

// MinTuts/Procedural Terrain.shader

```
Shader "MinTuts/Procedural Terrain" {
  SubShader {
    Pass {
      CGPROGRAM

      #pragma vertex   vert
      #pragma fragment frag

      #include "UnityCG.cginc"

      struct v2f {
        float4 pos   : SV_POSITION;
        float3 wpos  : POSITION1;
      };

      v2f vert(float4 vertex : POSITION) {
        v2f o;

        o.pos   = UnityObjectToClipPos(vertex);
        o.wpos  = mul(unity_ObjectToWorld, vertex);

        return o;
      }

      float4 frag(v2f i) : COLOR {
        float  p = i.wpos.y * 0.015;
        float3 y = float3(p, p, p);

        return float4(y, 1);
      }

    }
  }
}
```

These are the minimum required sections for **ShaderLab**

In **Unity**, **ShaderLab** wraps **Cg** code

ShaderLab provides a structured way to define single pass (*what our shader is*) and multi-pass shaders (*shaders with multiple **Pass** blocks*)

ShaderLab also allows us to specify multiple SubShaders

SubShaders allow us to target and optimize for specific platforms - i.e: a **SubShader** optimized for PS4, another **SubShader** optimized for mobile, and yet another **SubShader** optimized for high-end PCs

NOTE: Most **vertex/fragment** shader examples show the Properties section

The Properties section is not required, most tutorials and examples include it because they want a texture to use in their shader

We are generating everything procedurally (*including textures - a few Tuts down the road*) so we have no use for a texture property

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Shader "MinTuts/Procedural Terrain" {
```

```
  SubShader {
```

```
    Pass {
```

```
      CGPROGRAM
```

```
        #pragma vertex    vert
```

```
        #pragma fragment frag
```

```
        #include "UnityCG.cginc"
```

```
        struct v2f {
```

```
          float4 pos    : SV_POSITION;
```

```
          float3 wpos : POSITION1;
```

```
        };
```

```
        v2f vert(float4 vertex : POSITION) {
```

```
          v2f o;
```

```
          o.pos    = UnityObjectToClipPos(vertex);
```

```
          o.wpos = mul(unity_ObjectToWorld, vertex);
```

```
          return o;
```

```
        }
```

```
        float4 frag(v2f i) : COLOR {
```

```
          float p = i.wpos.y * 0.015;
```

```
          float3 y = float3(p, p, p);
```

```
          return float4(y, 1);
```

```
        }
```

```
      ENDCG
```

```
    }
```

```
  }
```

```
}
```

The **Shader** section specifies the name (aka location in a Material's **Shader** drop-down menu in Unity)

This **Shader** would be located in the Procedural Terrain submenu under the MinTuts root menu item