Lab Equipment - Questions

The Lab Equipment Concept Builder is comprised of 40 questions. The questions are organized into 14 different Question Groups and spread across three activities. Questions in the same group are rather similar to one another; they may include the same formulas with differing coefficients. The Concept Builder is coded to select at random a question from each group until a student is successful with that group of questions.

There are three activities that can be engaged in through the Concept Builder. Those three activities are differentiated as follows:

- **Matching Pairs**: Question Groups 1-4 ... Students are provided pictures and names of common lab equipment and must match the picture to the name.
- **Best Tool for the Job**: Question Groups 5-10 ... Each question describes a common lab task and asks students to identify by picture the piece of equipment that is needed to accomplish the task.
- **A Lesson for Carol**: Question Groups 11-14 ... Each question emphasizes what could be considered the most essential and yet neglected piece of lab equipment - safety goggles. Easy questions. Essential lesson.

The questions from each group are shown below. Teachers are encouraged to view the questions in order to judge which activities are most appropriate for their classes. We recommend all three activities. The activities are independent of one another.

Lab Equipment

Activity 1: Matching Pairs - Equipment Identification
Question Group 1
Question 1
Match a picture of a lab equipment item with the name of the item.

Thermometer
Test tube holder
Stirring rod
Scoopula

(Order of pictures and names of items are placed onto a grid. Their positions on the grid are randomly scrambled.)

Question Group 2
Question 2
Match a picture of a lab equipment item with the name of the item.

Graduated cylinder
Test tube
Beaker
Erlenmeyer flask

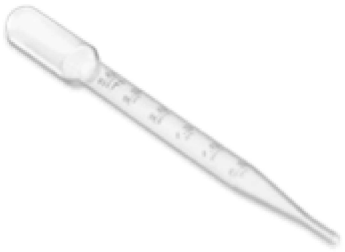
(Order of pictures and names of items are placed onto a grid. Their positions on the grid are randomly scrambled.)

Question Group 3
Question 3
Match a picture of a lab equipment item with the name of the item.

Buret

Volumetric flask
Graduated cylinder
Pipette

(Order of pictures and names of items are placed onto a grid. Their positions on the grid are randomly scrambled.)

Question Group 4
Question 4
Match a picture of a lab equipment item with the name of the item.

Watch glass
Crucible
Evaporating Dish
Funnel

(Order of pictures and names of items are placed onto a grid. Their positions on the grid are randomly scrambled.)




Activity 2: The Best Tool for the Job
Question Group 5
Question 5
Identify the best tool for accurately measuring out 50.0 mL of a solution for use in a Chemistry Lab.

Question 6

Identify the best tool for accurately measuring out 50.0 mL of a solution for use in a Chemistry Lab.

Question 7

Identify the best tool for accurately measuring out 50.0 mL of a solution for use in a Chemistry Lab.




Question 8

Identify the best tool for accurately measuring out 50.0 mL of a solution for use in a Chemistry Lab.




Question Group 6

Question 9

You are preparing to heat a liquid in a beaker and you want to prevent the liquid from splattering out of the beaker. Identify the best tool for covering the beaker in order to prevent splattering.




Question 10

You are preparing to heat a liquid in a beaker and you want to prevent the liquid from splattering out of the beaker. Identify the best tool for covering the beaker in order to prevent splattering.




Question 11

You are preparing to heat a liquid in a beaker and you want to prevent the liquid from splattering out of the beaker. Identify the best tool for covering the beaker in order to prevent splattering.




Question 12

You are preparing to heat a liquid in a beaker and you want to prevent the liquid from splattering out of the beaker. Identify the best tool for covering the beaker in order to prevent splattering.




Question Group 7

Question 13

You have just added solid to a beaker containing 200 mL of water. You now wish to stir the solid so that it dissolves before you begin to heat the beaker. Identify the best tool for stirring the solid and dissolving it.

Question 14
You have just added solid to a beaker containing 200 mL of water. You now wish to stir the solid so that it dissolves before you begin to heat the beaker. Identify the best tool for stirring the solid and dissolving it.

Question 15
You have just added solid to a beaker containing 200 mL of water. You now wish to stir the solid so that it dissolves before you begin to heat the beaker. Identify the best tool for stirring the solid and dissolving it.

