

Step 2 Enter your virtual experiment design webpage

1. Select My Worlds menu item at the right top corner, then you will see the Dissolved Oxygen prepared for you listed like this:

Virtual World Title	Last Modified	Operation
Dissolved Oxygen	2012-11-02 12:22:36	edit delete Link

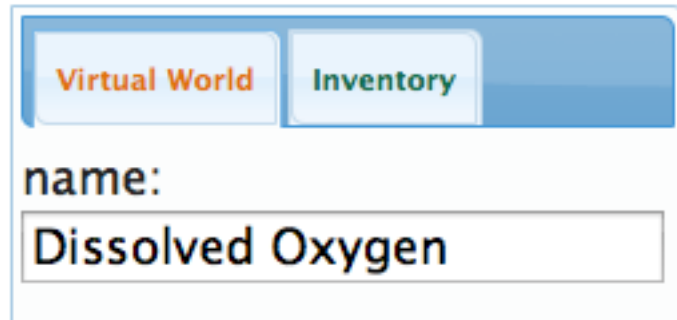
Showing 1 to 1 of 1 entries (filtered from 35 total entries)

2. Click edit link to enter the virtual experiment design webpage:

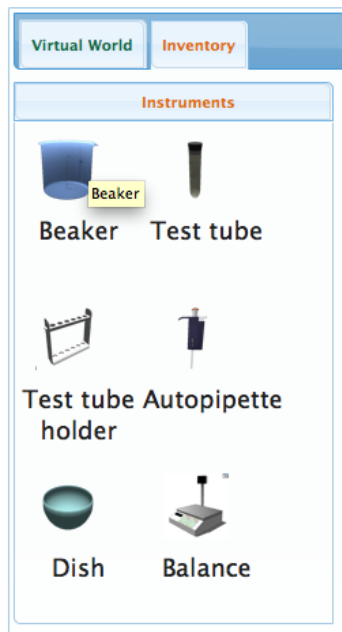
The screenshot shows the virtual experiment design interface. On the left, there is a sidebar with tabs for 'Virtual World' and 'Inventory'. Below these, there are input fields for 'name:' (containing 'Dissolved Oxygen') and 'description:'. At the bottom of the sidebar is a 'Safety rules' button. The main area contains a large empty box with the instruction 'Drag instruments and chemicals you need for this experiment onto this lab table.' To the right of this box is a 'Build' button and a 'Settings' panel. Below the main area is a 3D model of a lab table. Two blue lines connect the corners of the table to the corners of the main design area, indicating where items can be placed.

Step 3 Get familiar with your inventory

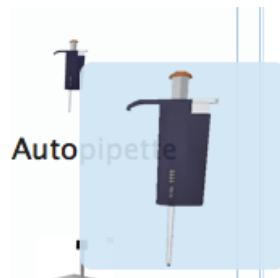
1. Click the Inventory menu at the left top side



2. Then you will see all the instruments in your inventory:

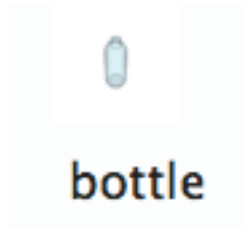


3. Scroll your mouse wheel to see more instruments
4. Left click any icon to enlarge the picture of this instrument. Left click the large picture to close it.

