**Blue Waters Petascale Semester Curriculum v1.0**

**Unit 4: OpenMP**

**Lesson 11: N-Body Mechanics in OpenMP**

**Sample Assessment**

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*Browse and search the full curriculum at*[*http://shodor.org/petascale/materials/semester-curriculum*](http://shodor.org/petascale/materials/semester-curriculum)

*We welcome your improvements! You can submit your proposed changes to this material and the rest of the curriculum in our GitHub repository at*[*https://github.com/shodor-education/petascale-semester-curriculum*](https://github.com/shodor-education/petascale-semester-curriculum)

*We want to hear from you! Please let us know your experiences using this material by sending email to* [*petascale@shodor.org*](mailto:petascale@shodor.org)

1. Investigate scaling is the number of bodies is increased (from say 10000 to 100000 or even 1000000). Does Parallelizing the position calculations begin to make a difference?
2. Investigate the effect of scheduling (static, dynamic, etc) of the various loops on runtime.
3. For a particular schedule type, investigate the effect of chunk size on run time.