PhET Tips for Teachers   Simulation Title
Written by , last updated May 5, 2011

This doc is backed up on SVN under Docs

The Template was last updated June 18, 2010. If you have trouble with formatting by using this doc, email Trish to get the latest version.
All the sections in **red** are notes for PhET team members filling in this template. **Delete them all when you're done!** Not every section needs to be filled in – if you have no entries for a section, delete it. **Don't forget to fill in sim title, author, and date in footer.**
" The convention for naming the file is "TipsForTeachers_Sim_name.docx" like "TipsForTeachers_Calculus_grapher.docx"


Tips for controls:
This section should include stuff in the options menu, moveable objects that people don't find, tabs, etc. Delete all the bullets that don't apply to this sim and add any new ones that you want.
- Use the **Save/Load** feature in the **File** menu to save a configuration for lecture or homework. To open a saved file, open the sim, and then select the file to load.
- Try all the different tabs at the top of the simulation. The tabs are designed to help teachers scaffold lessons or make lessons age appropriate by using only some tabs.
- You can **Pause** the sim and then use **Step** to incrementally analyze.
- Use the controls on the bottom to **Pause, Step**, or **Record** and **Playback** the motion. You must select **Record** before you start an experiment if you want it saved. The (Noah put a pic of dot please, I can do it in Word but not google doc, see Ramp Tips, I'll email it to you.) -pat loeblein 7/5/10 11:49 AM is grabbable in **Playback** mode. It is useful to relate the object's motion to the graphs.

- The vertical gray line in the graph is grabbable. It is useful to relate the object's motion to the graphs.
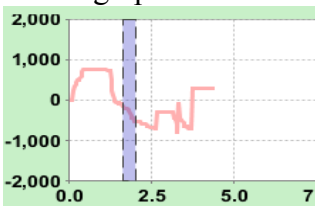
- If you are doing a lecture demonstration, set your screen resolution to 1024x768 so the simulation will fill the screen and be seen easily.

Important modeling notes / simplifications:
This section should include explanations of simplifications, approximations, and other aspects of our models that teachers need to know about. E.g. only including photons perpendicular to plate in photoelectric effect.
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Insights into student use / thinking:
This section should include insights about how students are likely to use and think about the sim based on our interviews and observations of classroom use. E.g. start with first tab because the second one is too overwhelming, don't put up too many graphs at once, start with wave packets not plane waves, if students are confused about this, try that, etc.

This section is optional. If there are insufficient observations or research to make useful recommendations, just leave this section out.

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Information regarding the game tab: **Things that a teacher might like to know especially about level design and randomly generated questions or all the same**

Suggestions for sim use:

· For tips on using PhET sims with your students see: **Guidelines for Inquiry Contributions** and **Using PhET Sims**

· The simulations have been used successfully with homework, lectures, in-class activities, or lab activities. Use them for introduction to concepts, learning new concepts, reinforcement of concepts, as visual aids for interactive demonstrations, or with in-class clicker questions. To read more, see **Teaching Physics using PhET Simulations**

· For activities and lesson plans written by the PhET team and other teachers, see: **Teacher Ideas & Activities**

- Possibly: Gold Star Activities: (with links)

To add or edit Tips documents for a specific sim :

Create a PDF of the word version. The convention is "TipsForTeachers_Sim_name.pdf" like "TipsForTeachers_Calculus_grapher.pdf"

Login and then go to Admin (upper right of every page when you are logged in). Then, under View/edit select Simulations. Select the sim you want in the Flavor column and then scroll down to Teacher's Guide, open the current guide or remove the guide ,Add or replace: Use the PDF version.

Adding Teacher Tips to Repository--Directions are in the Planning Googledoc

You will upload both the word and PDF versions.

Adding Teacher Tips to Repository--Directions for first time

1. Download TortoiseSVN (http://tortoisesvn.net/downloads works well) and install on your computer; it will prompt for a restart. Make sure you scroll down to "Tortoise" there are many choices -pat loeblein 2/10/11 5:50 AM
2. Create a folder into which a local copy of the repository will be downloaded. It works best to have the folder address be directly on disk C (i.e. C:\PhET or something like this).

3. Right click on this folder and select the option "SVN Checkout."

4. A box will pop up and will prompt you for "URL of repository." Login to Unfuddle, click on the "Repositories" tab, and click on "PhET SVN Repository." In the top right corner there will be a link that says "Show me how to connect."

5. When you click on "Show me how to connect," another window will pop up called "Subversion Access." There will be 2 gray boxes in this window; you want the SSL one, which is the second box.

6. The SSL box should say something like this: "`svn checkout https://phet.unfuddle.com/svn/phet_svn/ local_directory_name`"

7. Copy the "https://phet.unfuddle.com/svn/phet_svn/" part and paste it into the Tortoise "URL of repository" and type "trunk" at the end of the URL so it looks like this: "https://phet.unfuddle.com/svn/phet_svn/trunk" and click OK.

8. Next, Tortoise will ask for a username and password: these are just your Unfuddle username and password.

9. Tortoise will now make a local copy of the repository. It's best to be wired into the network to make the download go faster; it's almost 500MB so it will take about 20-30 minutes depending on the connection.

10. Once everything has downloaded, you have a local copy of the repository on your computer. There should be green checkmarks next to the folders in the repository: this is a Tortoise thing and means that everything is updated and in sync with the SVN.

11. When adding a file or a folder to the repository, drag and drop the file that you'd like into the appropriate folder in the repository. Right click on this file and under "TortoiseSVN" select "Add..." Once the file is added, right click on it again and select "SVN Commit..."

12. Tortoise might prompt you for a username and password at this point if this is the first file that you have added; again, this is just the username and password from Unfuddle (checking the "save authentication" box is helpful). Also, you need the appropriate access in order to be able to add files files to the SVN...John Blanco can change your Unfuddle settings to give you the proper access.

13. You can add a message about the file(s) you are committing to the SVN and the recent messages that you have used will appear under "Recent Messages," so you don't have to re-type constantly.

14. Sometimes Tortoise doesn't want to commit files on the first try; you can close the repository, re-open it, and try committing again. This usually solves the problem, although it can take a few tries. Again, this will probably go more smoothly if you are wired into the internet. If something was not committed properly, instead of the green chechmarks, red exclamation marks will appear next to the folders which contain the file(s) that are not committed.

Updating Tips Teacher Tips to Repository--Directions for if you have already downloaded Tortoise

1. When updating a file or a folder to the repository, drag and drop the file that you'd like into the appropriate folder in the repository. Right click on this file and under "TortoiseSVN" select "SVN Commit..."

2. Tortoise might prompt you for a username and password at this point if this is the first file that you have added; again, this is just the username and password from Unfuddle (checking the

"save authentication" box is helpful). Also, you need the appropriate access in order to be able to add files files to the SVN...John Blanco can change your Unfuddle settings to give you the proper access.

3. You can add a message about the file(s) you are committing to the SVN and the recent messages that you have used will appear under "Recent Messages," so you don't have to re-type constantly.

4. Sometimes Tortoise doesn't want to commit files on the first try; you can close the repository, re-open it, and try committing again. This usually solves the problem, although it can take a few tries. Again, this will probably go more smoothly if you are wired into the internet. If something was not committed properly, instead of the green chechmarks, red exclamation marks will appear next to the folders which contain the file(s) that are not committed.