**Learning Goals:** Students will be able

* Recall the basic facts in multiplication accurately, quickly and effortlessly.
* Attain a level of mastery that enables them to retrieve them for long-term memory without conscious effort or attention.

Open the *Arithmetic* simulation:

Go to the webpage <http://www.colorado.edu/physics/phet>

Search for ***Arithmeti****c* and then **Run**

**Materials needed**

* Paper
* Pen
* Progress sheet

**Lesson Plan**

**Directions**

This exercise can be done individually or as a competition

**Individually**

1. Before the lesson students are given the Progress sheet and told that their progress will be monitored weekly to determine level of mastery.
2. Simulation is open
3. Timer is set to one minute.
4. Students are asked to complete as many multiplication as they can correctly for 1 minute.
5. Students score is recorded at the end of each exercise every day of the week.

**Competition**

1. Two groups made up of two or more players.
2. Each group volunteers the players to go head-to-head.
3. Timer is set to 1 minute.
4. Each player attempts to answer more questions correctly.
5. The progress sheet is used to record progress at the end of each session
6. The player with more correct answers wins the game and the team having more winners wins the game.

**Assessment**

*Individual* – The progress sheet should show an increase in correct answers in less time from Monday through Friday of each week.

*Competition* – the team with the most winner wins the game.