Question 16

You have just added solid to a beaker containing 200 mL of water. You now wish to stir the solid so that it dissolves before you begin to heat the beaker. Identify the best tool for stirring the solid and dissolving it.

Question Group 8

Question 17

You need to transfer a hot liquid from a beaker to an Erlenmeyer flask and you need to do it without

spilling. Identify the best tool for assisting with this task.

Question 18
You need to transfer a hot liquid from a beaker to an Erlenmeyer flask and you need to do it without spilling. Identify the best tool for assisting with this task.

Question 19
You need to transfer a hot liquid from a beaker to an Erlenmeyer flask and you need to do it without

spilling. Identify the best tool for assisting with this task.




Question 20

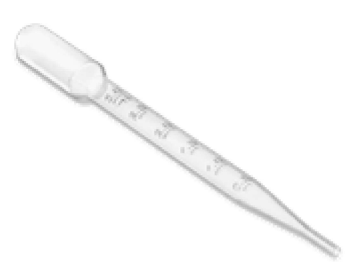
You need to transfer a hot liquid from a beaker to an Erlenmeyer flask and you need to do it without spilling. Identify the best tool for assisting with this task.




Question Group 9

Question 21

You need to transfer from a storage bottle to a beaker on top of a mass balance in order to measure out approximately 2.5 grams of solid. Identify the best tool for getting the solid from the bottle to the beaker.

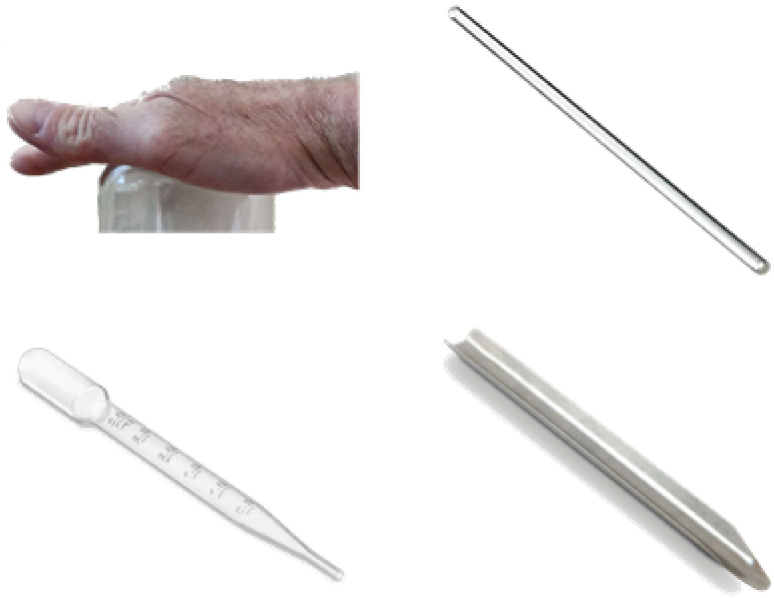


Question 22

You need to transfer from a storage bottle to a beaker on top of a mass balance in order to measure out approximately 2.5 grams of solid. Identify the best tool for getting the solid from the bottle to the beaker.

Question 23

You need to transfer from a storage bottle to a beaker on top of a mass balance in order to measure out approximately 2.5 grams of solid. Identify the best tool for getting the solid from the bottle to the beaker.



Question 24

You need to transfer from a storage bottle to a beaker on top of a mass balance in order to measure out approximately 2.5 grams of solid. Identify the best tool for getting the solid from the bottle to the beaker.

Question Group 10

Question 25

You need to heat a relatively small amount of solid to a high temperature (~250°C) using a bunsen burner flame. Identify the best tool to contain the solid during the heating process.

Question 26

You need to heat a relatively small amount of solid to a high temperature (~250°C) using a bunsen burner flame. Identify the best tool to contain the solid during the heating process.

Question 27

You need to heat a relatively small amount of solid to a high temperature (~250°C) using a bunsen burner flame. Identify the best tool to contain the solid during the heating process.

Question 28

You need to heat a relatively small amount of solid to a high temperature (~250°C) using a bunsen burner flame. Identify the best tool to contain the solid during the heating process.

