**12 Set up a Rigid Body Simulation**

**Target：**

1. Build desktop.Select soccerball\_geo node, Modify shelf click on the Extract tool. Rename extract\_object to soccerball\_sim. Add a Match Size node[object\_merge]；
2. Add Box Node, place it to the right. Center = {0, 8, 0},Rotate = {45, 45, 45}, Primitive Type = Polygon Mesh, Uniform Scale = 6, Axis Divisions = {3, 3, 3}；
3. Add Copy to Points node. Turn ON Pack and Instance.Add Mountain Node [box, copytopoint]. Turn Off the Noise Along Vector, set Amplitude = 2 and Range Values = Zero Centered；
4. On Frame 1. Add RBD Bullet Solvernode node. Solver tab > Ground tab, set Add Ground Plane = Ground Plane. Bullet Object tab, set Density = 10, Bounce = 1.1, Collisions tab, set Bounce = 0.8. Reset Simulation and press Play；
5. Add USD Export node, rename it to soccerball\_sim. Set Valid Frame Range = Render Frame Range, Output File = $HIP/geo/soccerball\_sim.usd. Save to Disk.
6. Solaris Desktop.Alt-drag soccerball\_anim. Set Sublayer File= $HIP/geo/soccerball\_sim.usd. Rename soccerball\_sim；
7. Alt-drag assignmaterial node. Reassigned;
8. Add and adjust Camera；
9. Add a Light Mixer node after the camera；
10. Alt-drag the SHOT\_02 and Karma nodes；
11. Render；

**UI：**

更加高效的Copy to Points：勾上Pack and Instance；

**Nodes：**

**Mountain**

Displaces points along their normals based on fractal noise.

**Copy to Points**

Copies geometry in the first input onto the points of the second input.

**RBD Bullet Solver**

Runs a dynamic Bullet simulation.