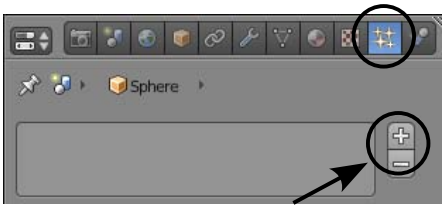
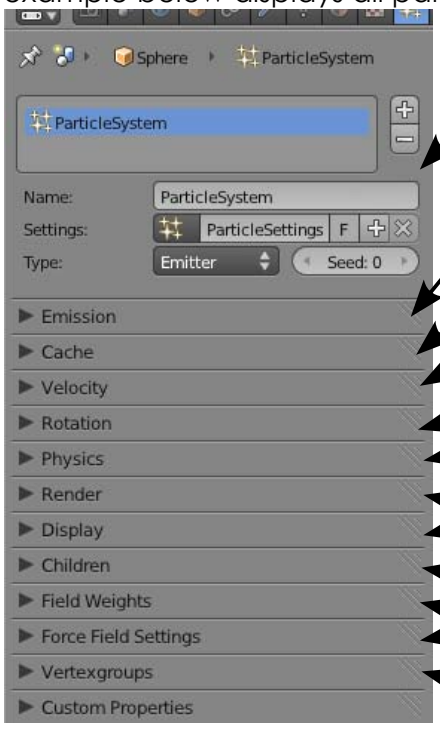
Chapter 13- Particle Systems and Interactions

Particles have received a lot of attention in Blender 2.5 This is probably the nicest and most flexible of the effects. When you turn an object into particles, it can be used to simulate *snow, fire, smoke, clouds, sparks, hair, grass and much, much more*. When an object is turned into particles, it no longer exists as a solid shape and releases particles as per the settings you used on it. With particles, you can set the size (using halo), texture, color and transparency through the material buttons. You can set the particles to come off the object in a ***sequence or randomly*** by using ***random*** setting in the particle panel. Particles can be set to be pulled using X,Y, and Z forces or gravity. You can control the number of particles, how long the particles live, when to start and end, if they have a starting speed and much more than we will describe in this chapter. Like all of the other features we've discussed, experimentation beyond this chapter is the best way to learn.

Particle Settings



At first glance, the particle setting in Blender can seem overwhelming! Because particles are so versatile, there are many things that can be changed for them. We will first look at the basic setting, then apply these settings to a few examples. With a mesh object selected and going to the particle settings, the first thing you need to do is press the "+" button to add a particle system. After pressing the "+", you see several panels with options. The example below displays all panels collapsed for easier viewing:



Basic Settings- This is where you name your system for easier reference, add additional systems and choose the particle type (*emitter or hair*) Hair is useful for any type of strand, like grass.

Emission- Number of particles, when they emit and how long they live when emitted.

Cache- In order to save computer processing time, you can "Bake" your particles so they are remembered.

Velocity- Sets an outward, normal (exploding) or directional force to start the particles.

Rotation- Gives your particles a spin.

Physics- Choose your physics calculation type, mass, size and drag.

Render/Display- How the particles look on screen and rendered.

Children- Saves render time by copying particles.

Weights and Force Fields- Controls factors like gravity, wind, turbulence, and drag

Vertex Groups- Setting groups to control distribution.