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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):** Biology

**Computer Science Tools:** SNAP

**Activity Title:** Punnett Squares with SNAP

**Grade Level:** 9th-11th

**Time Required:** 60 minutes

**Recommended Group Size:** Individual

**Summary:** Using SNAP, students will develop further understanding of Punnett Squares. Students will complete the teacher made SNAP project, then create their own SNAP project based on the teacher made project.

**Computer Science Connection:** Coding with SNAP will help students logically visualize the steps needed to complete a Punnett Square.

**Keywords:** Punnett Square, Genetics, SNAP, Coding

**Pre-Requisite Knowledge:**

* Introducing Programming with SNAP Module found on the RET repository website. (<http://www.cs.appstate.edu/ret/repository.php>)
* Basic understanding of Punnett Squares and how to complete them. This should be covered before completing this module.
* Directions for saving and sharing SNAP Online can also be found at the end of the teacher guide.

**Learning Objective:** Using SNAP, students will complete a pre-made Punnett Square SNAP project and then add to the project by creating other combinations of crosses.

**Materials List:**

* SNAP can be accessed at <https://snap.berkeley.edu/snap/snap.html>
* Internet Access for online sharing
* Punnett Square Practice File. Found in the zip drive on the RET Website <http://www.cs.appstate.edu/ret/repository.php>

**\*\*\*Teacher Note**

Make sure to create a “Collection” for your students to submit their projects online. You will need to “Share” your collection first to make it public to students. You can reference the “CreatingAndSharingFilesSNAP.docx” found in the “PunnettSquaresWithSNAPAssociatedFiles.zip” zip folder, if you do not know how to create collections.