# Guide to Pre & Post Test Match-Ups

For Student Motivation through Sharing Data Feedback

# Identifying Key Parts of the Standard

Standards/DCI

Develop a model to describe that matter is made of particles too small to be seen. Examples of evidence could include adding air to expand a basketball, compressing air in a syringe, dissolving sugar in water, or evaporating salt water. Does not include atomic scale mechanism of evaporation and condensation or defining the unseen particles.

Matter of any type can be subdivided into particles that are too small to see, but even then the matter still exists and can be detected by other means. A model showing that gases are made from matter particles that are too small to see and are moving freely around in space can explain many observations, including boiling water, the inflation and shape of a balloon, and the effects of air on larger particles or objects. (UE.PSIA.a)

Breaking it Down to
what MUST be understood/done

"describe...matter"
"matter is made of particles"
particles are too small to be seen, definition of the particle types not required

"matter...can be detected by other means" (ie means other than sight)
"model showing that gases are made from matter particles"
"explain...observations"

Focus → understand that invisible gases exist around us and there is evidence to prove it

# Identifying Key Parts of the 3D Standard

SEPs

Develop and/or use models to describe and/or predict phenomena.

CCCs

Scale, Proportion, Quantity

Focus → understand that invisible gases exist around us and there is evidence to prove it

1. Find and model the evidence.
2. Predict and describe how to create/model the evidence.
3. Illustrate the evidence and explain the steps in the process of producing it. Provide explanation as to size in relation to visibility.

# Creating DOK Questions

## Level 1 & 2

Definitions: matter, particle, gas, visible, etc.

Observational examples of gaseous matter, ex balloon inflated vs deflated, steam from boiling water, pool floats, and seeing your breath on a very cold day.

1. What is matter?
Matter is what everything is made of.

2. What is a particle?
Particles determine a matter's state, ie solid, liquid, gas, plasma.

3. Which of the following is an example of matter made of particles too small to see?
Wind.

## Level 3 & 4

Explaining observations.

Selecting the best models or representations for evidence and explanation.

1. Jill's little brother can't go into deeper water because his arm supports are not keeping him up. What is the most likely explanation the floats are not working?

2. Sam has been given a timed task. Describe 2 ways Sam could quickly show a gas is present but can't be seen.

# Assessments

**Pre Test**

10-25 Multiple Choice Questions

Level 1-3 DOK, mostly Level 1 & 2

Purpose is to identify areas of weakness and maximize class time to address them AND avoid wasting time.

Bonus is sharing with students as feedback with post scores to show them growth percentages and boost their confidence.

**Post Test**

15-45 Multiple Choice, Multiple Select, & Constructed Response Questions

Includes original Pre-Test questions as well as more DOK level 3 & 4 questions.

Purpose is to assess performance of the lesson and progress of the students, including any areas of remediation or assessment items that need re-evaluation.

Tech Suggestion: ZipGrade → Modern Scantron w/ Free Analysis

# Importance of Sharing Assessment Feedback

If students are only shown a score of a 70, they do not feel accomplished.

If you remind students that their original score was a 35 and they grew 100%, that restores some of their confidence and builds intrinsic motivation as they see their effort did have some reward.

This piece is a hidden gem that many educators miss out on. By flexing your grading just a bit with weighted categories, you can boost student confidence and motivation at the same time you're collecting data.

# Ongoing Assessment

By using quick assessments like a Daily Question to connect lessons, the teacher can assess any gaps that need review before beginning the next segment. By using participation grading, the teacher can boost student confidence and motivation throughout the unit. Test anxiety defense!