & Distribution of Writing (Grade 8) Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	Elements of Coherent Writing: • Pre-writing • Organization • Purpose • Audience	**Plan and produce** an essay on an informative topic geared towards informing and engaging your audience **Determine** the target audience and formulate the best method (style) for that audience

Unit Development Overview – Enduring Issues

- Enduring issues are written as overarching goals.
- 1-2 Enduring Issue(s) for a unit. What is the *Big idea* that students must understand by the end of the unit? (There may be other ideas that students will also understand as they are engaged in the unit.)

Enduring Understandings

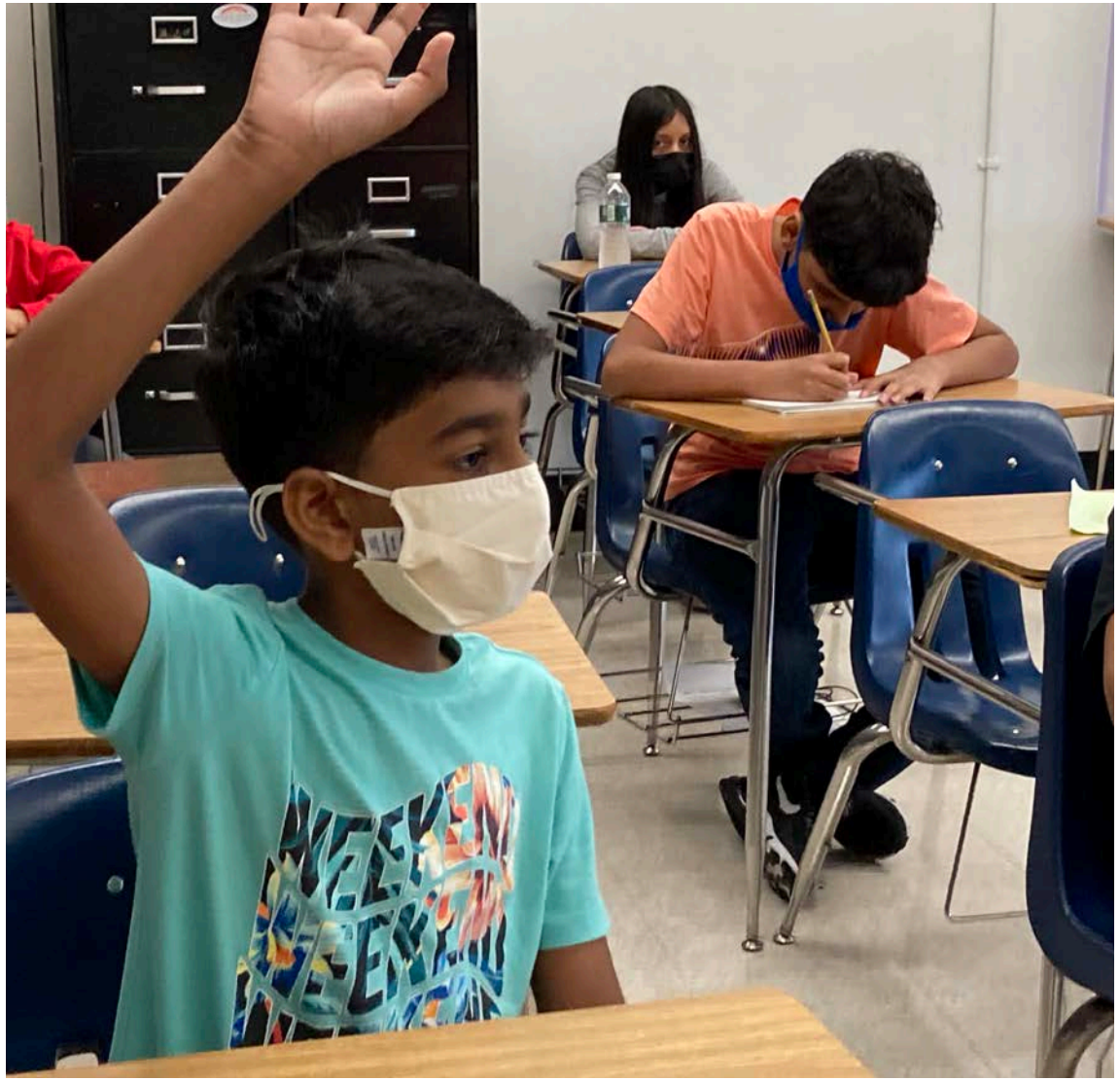
- These go well beyond discrete facts or skills.
- They must be enduring over time and across cultures because they have proven important and useful. They should *endure* in the mind of students because they will help them to make sense of the content. They will also enable the transfer of key ideas.
- Focus on larger concepts, principles, or processes.
- They should engage learners and must be able to be reached by the end of the unit.
- Consider what generalization sums up the overall conclusions that you have drawn from the facts and reasoning.
- "Students should understand that..."
- Example "Students should understand that great changes have historically occurred more by accident than by design in our history."

