

This section allows you - the student - to either print a copy of your work through this tutorial or email it to your instructor. Your teacher will inform you which format you should submit; either the filled out Word document or a printout of the pdf file with your comments written by hand. As for the Powerpoint form; this is available for teachers to use as an introduction to both the topic (such as this tutorial) or to the Notre Dame tutorial web site. Please feel free to download any of these to your own computer.

Narrative: In this activity you will find rules for predicting coin flips.



Predict what would happen if you flipped a coin 100 times.

Heads: _____ Tails: _____

Try it! (flip coin 100 x)

Is this what you expected?

Yes _____ No _____

Based on your experience so far, devise a rule for predicting the number of heads and tails for a large number of coin tosses.

Now you are going to flip the coin, but before each flip, predict whether it will be heads or tails. (Ideally, they could not flip until they input the prediction—no "cheating")

Prediction:

Heads: _____ Tails _____

(Prediction required for each roll. New/different area of counter keeps tally of correct vs incorrect prediction, and tally of total flip results)

Explain how you chose heads or tails for each flip.

Was your prediction good or bad?

Explain how you determined whether your prediction was good or bad.

Were your predictions for single flips good or bad?

Explain how you determined whether your prediction was good or bad.

Devise a rule for predicting whether a single flip will come out heads or tails, then talk to the teacher.

Consider the discussion of two students:

Student A: "There is no way to know how many heads and tails you will get when you flip a coin 100 times or 1000 times. Each time you flip it, you can't say for sure whether it will be heads or tails."

Student B: "I agree you cannot predict heads or tails for a single flip, but if you make a lot of flips, you will always get half heads and half tails."

Do you agree with student A or B?

A ____ B ____ both ____ neither ____

Explain your answer below:

Notes.

It is important to keep a record of your work (and not just for evaluation by your instructor). Good record-keeping will allow you to refer back to your notes and make it easier to cement the basic concepts in your mind . . . where you will likely draw them out at the appropriate time.

Finally, submit one copy of the document to your teacher and keep a personal copy in your laboratory notebook/logbook.