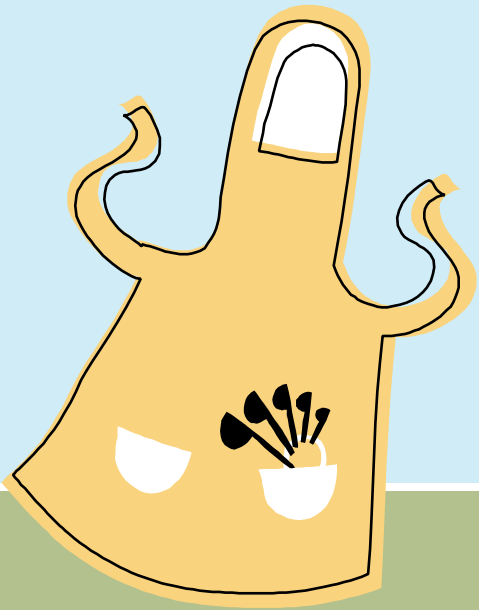


**THE LA COOKBOOK:
RECIPES FOR NEW LAS**

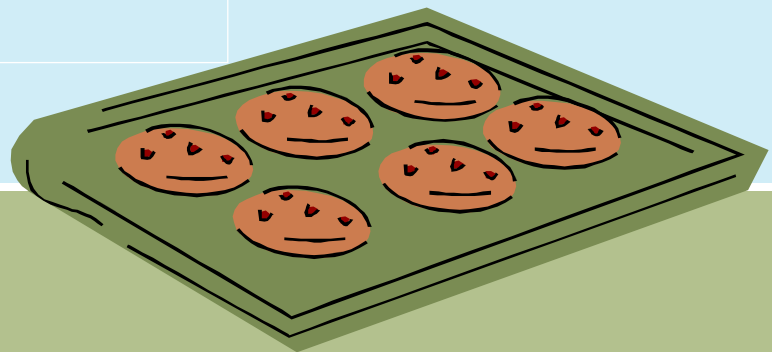
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As new LA's, we are presented with an increasing amount of techniques to facilitate student learning. Because this may be our first time in a teaching position, this information can be overwhelming and we may not be entirely clear of when or how to use it. The purpose of "The LA Cookbook" is to summarize and simplify the important skill sets learned throughout the LA course. The hope is that by making the information readily accessible LAs will be able to improve their teaching styles, better understand student ideas, and use various question types within the classroom to create a strong foundation and implement crucial skills early on. As they gain more experience and are exposed to different scenarios, LAs can add to their repertoire of teaching skills by referring to the cookbook and learn new recipes. The recipes are purposely designed to complement an LAs journey to becoming comfortable in fostering an environment most effective and conducive to student learning.

INTRODUCTION



STUDENT IDEAS SALAD

| Ingredients | Directions |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Noticing | <ol style="list-style-type: none"> 1. Observe students' responses to notice different aspects of their thoughts. 2. Pay close attention to both verbal and non-verbal cues that are indicative of the students' thoughts. 3. Discern how students are processing the information/question (e.g. are they thinking in physical or symbolic terms?). 4. Identify the core concepts the student is presenting as well as their level of understanding with those concepts. |
| <ul style="list-style-type: none"> • Interpretation | <ol style="list-style-type: none"> 1. Understand the students' thoughts. 2. Translate physical gestures into verbal explanations. 3. Reason why a student may be using a certain approach to a question. 4. Filter false positives and false negatives. |
| <ul style="list-style-type: none"> • Confirmation | <ol style="list-style-type: none"> 1. Summarize and repeat the students' ideas to confirm their thought process. 2. Ask quick 'yes' and 'no' questions to confirm core concepts of their explanation. |
| <ul style="list-style-type: none"> • Following-Up | <ol style="list-style-type: none"> 1. Better understand the students' thoughts by asking follow-up questions. 2. Allow the student to apply their thinking to additional scenarios. |
| <ul style="list-style-type: none"> • Anticipation | <ol style="list-style-type: none"> 3. Position questions to provoke critical thinking and allow them to identify concepts that they may lack a concrete understanding of. 1. Brainstorm to identify any preconceptions that may conflict with the topics discussed. 2. Review literature on students' ideas about the topic. 3. Generate follow-up questions that will guide student thinking and allow them to reevaluate any misconceptions. |

