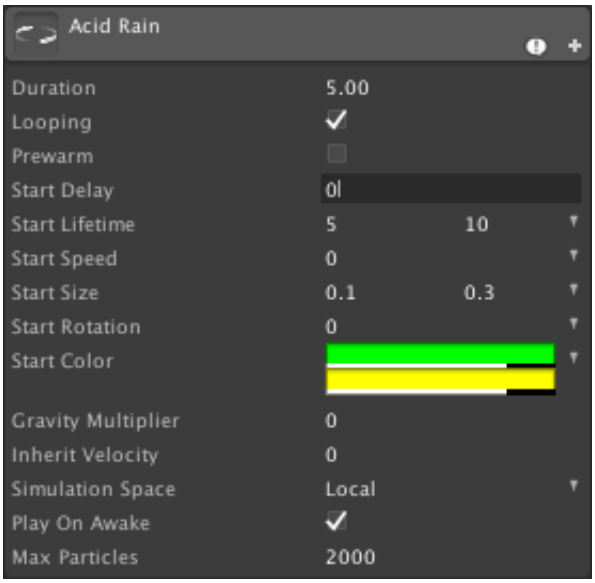
Particle Modify Guide

Sometime, you have to adjust the particles to let them work as you like. This guide helps you to know some key parameters that are in the main modules found in Particle System Inspector.

Initial Module

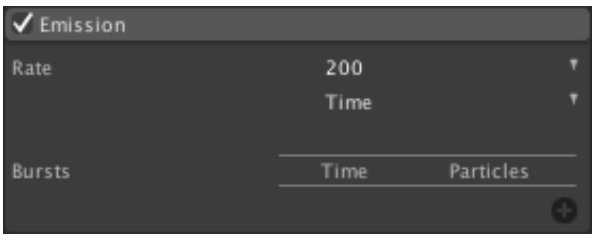
This module is always present, it cannot be removed or disabled.



Duration	The duration the Particle System will be emitting particles.
Looping	Is the Particle System looping.
Start Size	The size of particles when emitted.
Start Rotation	The rotation of particles when emitted.
Start Color	The color of particles when emitted.
Simulation Space	Simulate the Particle System in local space or world space.
Max Particles	Max number of particles the Particle System will emit.

Emission Module

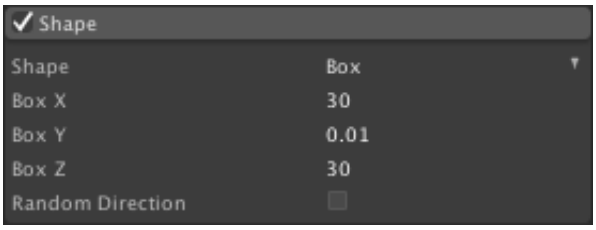
Controls the rate of particles being emitted and allows spawning large groups of particles at certain moments (over Particle System duration time). Useful for explosions when a bunch of particles need to be created at once.



Rate	Amount of particles emitted over Time (per second) or Distance (per meter).
Bursts (Time option only)	Add bursts of particles that occur within the duration of the Particle System.
Time and Number of Particles	Specify time (in seconds within duration) that a specified amount of particles should be emitted. Use the + and - for adjusting number of bursts.

Shape Module

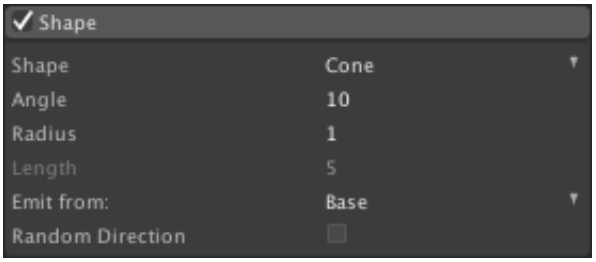
Defines the shape of the emitter: Sphere, Hemisphere, Cone, Box and Mesh. Can apply initial force along the surface normal or random direction.



Box shape

This shape is for area effects such as Rain, Snow and Hailstorm.

