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| http://compsci.appstate.edu/sites/compsci.appstate.edu/files/imagecache/slideshow/slideshow/ASU_compsci_logo.png**The CS4ALL NSF Supported Program** | https://encrypted-tbn3.gstatic.com/images?q=tbn:ANd9GcQGzOU-XT8XZWIBUwiPs2jjgixLO3CvrEyNq90lu1dbXJ0BQume[**https://cs.appstate.edu/cs4all/**](https://cs.appstate.edu/cs4all/) |

**Subject Area(s):**  Mathematics

**Computer Science Tools:** SNAP

**Activity Title: “Probability Using SNAP”**

**Grade Level:** 9th-12th

**Time Required:** 60 minutes

**Recommended Group Size:**  2 students

**Summary:** In this activity, students are expected to conduct an experimental probability and simulation using SNAP program to find the probability of simple and compound events and to distinguish the difference between dependent and independent probability. Also, they are expected to evaluate the validity of a statistical model.

**Computer Science Connection:** Students will use SNAP program to simulate the probability of events.

**Keywords:**  SNAP, simple and compound events, dependent and independent probability, statistical model, theoretical and experimental probability.

**Pre-requisite Knowledge:** Students should be familiar with the definition of simple and compound events, dependent and independent probability and theoretical and experimental probability. No background knowledge needed to operate SNAP program since it is pre-coded but could be a starting point to introduce SNAP to students.

**Learning Objective:**

Students are expected to find the probability of simple and compound events; distinguish between simple and compound events and evaluate the validity of a of a statistical model using experimental probability and simulation using SNAP?

**Materials List:**

Physical Dice

 SNAP program “SingleDieSimulator.xml”

 SNAP program “TwoDiceSimulator.xml”