[**Why does my color go away when I enable lighting in OpenGL?**](http://stackoverflow.com/questions/8494942/why-does-my-color-go-away-when-i-enable-lighting-in-opengl)

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when lighting is enabled, a vertex 'color' is not determined from the color set by glColor, but by the currently set materials colors combined with the light's colors using the lighting computation

so by default the material setting (which is by default is a diffuse grey material)

**Floating point to integer conversion**

http://en.wikibooks.org/wiki/Optimizing\_C%2B%2B/Code\_optimization/Faster\_operations

convert a floating point number x to a nearest integer number n is the following statement

n = int (floor (x + 0.5f));

example

0.5 -> 1

1.5 -> 2

-0.5 -> 0

-1.5 -> 1