Unit Development – Essential Questions

- These lead students to the Big Understandings in a unit. They are both skill and content based and are not simply answered.
- EQs can lead to lively discussions, research, experiments, investigations, problem solving.
- They should establish priorities and help uncover all key ideas.

Essential Questions

- The aim is to *stimulate thought and inquiry*. They should not be able to be answered in a brief sentence and they may not have a "correct" answer.
- They *highlight areas related to the Big Ideas* and allow students to *explore key concepts, themes, issues, or problems* in the content.
- Really good questions "pose dilemmas, subvert obvious or canonical 'truths' or force incongruities upon our attention" (Bruner 1996).
- They can go to the heart of a particular topic or problem.
- They can spark meaningful *connections* with prior learning & personal experience.
- When developing EQs *look at the entire design* of the unit.



Essential Questions – Different types & formats can lead to rich discussion & deeper understandings (*examples*)

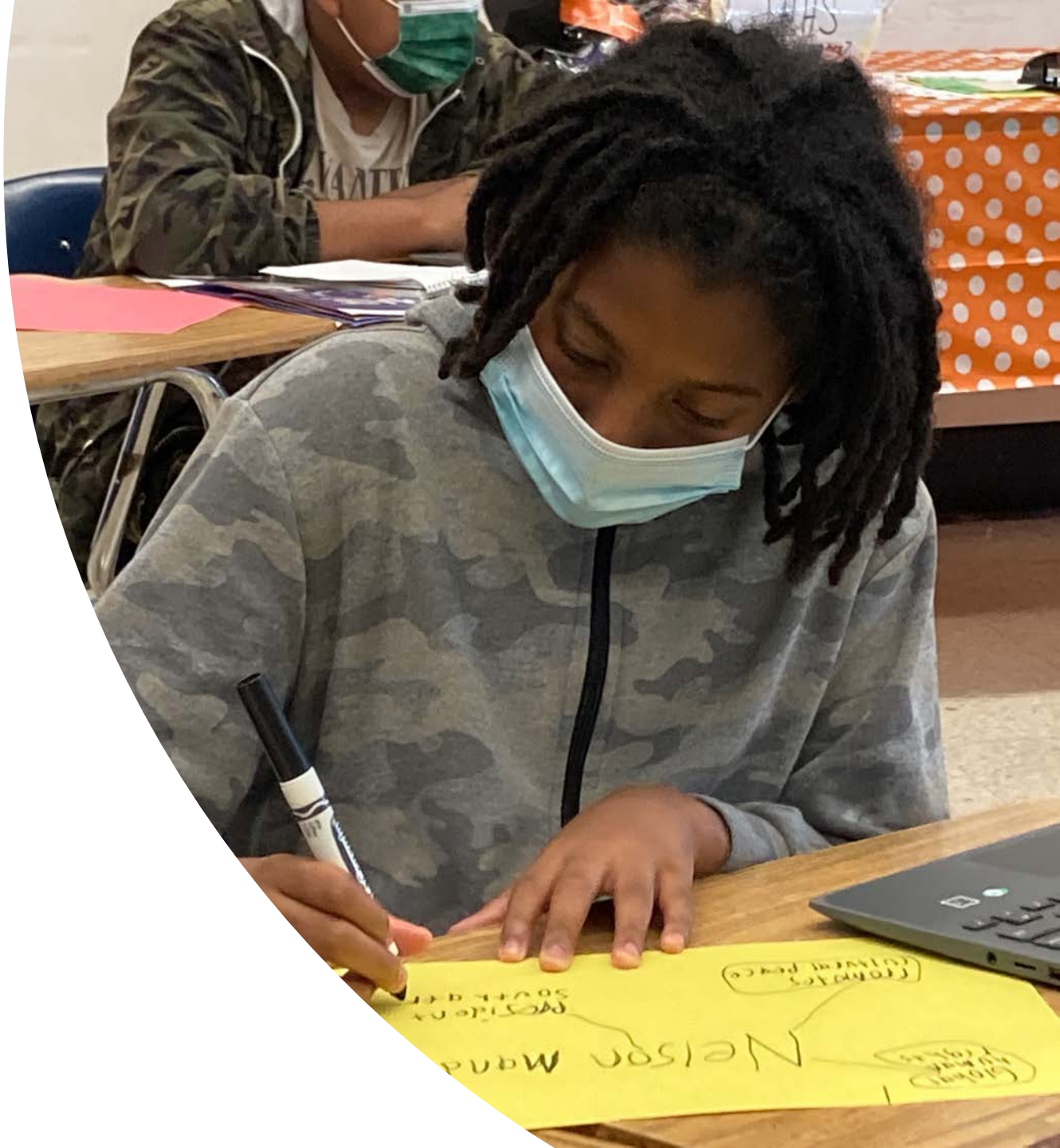
- Is a democracy that suspends freedoms a contradiction in terms? (While a yes/no question at the outset, it may provide for a discussion linking past learning with new learning or integrate current issues into the course framework).
- "Is light a particle or wave?" Can be effective if followed by an experiment that has ambiguous results.
- EQs may be *overarching* and help to frame the unit or *topical*.
- Overarching: "From whose perspective is this, and what difference does this make?" "How do various body systems interact?"
- Topical: "How does food turn into energy?" "What are possible sources of measurement in this experiment?" "What explains the rise to world prominence of the US?" "To what extent does the separation of powers cause deadlock?"

