# Workshop 13 Lab 1

In this activity, we are going to

* try out the standard light shader in Unity and
* implement a simple Ambient, Diffuse and Specular Fragment Shader.

1. Standard light shader

New a Unity 3D project

Insert a Sphere

New a Material

Attach the new material to the Sphere

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Change the Albedo colour.

“The Albedo parameter controls the base color of the surface”

https://docs.unity3d.com/Manual/StandardShaderMaterialParameterAlbedoColor.html

Change the Metallic value

“The metallic parameter of a material determines how “metal-like” the surface is.”

https://docs.unity3d.com/Manual/StandardShaderMaterialParameterMetallic.html

Change the Smoothness value

“control the “microsurface detail” or smoothness across a surface.”

<https://docs.unity3d.com/Manual/StandardShaderMaterialParameterSmoothness.html>

Add in a spot light.

Display the Directional Light

Adjust the Range, Spot Angle and Intensity to test the effect.

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**Shape

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Add in a Point Light

Disable the Directional Light and Spot Light

Adjust the Range and Intensity to test the effect

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1. Light Shader

Install Core RP and Universal RP

* From Window->Package Manager->Packages: Unity Registry-> Install Core RP and Universal RP
* Follow the instruction in the link to configure UPR into an existing Project
* https://docs.unity3d.com/Packages/com.unity.render-pipelines.universal@10.8/manual/InstallURPIntoAProject.html

New a Shader->Standard Surface Shader name it as LitShader

Replace the code with the following:

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//vertex shader

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//Fragment shader

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New a Material, name it as LitMaterial

Replace the Sphere material with LitMaterial

Replace LitMaterial with LitShader

Enable Directional Light and disable Spot and Point Light

Add in additional Directional Light.

Adjust the parameters of the LitMaterial to test out the effect.

Chart

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A picture containing kite

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