

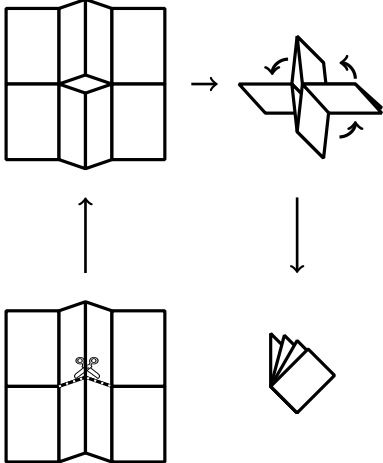
Alternatives

If 3 extra jars are found and the bacteria are evenly distributed between the jars, then at what time will the bacteria run out of space? Explain.

Limitation

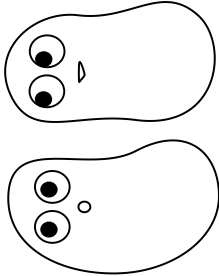
Is their any hope that more jars will allow the colony to continue its exponential growth? (Hint: By 6:30 the volume of the colony would exceed the volume of the universe)

How to fold this book:



Name: _____

Magic Bacteria
A Cautionary Tale



Bonus Essay Question: Is there a lesson for people in this story about bacteria?

Watch the video **Magic Bacteria: A Cautionary Tale** on Science Mom's YouTube channel. Then answer the questions and cut and fold the book.

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Recognition

If you were an average bacterium in that jar, at what time would you first realize you were running of space? Why?

When is it half-full?

If we put one of these bacteria into an empty jar at 1:00 and then observe that the jar is full at 2:00, at what time was the jar half full? Explain how you know.

Visualization

Suppose we had bacteria that doubled every minute. One bacterium becomes 2, the 2 become 4, the 4 become 8, then 16 and so on. Draw a picture that illustrates how these bacteria would double each minute.