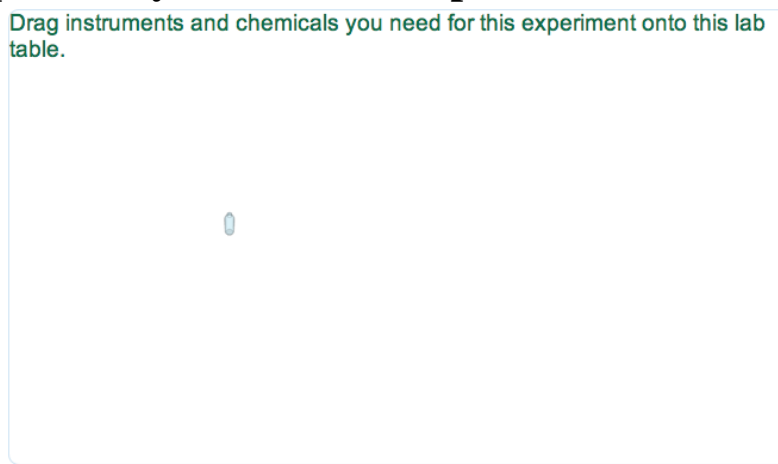


Step 4 Add a bottle of water sample to your virtual experiment

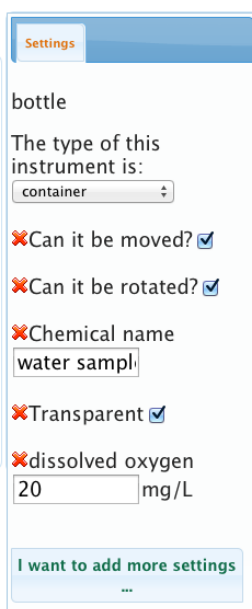
1. Scroll your mouse wheel down to the end of the inventory list to find the “bottle” item.



2. Drag and drop it onto your lab table top



3. Left click this bottle icon, at the right side, you will see the settings. Change the settings to below:



The type of this instrument is **Container**

Check “**Can it be moved?**” checkbox

Check “**Can it be rotated?**” checkbox

Chemical name means what you want to fill into this container. Since we are preparing a bottle of water sample, please type “**water sample**” here

Since we are going to observe the color change of the water sample, we want the bottle to be transparent. Check “**Transparent**” checkbox

This is a bottle of “virtual” water sample. So we have to tell the computer what is our target **Dissolved Oxygen**. (If you don’t see any item buy default, you can click “**I want to add more settings ...**” to add them.)

Step 5 Add a bottle of sodium thiosulfate to your virtual experiment

1. Let's move back to the inventory first.
2. Scroll your mouse wheel down to the end of the inventory list to find the "bottle" item.

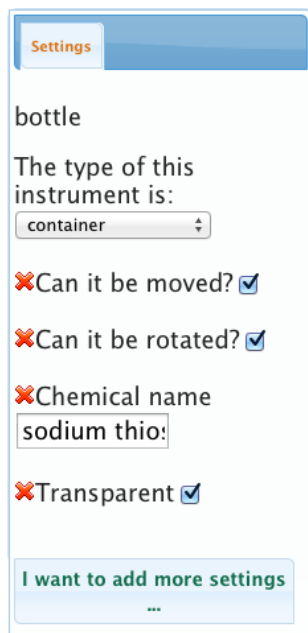


3. Drag and drop it onto your lab table top

Drag instruments and chemicals you need for this experiment onto this lab table.



4. Left click this new added bottle icon, at the right side, you will see the settings. Change the settings to below:



The type of this instrument is **Container**

Check "Can it be moved?" checkbox

Check "Can it be rotated?" checkbox

Chemical name means what you want to fill into this container. Since we are preparing a bottle of sodium thiosulfate, please type "sodium thiosulfate" here (no quotes)

Check "**Transparent**" checkbox just for fun. You can leave it unchecked too.

(If you don't see any item buy default, you can click "**I want to add more settings ...**" to add them.)

Step 6 Add a squeeze bottle of manganese sulfate to your virtual experiment

1. Let's move back to the inventory again.
2. We want to use a squeezable bottle to store manganese sulfate just like what is in the Lamotte toolkit. Scroll your mouse wheel down to the end of the inventory list to find your "squeeze bottle" item.

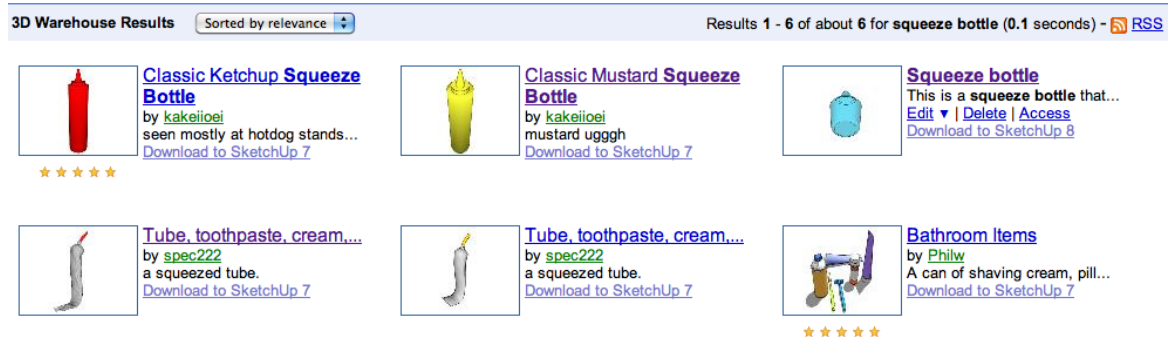
But Wait! You don't see the squeeze bottle? Oh! Our software developer did not know that you want to use this kind of instrument so they did not add it to the system. However, they did provide a feature for you to add your favorite instrument from outside resource by yourself. Let's try it out.