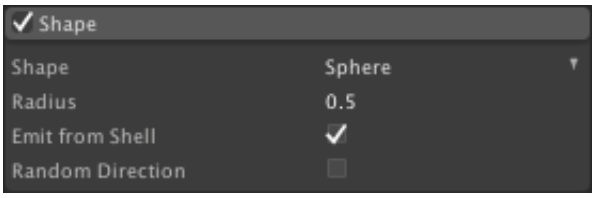
Box X	Scale of box in X. (Can also be manipulated by handles in the Scene View).
Box Y	Scale of box in Y. (Can also be manipulated by handles in the Scene View).
Box Z	Scale of box in Z. (Can also be manipulated by handles in the Scene View).



Cone shape

Good for any effect that spread direction in cone shape such as Gas, Fire.

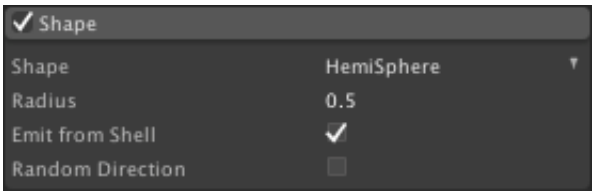
Angle	Angle of the cone. If angle is 0 then particles will be emitted in one direction. (Can also be manipulated by handles in the Scene View).
Radius	The radius at the point of emission. If the value is near zero emission will be from a point. A larger value basically creates a capped cone, emission coming from a disc rather than a point. (Can also be manipulated by handles in the Scene View).
Length	Length of the emission volume. Only available when emitting from a Volume or Volume Shell. (Can also be manipulated by handles in the Scene View).
Emit From	Determines where emission originates from. Possible values are Base, Base Shell, Volume and Volume Shell.
Random Direction	Should particles have a random direction when emitted or a direction along the cone?



Sphere shape

This shape is for the effects that spread the emitters in every direction around its own origin point such as a Bomb in the air or in space.

Radius	Radius of the sphere. (Can also be manipulated by handles in the Scene View).
Emit from Shell	Emit from shell of the sphere. If disabled, particles will be emitted from the volume of the sphere.
Random Direction	Should particles have a random direction when emitted or a direction along the surface normal of the sphere?
Emit From	Determines where emission originates from. Possible values are Base, Base Shell, Volume and Volume Shell.



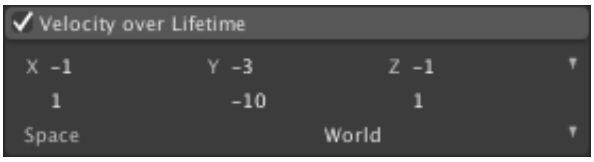
Hemisphere shape

This shape can be used for making the explosion effects on the ground or on the surfaces.

Radius	Radius of the hemisphere. (Can also be manipulated by handles in the Scene View).
Emit from Shell	Emit from shell of the hemisphere. If disabled particles will be emitted from the volume of the hemisphere.
Random Direction	Should particles have a random direction when emitted or a direction along the surface normal of the hemisphere?

Velocity over Lifetime Module

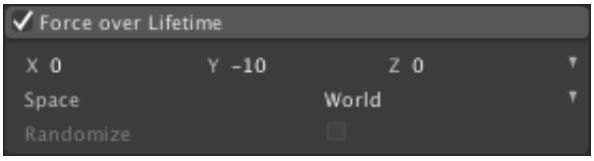
Directly animates velocity of the particle. Mostly useful for particles which has complex physical, but simple visual behavior (like smoke with turbulence and temperature loss) and has little interaction with physical world.



XYZ	Use either constant values for curves or random between curves for controlling the movement of the particles.
Space	Local / World: Are the velocity values in local space or world space? (Mostly use World Space.)

Force over Lifetime Module

This module is for large area effect such as Rain, Snow, Waterfall, Fog, Mud pool.



XYZ Use either constant values for curves or random between curves for controlling the force applied to the particles.

Space Local / World: Are the velocity values in local space or world space. (Mostly use World Space.)

Randomize Randomize the force applied to the particles every frame.

Tricks

- Always test your particle effects in the scene that already has environments such as Volcano rock scene.

- Create a 1-unit cube in the scene and use it as a size reference for adjusting the parameters of your particle effects.

Looking for more information, visit Unity Documentations.

Particle System Modules
https://docs.unity3d.com/Documentation/Manual/ParticleSystemModules40.html

Particle System Curve Editor
https://docs.unity3d.com/Documentation/Manual/ParticleSystemCurveEditor.html

Particle System Gradients Editor
https://docs.unity3d.com/Documentation/Manual/GradientEditor.html