APPETIZERS



QUESTIONING TYPE TACOS

| Ingredients | Directions |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Closed Questions | <ol style="list-style-type: none"> 1. These questions are best for opening discussions. 2. Think of this as an “icebreaker” something easy to answer as well as have the discussion rolling. 3. Examples include: “What’s your name?” |
| <ul style="list-style-type: none"> • Open Questions | <ol style="list-style-type: none"> 1. These questions require a little more thought. 2. They tend to encourage wider elaboration and promote discussion within the group. 3. This is a good question to ask when provoking thought into your students. 4. Examples include: “What are some products of Glycolysis.” |
| <ul style="list-style-type: none"> • Probing Questions | |
| <ul style="list-style-type: none"> • Funnel Questions | <ol style="list-style-type: none"> 1. These questions are a pathway 2. Start off simple with less complicated questions, then branch out to more complex questions, slowly building it up for the end goal 3. Examples include “How many macromolecules are there, what makes a macromolecule?” |
| <ul style="list-style-type: none"> • Leading Questions | |
| | <ol style="list-style-type: none"> 1. These are questions that can be used to engage the student minds in understanding how they came to their conclusion 2. Examples of this include “Why do you think mitochondria are the powerhouse of the cell?” |

MAIN COURSE

PROCEDURAL KNOWLEDGE PARTY MIX

| Ingredients | Directions to test Procedural Knowledge Effectively |
|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Direct • Factual Knowledge • “Word for Word” | <ol style="list-style-type: none"> 1. These questions are effective for making sure that a student knows the basic idea or skill, so ask a closed ended question with a specific answer 2. As an LA, asking procedural questions is totally acceptable and often encouraged because they can give a quick check for student ideas 3. After asking a student a procedural question, however, don't stop there and assume that they have a firm grasp on the information. 4. Continue on with questioning that will test whether a student can apply their basic knowledge to more complicated problems. 5. Stay away from asking purely memory recall questions, like asking if a student knows a certain formula and not why the formula is important |
| <ul style="list-style-type: none"> • Equations | |
| <ul style="list-style-type: none"> • Vocabulary • Rules of thumb | |
| <ul style="list-style-type: none"> • Steps | |
| | |

CONCEPTUAL KNOWLEDGE CHIPS AND DIP

| Ingredients | Directions to test Conceptual Knowledge Effectively |
|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Multi-faceted • Challenging • Brainteasers | <ol style="list-style-type: none"> 1. These questions are effective for pushing students to implement knowledge on different ideas and answer questions accordingly. 2. Ask a question that is well thought out beforehand, understanding that there might be more than one way to answer the problem 3. If the question builds off of a procedural question, ask for an explanation or justification for the solution 4. If you are struggling to come up with conceptual questions, think about the basic concept and break it down into its simplest components... Why and how do all these components interact 5. Conceptual questions can turn into conversations if the student is actively thinking and asking more of their own questions 6. Don't make things overly complicated! Y |
| <ul style="list-style-type: none"> • Require deep thinking | |
| <ul style="list-style-type: none"> • Can have different parts | |
| <ul style="list-style-type: none"> • Good indicators of understanding | |
| | |
| | |

SNACKS

About the Authors



Mustafa is a Sophomore from Rochester, NY. He is a future Chemistry LA and is studying Public Health. Mustafa's favorite talk move is Talk Move 9: "Explain what that means to someone else"



Nick is a Senior from Baltimore, MD. He is Peer Coach in the Academic Commons and is studying Chemistry. Nick's favorite talk move is Talk Move 3: "So, Are You Saying..."



Junaid is a Sophomore from Atlanta, GA. He is a current Biology LA and is studying Public Health. Junaid's favorite talk move is Talk Move 7: "Agree/Disagree and Why?"