Media Worksheet

The aim of this worksheet is to reskin the classic "Pong" game, using graphics and audio of your choice.
Follow each step in the instructions carefully (the hints and tips given will help you out)
If you get stuck or need any help, just ask.

Task 1 – Play the game
First thing's first, lets have a quick play with the game:
(1) Open up the Pong game by double clicking on the PongGame.pde file
(2) Make sure you are in "Java" mode (see the drop-down menu on the right hand side)
(3) The press the "Run" button ▶
(4) Use the Z and X keys to move the bat back and forth to hit the ball – Enjoy !

Task 2 – Graphics
In this task, we are going to replace the boring original graphics with something more exciting:
(1) Think up a suitable theme for your game – it can be anything you like (film, celebrity, technology)
(2) Search online using Google Image search to find some suitable graphics. You will need:

A background image	A "bat" image	A "ball" image

(3) Replace the three PNG images inside the "data" folder with the images you have found. Make sure you save them in PNG format.
(4) If bat and ball images haven't already got transparent backgrounds use an image editor to fix them
(5) Resize the images to a suitable resolution (you might need to experiment a bit to see what works).

If all the above has been done correctly, you should now have a playable game in your chosen theme.

Task 3 – Audio
The problem is that although the game *looks* better, it still *sounds* like the original pong game:
(1a) Make some audio – use the microphone provided to create some suitable audio using "Foley"
(1b) Find some audio - go to the sound bible website (http://www.soundbible.com) and search for some suitable audio
(2) Once you have some audio clips, save them as mp3s in the "data" folder with the following files:
- bat.mp3 – is the sound played when the ball hits the bat
- wall.mp3 – is the sound played when the ball hits the wall

(3) If you need to trim the audio clip (e.g. if it has silence at the beginning, or is too long) open it up using "Audacity" and edit it. Hint: you will have to export your audio out of Audacity as an mp3 since the "save" function can only be used to create an Audacity Project file.
(4) Check the size of your mp3 file – make sure it isn't massive (or it will take a long time to load !)
(5) You might also like to experiment with some of the audio filters in Audacity to enhance your audio.

Your game should now sound as good as it looks !

Task 4 – Game Physics
In this final stage of the workshop, you will get the opportunity to experiment with some of the game physics that are in use in the pong game. Take a look at the code and try to find out where and how you might add the following features:
- Gravity – Apply the effects of gravity to the ball, so that it begins to slow as it reaches the top of the screen, but speeds up as it falls.
- Speedup – Currently, the speed at which the bat hits the ball has no impact on the game. Include additional code so that if the bat is moving when it collides with the ball, the ball will speed up. The faster the movement of the bat, the greater the speedup.

Task 5 – Score
Finally, in the top left-hand corner of the screen, you may have seen a Score counter. Currently this doesn't update. Add some code so that the player wins one point every time they hit the ball, but looses a point if they miss it (and the ball disappears off the bottom of the screen).