Unit Overview – The Assessments

Formative and Summative assessments should be part of the planning and writing process. Formative assessments allow for the checking of understanding.

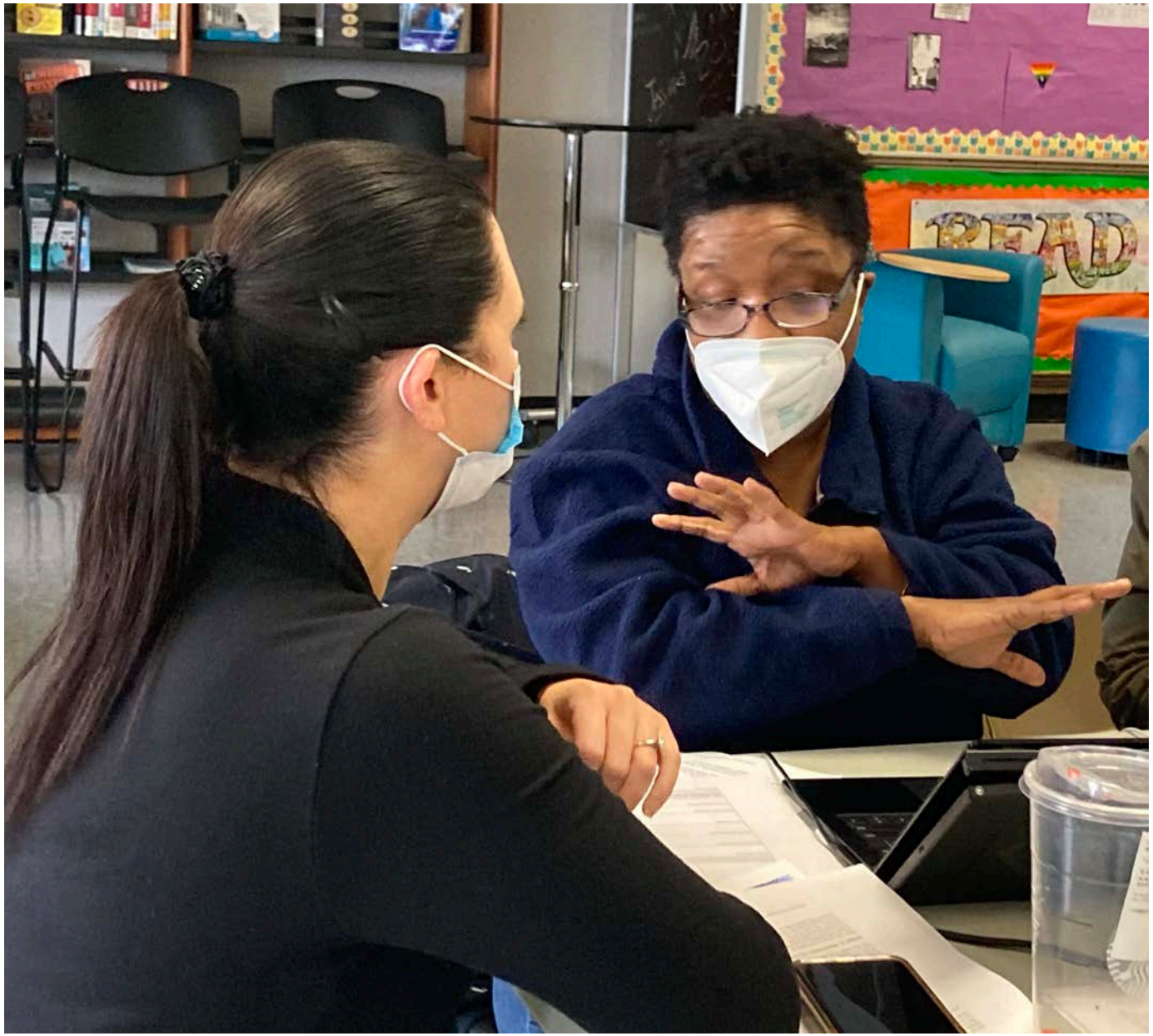
Unit Development – Formative Assessments