Google Warehouse is a very nice place to find many free 3D models. We are going to leave the *iVirtualWorld* website temporarily and go to Google Warehouse to see if we can find something like a squeeze bottle. Type <http://sketchup.google.com/3dwarehouse/> in your web browser or you can find the Google Warehouse link at BooKS website, under Virtual Boat menu.

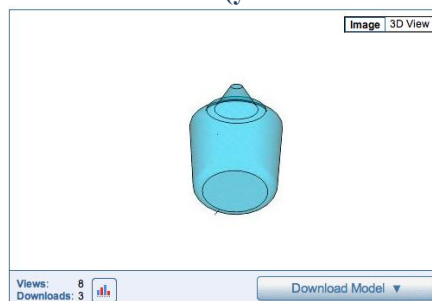
Let's search for "squeeze bottle" like this:



Here is the search result:



The third one looks good; let's choose this one (you can choose anyone you want actually).



Click the "Download Model" button and select "SketchUp 8" option



Save the Sketchup model to your hard disk and save it as any name you want. We suggest you use “squeeze bottle”. *(Please make sure that the name starts with letters not numbers or other characters. Therefore “1_squeeze_bottle” is not a legal name for our system.)*

All right! We have downloaded the squeeze bottle model. Now it’s time to upload it to *iVirtualWorld* website. I hope still have your *iVirtualWorld* website in your web browser. Go to *iVirtualWorld* website, this time select “My Assets” menu item at the right top corner. You will see the upload page like this:

Upload a New Asset:

* Choose to upload asset file or specify an asset url:

Upload File: no file selected
(bmp, jpg, png, tga, wav, mp3, mov, flv, mp4, unity3d, skp, ppt supported)

Specify URL:

(NOTE: To maintain the correct image aspect ratio, for all title images upload 4 to 1 ratio images; for all other images upload 4 to 4 ratio images.)

* Name:

Title:

* Type:
 Image
 Video
 Streaming Audio
 3D Model
 PowerPoint

Allow others to use this asset?
 Yes

Description:

1024 characters left

Choose the squeeze model downloaded just now, and double check you have a good name. For some unknown reason the Chrome or Safari web browser will fill out automatically with a name like “C:\fakepath\squeeze bottle”. That’s not what we want. If you see this weird name, simply change it to “squeeze bottle”.

The last step is to click “Upload this Asset now”. And hopefully you will see

Upload a New Asset:

Upload squeeze_bottle successfully

* Choose to upload asset file or specify an asset url:

You can click “Manage My 3D Models” to double check this. If you see your squeeze bottle listed here, then you are done!

Display All: Yes No
Display Public: Yes No
Sort By Asset ID: Sort By Filename: Sort By Title: Sort By Edit Date: Sort By If Asset is Public:
Display number of items per page (4 to 50)
Filter By Filename:

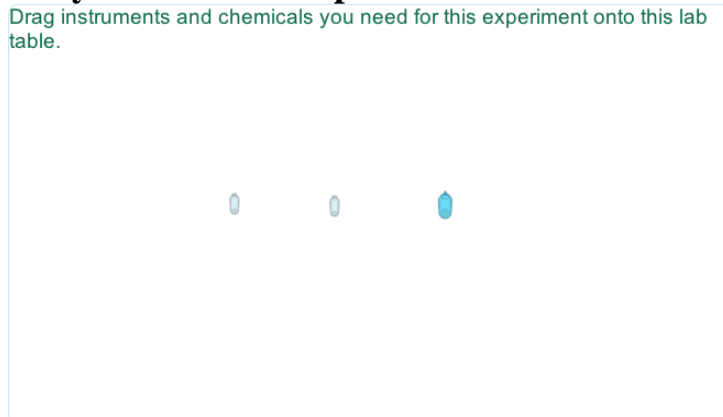
1 Records Founded

	Filename: squeeze bottle Last Edited: 2012-11-01 10:11:46 Public: no Description:
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[Edit](#) | [Delete](#)

- Now we have already uploaded the squeeze bottle. We can go back to the virtual experiment design webpage. Remember how to get to there? Select “My Worlds” menu item at the right top corner and click “edit” link of your virtual experiment.

