Watch the Paper Folding Video (https://www.youtube.com/watch?v=AmFMJC45f1Q)

Have you ever done a paper folding challenge? How many times can you fold a piece of paper?

How thick will the paper be after 30 folds?

What do you notice about the thickness with each fold? How does it change?

In the video, you saw that the paper had an original thickness of 0.001cm and doubled in thickness with each fold.

a) Complete the table to show the thickness up to 5 folds.

Folds	0	1	2	3	4	5
Thickness						

b) Write a formula for thickness based on the number of folds to represent what happens in this scenario. Use n for number of folds and T for the thickness of the paper in centimeters.

c) What makes this scenario exponential instead of linear?

d) Consider what would happen if you measure the area of the paper with each fold instead of the thickness. Complete the table to show the area up to 5 folds if you start with a paper that has an area of 93.5 square inches.

Folds	0	1	2	3	4	5
Area						

e) Write a formula for area as a function of the number of folds to represent what happens in this scenario. Use n for number of folds and A for the area of the paper in square inches.

f) What makes this scenario exponential instead of linear? Compare and contrast this scenario to the thickness problem.

g) How many times do you need to fold the paper until it fits on a dime? (A dime is 0.39040 square inches).