

There are three main concepts for creating explosion scenes. First, explosion effects are created by particles bursting from a center point of a particles emitter with a few more modifications to it. Second, as the particles burst from the explosion, this simulates the hot energy being dispersed and later slowed down as the particles continue to expand in the scene. Finally, the flames will disappear to show that the flames have died away. By following these three concepts and continuously looping through them, this will create the explosion effect.

To create an explosion, you need to start off with a particle system object and set the emitter shape to a sphere. Then you can use the ParticleFireball material and place it into the particle system. Casting and receiving shadows should be turned off because flames produce light rather than receiving it. Depending on what you want for the explosion, you can set the particles size and the intensity of the explosion. The Size Over Lifetime module to create the effects of flames expending fuel. To make flames fade away, you have to enable the Color Over Lifetime module and have the gradient start with white and finish with black. The last part of the explosion is to create different patterns of particle movement; to do this, we have to change the Particle Systems starting size and starting rotation properties.

There are many different cases where we can use the explosion effects during a scene:

- Setting off explosions: you would have to disable the Particle Systems Play On Awake component. This can be done through a script:
  - ```
void Explode(){  
    - Var exp = GetComponent<ParticleSystem>();  
    - exp.Play();  
    - Destroy(gameObject, exp.duration);  
}
```
- Creating explosions on impact: you can create an Explode function where it is executed after a time delay or when two objects come into contact. Examples: grenade explosions
  - ```
public float fuseTime;  
Void Start(){ // explodes after time delay  
    - Invoke("Explode", fuseTime);  
}
```
  - ```
Void OnCollisionEnter(Collision coll){  
    - Explode();  
}
```