

HOMework

- Turn in 5.1 1 Reflection

5.12 LOOPS AND SIMULATIONS

Unit 5
Building Apps

UNPLUGGED ACTIVITY—IN GROUPS OF 2-3...

- Complete 2 coin flipping experiments and record your results on your activity guide.
- Then, make a prediction on the most and fewest flips needed to complete each of the experiments

Only complete the Experiment and Prediction sections

BACKGROUND

- The ability to model and simulate real-world phenomena on a computer has changed countless fields.
- Scientists from all disciplines increasingly rely on computer simulations, rather than real-life experiments to rapidly test their hypotheses in simulated environments.
- The speed and scale at which simulations allow ideas to be tested and refined has had far-reaching impact, and it will only continue to grow in importance as computing power and computational models improve.

TODAY'S GOAL

- Appreciate that questions that might be hard or impossible to address by hand are possible to examine by using computer simulation.

ACTIVITY

- Go to Stage 12 on Code Studio

<https://studio.code.org/s/csp5/stage/12/puzzle/2>

- Complete the **Make a Hypothesis** section on your Worksheet
- After Puzzle 6, update/reflect upon your first hypothesis
- After Puzzle 10, update/reflect upon your second hypothesis

WRAP UP

- Scientific research, whether in physics, chemistry, or biology, increasingly uses simulations to develop new hypotheses and test ideas before spending the time and money to run a live experiment.
- Before you use most of your favorite websites and apps, they will be tested by simulating high levels of traffic moving across the server.
- Simulations take advantage of computers' amazing speed and ability to run repeated tasks, as we've seen through our exploration of the while loop, in order to help us learn more about the world around us.

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- Complete puzzles 2-1 1