- A variety of formative assessments should be included throughout a unit. Formative assessments should occur each day of the unit and provide a check-in for teachers to see where students are and what key skills or content may need to be reinforced, reintroduced, or practiced (as well as to relay what students have mastered).
- Formative assessments also provide data for teachers to differentiate their lessons.
- Integrate varied approaches (exit tickets, Socratic Seminar, class discussion, quick write, quiz, thumb up/down, group activity, etc.)



Unit Development – Summative Assessments

- The summative assessment should be performance-based and integrate the most essential content and skills (standards-based).
- The summative assessment should have a rubric. The rubric is provided at the beginning of the unit and should be modifiable by the classroom teacher.



Add Assessment

Assessment Name

Assessment Method

(Select an Assessment Method)

Assessment Level

(Select an Assessment Level)

Assessment Description

Add an Attachment

Unit Targeted Standards | Additional Standards

NYS: SLS: Science Performance Expectations (2016)

NYS: MS Engineering Design

MS.Engineering Design

Performance Expectations Show details — Assessed in this...

- [x] MS-ETS1-1. Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions. — Unit (5) Course (5)
- [ ] MS-ETS1-2. Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem. — Unit (3) Course (3)
- [ ] MS-ETS1-3. Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success. — Unit (3) Course (3)
- [ ] MS-ETS1-4. Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.. — Unit (3) Course (3)

In designing a unit, *determine the end goals* first: What should students know (content) & be able to do (skills)?

Content: Subject matter, Key concepts, Facts, Events

- Noun driven
- Clear and concise
- Specific (an outsider must be able to understand)
- Does it connect the standards, EUs, EQs?

Skills: Mental, Physical, etc. (Read, identify, investigate, measure, etc.)

- Verb-driven
- Degrees of Knowledge (be sure that the degrees vary – are you touching on higher level skills such as DOK 3 and 4 in addition to 1 and 2?
- Does it connect the EUs, EQs, Standards?
- Should be written in student-friendly language (What students are to do)

Point of Clarification: Skills vs. Activities

Example 1:

- ***Activity*:** Students will write a persuasive piece on whether or not the cafeteria should sell soda.
- ***Skill***: *Write a persuasive essay with a clear introduction and supporting details*

Example 2:

- ***Activity*:** Students solve long division problems on white boards so that the teacher can quickly identify understanding
- ***Skill***: *Solve multi-digit division problems with remainders*

Example 3:

- ***Activity*** : Students will play a game of soccer and teacher will observe dribbling skills
- ***Skill***: *Combine foot dribbling with other skills in one-on-one practice tasks*

References

- Bruner, J. (1996). The Culture of Education. Cambridge, MA. Harvard University Press.
- Wiggins, G. & McTighe, J. (1998). Understanding by Design. Virginia. ASCD.