Installation Sheet for Downloading and Installing PhETs
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1   Technical Requirements

1. The `PhET` simulations can be run online or downloaded to your computer.

2. Link for checking System requirements for using `PhET` Simulations:
   https://phet.colorado.edu/en/help-center/running-sims

2   File Types

1. The `PhET` simulations are available in `HTML5` format and Java format

2. The `HTML5` files are browser-based, so after downloading they can be directly opened using any browser like `Firefox` or `Chrome`.

3. Please install the latest version of `Firefox/Chrome/Safari` on your system.

4. To open `PhET` simulations which are in `Java` format, you need to install `Java` installed on your system.

3   Procedure to Check Whether Java is Installed on your System

1. To follow the installation procedure, you need to be connected to the `Internet`.

2. To check whether `Java` is installed on your system, do the following:

3. Procedure to open the `Command Prompt` in `Windows`:
   Open the `Command Prompt` by typing `cmd` in the search bar next to the `Start` menu.

4. Procedure to open `terminal` in `Ubuntu`:
   Press `Ctrl, Alt` and `T keys` simultaneously to open the `terminal`.

5. Procedure to open `terminal` in `Mac`:
   In the `Finder`, open the `/Applications/Utilities` folder, then double-click `Terminal`.

6. At the `command prompt` type, `java -version` and press `Enter` on your keyboard.

7. It will show the version number of `Java` already installed on your system

8. If `Java` is not installed on your system, please follow the procedure to install `Java` on `Windows, Ubuntu` and `Mac` given in Section 4.

9. Please omit section 4 if `Java` is already installed on your system and proceed to section 5.

4   Procedure to Install Java

`Java PhET` simulations require `Java` installed in the system. `Java` can be installed using the links given below.

4.1   Procedure to Install Java on Windows

1. Open any web browser and go to **Java.com**

2. Click on the `Java Download` link.

3. A window prompts to accept the license agreement.

4. Read the information and check the check box.

5. The `Download` button becomes active. Click on the `Download` button.

6. A window prompting to save the file appears.

7. Click on the `Save File` button to download `Java`.

8. The file downloads to the `Downloads` folder.

9. Right-click on the downloaded file and select `Run as Administrator`.

10. Click `Yes` in the confirmation window.

11. The installation of `Java` starts.

12. Click on the `Next` button and then click on `OK` button to complete the installation

4.2   Procedure to Install Java on Linux OS

1. First, update the `apt package index`

2. Open the terminal by pressing `Ctrl, Alt` and `T keys` simultaneously.

3. At the prompt type, `sudo apt-get update` and press `Enter`.

4. Give the system password when prompted.

5. Once the package index is updated, at the prompt type `sudo apt-get install default-jdk` and press `Enter`

6. If prompted, type **Y** and press `Enter` to continue and complete the installation.

7. To verify the installation:

    (a) Open the terminal by pressing `Ctrl, Alt` and `T keys` simultaneously.
    (b) At the command prompt type, `java -version` and press `Enter key` on your keyboard.
    (c) It will show the version number of `Java` installed on your system..

4.3   Procedure to Install Java on Mac OS

1. Open any web browser and go to **Java.com**

2. Click on the `Java Download` button.

3. `Download Java for Mac OS X` page opens.

4. Read the license page. Click on `Agree and Start Free Download` button.

5. `JRE.dmg` file downloads to the `Downloads` folder.

6. From either the browser `Downloads` window or from the file browser, double-click the `.dmg` file to launch it.

7. A `Finder` window appears that contains an icon of an open box and the name of the `.app` file.

8. Double-click the `Java 10.app` icon to start the installation application.

9. The installation application displays the `Welcome` window.

10. Click the `Open` button. Give the system permission if prompted.

11. Click on the `Install` button in the `Java` installation window.

12. The software is installed and a confirmation window is displayed. Click on `Close`.

13. To verify the installation: Open the `terminal`.

    (a) At the command prompt type, `java -version` and press `Enter` on your keyboard.
    (b) It will show the version number of `Java` installed on your system.

5   Procedure to Use PhET Simulations in Online Mode

1. Go to the URL: (**https://phet.colorado.edu/en/simulations/browse**)

2. The Simulations page opens. You will see two tabs in the middle of the page: Browse and Filter.

    (a) Under the `Browse` tab simulations are arranged subject-wise.

(b) Under the `Filter` tab, uncheck the `HTML5` option, the simulations can be selected using `Filters` on the left panel.

3. To use the simulation click the desired simulation thumbnail. A new page with the simulation details opens.

4. To run the simulation click on the play icon on the player. The simulation interface opens and is now ready to use and explore.

5. Here there is also an option to download and save the simulation, to do so click on the `DOWNLOAD` button at the bottom-left of the simulation.

6 Procedure to Use PhET Simulations in Offline Mode

1. Simulation can be downloaded and run offline only on `Windows OS` and `Mac OS`.

2. The Offline download is currently not available for `Linux OS`.

3. The required simulations can be directly downloaded from the `One at a Time section`

4. Registration on the `PhET` website:

   (a) To download the offline content you need to register on the `PhET` website.
   (b) If you are a first time user, please register by clicking on the `Sign In` icon present at the top-right corner on the `PhET` homepage.
   (c) `Sign` In dialog-box opens.
   (d) Click on the `Register` link at the bottom of the dialog-box.
   (e) Fill in the required details in the fields provided.
   (f) You will receive an email with a link.
   (g) Click on the link to confirm your registration.
   (h) Use the registered email ID and password in the`Sign In` page while you are downloading the offline content.

6.1 Installation of PhET on Windows 10 OS

1. Click here to download the offline `PhET` Simulations.

2. The offline access page opens.

3. On the page, you can see three options: `Desktop/Laptop Computer, Chrome book and iPad`

4. Click on `Desktop/Laptop Computer` option.

5. Under the `Full Install section` click on the `Windows` link.

6. `Sign In` window appears.

7. Please enter your registered email id and password. Click on the `Sign In` button.

8. A window prompting to save the file appears.

9. In the window click on the`Save File` button.

10. The file downloads to the `Downloads` folder.

11. The file size is around 202 MB, it may be different when your are downloading the file.

12. After downloading, right-click on the downloaded file and select `Run as Administrator`.

13. Click `Yes` in the confirmation prompt box.

14. `Phet Set up` window opens showing the Installation process.

15. After the installation is complete the `Index of Sims` window opens with all the simulations.

16. A shortcut is created on the `Desktop` to open the `Index of Sims` window.

6.2   Installation of PhET on Mac OS

1. Click here to download the offlinePhET Simulations.

2. The offline access page opens.

3. On the page, you can see three options: `Desktop/Laptop Computer, Chrome book and iPad`

4. Click on `Desktop/Laptop Computer` option.

5. Under the `Full Install section` click on the `MacOS` link.

6. `Sign In` window appears.

7. Please enter your registered email id and password. Click on the `Sign In` button.

8. The `phet-mac-app.dmg` file downloads to the `Downloads` folder

9. The file size is around 250 MB, please make sure you have enough storage space to save the file on your system.

10. The file size may change if new `PhETs` are added.

11. After the download is complete, double-click on the `dmg` file. The installation starts automatically.

12. If required and prompted give appropriate permissions for installation.

7   Checking for Successful Installation

To check for successful installation:

1. In the `Index of Sims` window, we can see three tabs: `HTML5`, `JAVA` and `ALL`.

2. The `HTML5` tab contains all the simulations in `HTML5` format.

3. The `JAVA` tab contains all the simulations in `Java` format.

4. `ALL` tab contains all the simulations.

5. Click on any simulation to work with.