4. Click the Inventory menu at the left top side
5. Scroll your mouse wheel down to the end of the inventory list to find your “squeeze bottle” item. (This time you will see it)
6. Drag and drop it onto your lab table top



7. Left click this new added squeeze bottle icon, at the right side, you will see the settings. Change the settings to below:

Settings

squeeze bottle

The type of this instrument is:
squeeze container

✘ Can it be moved?

✘ Can it be rotated?

✘ Chemical name
manganese

I want to add more settings
...

The type of this instrument is **Squeeze Container**

Check “**Can it be moved?**” checkbox

Check “**Can it be rotated?**” checkbox

Chemical name means what you want to fill into this container. Since we are preparing a bottle of manganese sulfate, please type “manganese sulfate” here (no quotes)

*(If you don't see any item buy default, you can click “**I want to add more settings ...**” to add them.)*

Step 7 Add a squeeze bottle of alkali-iodide-azide to your virtual experiment

This step is almost the same as the previous step except the Chemical name here should be “alkali-iodide-azide” (no quotes).

Step 8 Add a squeeze bottle of sulfuric acid to your virtual experiment

This step is almost the same as the previous step except the Chemical name here should be “sulfuric acid” (no quotes).

Step 9 Add a squeeze bottle of starch to your virtual experiment

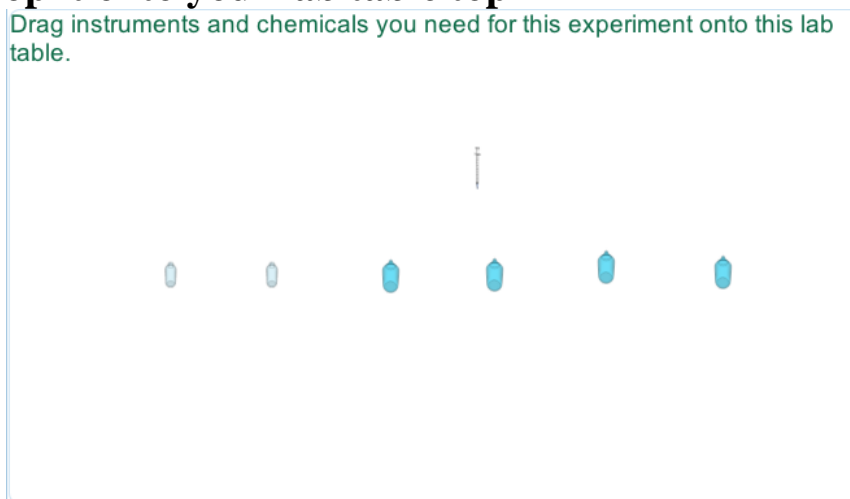
This step is almost the same as the previous step except the Chemical name here should be “starch” (no quotes).

Step 10 Add a syringe to your virtual experiment

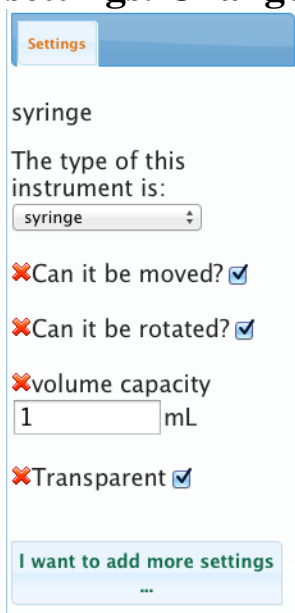
1. Let's move back to the inventory again.
2. Scroll your mouse wheel down to the end of the inventory list to find your “squeeze bottle” item.



