

2D LAC drama Topic: Acidity and Alkalinity

Scene 1: Alice, Bob and Charlie enter the stage, standing behind the tables.

Chan:	Now, everyone. Divide into groups and let's do the experiments. <i>[Leave the stage]</i>
A:	Okay, team, we have to do this experiment right. We need to measure the pH value of different solutions using litmus paper and pH paper.
C:	That sounds easy, Alice. Let's get started!
B:	Wait a minute, Charlie. What's pH again?
C:	pH is a measure of how acidic or alkaline a solution is. It ranges from 0 to 14. The lower the pH, the more acidic the substance is. The higher the pH, the more alkaline the substance is. And if the pH is 7, the substance is neutral.
A:	And to litmus paper, it changes color depending on whether the solution is acidic or alkaline. Red means acidic and blue means alkaline!
B:	Got it. Thanks!
C:	No worries, Bob! We have some indicators here with us today. Let's use them to test the pH of some common household substances.
A:	Great! Let's start with lemon juice.

B:	Okay. Let me put the blue and red litmus paper into the lemon juice. <i>[He dips a blue litmus paper into the lemon juice.]</i>
	<i>[Blue Litmus paper: Put on a red jacket / T-shirt; Red litmus paper: remain unchanged]</i>
B:	Look! The blue litmus paper turned red! That means it's acidic.
C:	Let me use a pH paper to test its pH value. <i>[He dips a pH paper into the vinegar.]</i>
	<i>[pH paper: show the number 3]</i> <i>[Blue Litmus paper: take off the red jacket]</i>
A:	It says 3! That means it's very acidic.
B:	Cool! Let me record our observation and conclusion. <i>[Writing]</i> . Now, let's try baking soda! Let me dip the litmus papers into it.
	<i>[Blue Litmus paper: remain unchanged; Red litmus paper: Put on a red jacket / T-shirt]</i>
B:	The red litmus paper becomes blue! That means baking soda is alkaline!
C:	Let me use a pH paper to test its pH value. <i>[He dips a pH paper into the vinegar.] ...</i>

	It says 9. That means it's very alkaline!
A:	Well done guys! Let's ask Mr. Chan if we are doing everything right!
C	Sure! Let's go.
All:	<i>[Leave the stage together]</i>

Scene 2: David and Eve enter the stage, standing behind the tables.

D:	Hey, Eve, do you know what we're supposed to do?
E:	Not really. I wasn't paying attention.
D:	Me neither. Let's just wing it.
E:	Okay. How hard can it be?
	<i>[They randomly pick up some beakers and flasks and start pouring liquids into them.]</i>
E:	Look at this! This solution turned red!
D:	Cool! And this one turned blue!
E:	Let's mix them together and see what happens!
D:	Good idea!

	<p><i>[They pour the red and blue solutions into a large flask. The flask starts bubbling and fizzing.] [small bubble sound]</i></p>
D:	Wow! That's awesome!
E:	Yeah! It's like a volcano!
	<p><i>[The flask overflows and spills onto the floor.] [LOUD bubble sound]</i></p>
D:	Uh-oh.
E:	Oops.
	<p><i>[Group A notices the mess; ABC enter the stage.]</i></p>
A:	What are you guys doing?
B:	You're supposed to neutralize the acids and alkalis, not make them explode!
C:	Yeah! You're wasting the indicators!
D:	Relax, guys. We're just having some fun.
E:	Yeah! It's not like it matters anyway.
A:	It does matter! This is a serious experiment!
B:	Yeah! And you're ruining it for everyone!
C:	Yeah! And you're making a mess!

D:	Come on, guys. Don't be so uptight.
E:	Yeah! Lighten up a bit.
A:	No! You need to follow the instructions!
B:	Yeah! And respect the equipment!
C:	Yeah! And clean up your mess!
D&E:	Fine.
	<i>[They start cleaning up their mess.]</i>
A:	And don't forget to write down your observations and conclusions!
B:	Yeah! And show your calculations!
C:	Yeah! And use proper units!
D&E:	Okay, okay.
	<i>[Later, after they finish cleaning up] [Mr. Chan walks in]</i>
T:	Hi everyone! Is everything alright?
All:	Yes!
T:	So, what did you learn from today's experiment?
D:	I learned that mixing random solutions can cause explosions.

E:	Yes! Explosions are fun!
Chan:	What!?
A:	Never mind! Nothing happened!
Chan:	Did I hear explosion?
B:	No, you didn't. Ummm...Let me go first! I learned that acids and alkalis react with litmus paper and change their colors.
C:	And I learned that we can use the pH paper to test the pH value of the solution!
Chan:	Hmmmm.... Okay! I am glad that you learned something. That's all for today. See you next lesson!
All:	Goodbye and thank you Mr. Chan!
All actors:	<i>[Go to the stage and bow]</i>