

Ay190 – Worksheet 15 - SPH  
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## 1 SPH

The code has helper functions to calculate the smoothing function, its derivative, the artificial viscosity, the accelerations, the velocity, and the half-step velocities, and the energy RHS.

For each loop, the code find the artificial viscosity, which helps us find the acceleration. We update the new velocity half-step based on the acceleration. Calculate the energy RHS and again, update the energy. Update the new position based on velocity half-step. Find the new neighbors. Update the density, pressure, and sound speed. Get the new time step.

The code plot the figure after the first iteration and then for every 5 iterations.

Finally, at time roughly around 0.2, we can see the different stages clearly.