3. Drag and drop it onto your lab table top



4. Left click this new added syringe icon, at the right side, you will see the settings. Change the settings to below:



The type of this instrument is **syringe**

Check “**Can it be moved?**” checkbox

Check “**Can it be rotated?**” checkbox

Volume capacity means at most how much solution this syringe can hold

Check “**Transparent**” checkbox

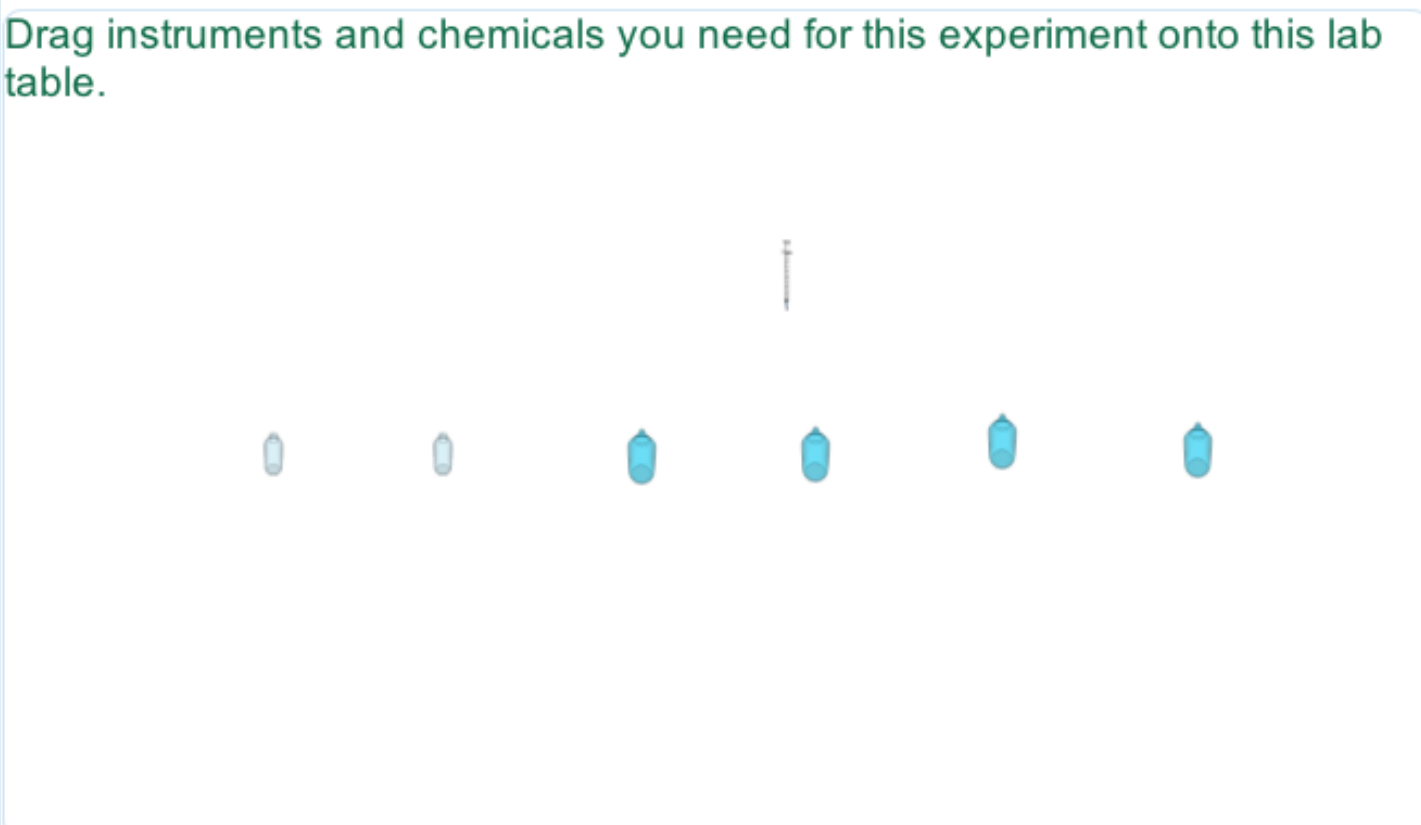
(Again, if you don't see any item buy default, you can click “**I want to add more settings ...**” to add them.

Step 11 Build your virtual experiment

To this point we are pretty much done. Good job!
Now let's click the "Build" button

You can visit your virtual world at [here](#) Build

Drag instruments and chemicals you need for this experiment onto this lab table.

The image shows a virtual lab interface. At the top left, there is a light blue box containing the text "You can visit your virtual world at [here](#)". To the right of this box is a small blue button with the word "Build" in white. Below these elements is a large white rectangular area representing a lab table. At the top of this area, there is a green instruction: "Drag instruments and chemicals you need for this experiment onto this lab table." Below the instruction, there is a horizontal toolbar containing six icons: two small light blue bottles, two medium blue bottles, and two larger blue bottles. Above the middle of the toolbar, there is a vertical grey line with a small downward-pointing arrow, indicating a drop zone for items.

Click the link to go to your virtual experiment and play with it.