

Material Files

In addition to vertex positions and faces
OBJ files can also contain details of surface colours
These are referred to as "materials"

Materials are defined in a separate .MTL file
And then referred to in the main .OBJ file

Example MTL file

A material has a number of different properties
Some of these will only be of use after reading week
For now we'll only consider "diffuse colour" (K_d)

We specify colour name with the "newmtl" keyword
Then colour RGB values (0.0-1.0):

```
newmtl Red  
Kd 1.000000 0.000000 0.000000
```

```
newmtl Green  
Kd 0.000000 1.000000 0.000000
```

Converting Colour Channels

You will have noticed that MTL colour channel values
Are different from values we've been using (0-255)

You will have to convert these values
When you read in the MTL files

Sorry about all of this lack of consistency:

MTL Colours ➤ RGB Bytes ➤ Packed Integers

Using Materials in OBJ files

```
mtllib bunny.mtl
```

```
usemtl Green
```

```
v -2.982011 -0.158233 -0.243599
```

```
v 2.545989 -0.158233 -0.243599
```

```
v 2.545989 -0.162686 -5.835598
```

```
f 1/ 2/ 3/
```

```
usemtl Red
```

```
v 1.982011 1.158233 1.243599
```