Activity 3: A Lesson for Carol
Question Group 11
Question 29
What is the first thing a Chemistry student should do when they enter the chemistry lab?
a. Tell a good joke to put your lab partner at ease.
b. Pour water on your lab notebook for good luck.
c. Check to see if you have your flip flops on the correct feet.
d. Retrieve your safety goggles … and put them on … over your eyes.

Question 30
What is the first thing a Chemistry student should do when they enter the chemistry lab?
a. Pour water on your lab notebook for good luck.
b. Check to see if you have your flip flops on the correct feet.
c. Tell a good joke to put your lab partner at ease.
d. Retrieve your safety goggles … and put them on … over your eyes.

Question 31
What is the first thing a Chemistry student should do when they enter the chemistry lab?
a. Check to see if you have your flip flops on the correct feet.
b. Tell a good joke to put your lab partner at ease.
c. Pour water on your lab notebook for good luck.
d. Retrieve your safety goggles … and put them on … over your eyes.

Question Group 12
Question 32
What is the first thing a Chemistry student should do when they enter the chemistry lab?
a. Hop in the safety shower and get cleaned up.
b. Get your lab group together for a selfie; post it on social media.
c Put your lab directions away and ask the teacher <I>*What are we supposed to do again?* </I>
d. Retrieve your safety goggles … and put them on … over your eyes.

Question 33
What is the first thing a Chemistry student should do when they enter the chemistry lab?
a. Get your lab group together for a selfie; post it on social media.
b. Put your lab directions away and ask the teacher <I>*What are we supposed to do again?* </I>
c. Hop in the safety shower and get cleaned up.
d. Retrieve your safety goggles … and put them on … over your eyes.

Question 34

What is the first thing a Chemistry student should do when they enter the chemistry lab?
a. Put your lab directions away and ask the teacher <I>*What are we supposed to do again?* </I>
b. Hop in the safety shower and get cleaned up.
c. Get your lab group together for a selfie; post it on social media.
d. Retrieve your safety goggles … and put them on … over your eyes.

Question Group 13
Question 35
What is the first thing a Chemistry student should do when they enter the chemistry lab?
a. Find a water bottle and start a water bottle fight.
b. Ask the teacher <I>*Do we get to blow anything up today?* </I>
c. Text your Mom and ask for prayers.
d. Retrieve your safety goggles … and put them on … over your eyes.

Question 36
What is the first thing a Chemistry student should do when they enter the chemistry lab?
a. Ask the teacher <I>*Do we get to blow anything up today?* </I>
b. Text your Mom and ask for prayers.
c. Find a water bottle and start a water bottle fight.
d. Retrieve your safety goggles … and put them on … over your eyes.

Question 37
What is the first thing a Chemistry student should do when they enter the chemistry lab?
a. Text your Mom and ask for prayers.
b. Find a water bottle and start a water bottle fight.
c. Ask the teacher <I>*Do we get to blow anything up today?* </I>
d. Retrieve your safety goggles … and put them on … over your eyes.

Question Group 14
Question 38
What is the first thing a Chemistry student should do when they enter the chemistry lab?
a. Fire up your favorite playlist and start jammin.'
b. Use a thermometer to check the room temperature; turn on a Bunsen burner if it is below 72°F.
c. Taste the chemicals to be used in today's experiment to see if the lab's worth doing.
d. Retrieve your safety goggles … and put them on … over your eyes.

Question 39

What is the first thing a Chemistry student should do when they enter the chemistry lab?
a. Use a thermometer to check the room temperature; turn on a Bunsen burner if it is below 72°F.
b. Taste the chemicals to be used in today's experiment to see if the lab's worth doing.
c. Fire up your favorite playlist and start jammin.'
d. Retrieve your safety goggles … and put them on … over your eyes.

Question 40

What is the first thing a Chemistry student should do when they enter the chemistry lab?
a. Taste the chemicals to be used in today's experiment to see if the lab's worth doing.
b. Fire up your favorite playlist and start jammin.'
c. Use a thermometer to check the room temperature; turn on a Bunsen burner if is below 72°F.
d. Retrieve your safety goggles … and put them on … over your eyes.