



Keeping Food Safe Activity

Penny-a-Day

Purpose: Understand the growth rate of germs.

Supplies:

Penny-a-Day Calendar

Directions:

Ask participants if they would consider working for one month if they received one penny the first day and the amount was doubled each day after that. Distribute the *Penny-a-Day* calendar. Show the participants how to calculate the amount they would have after 30 days.

Discussion:

The amount on the 30th day equals \$2,684,354.56. The doubling effect is astronomical. Explain this is how rapidly bacteria reproduce. In the right conditions, bacteria can double every 20 to 30 minutes. Each organism divides into two, those two divide into four, and the four divide into eight, and so on. In the danger zone (40°F - 140°F), one bacteria can grow to more than 16 million in just eight hours.

Alternative Teaching Tool:

Fill three jars with the following amounts of jelly beans:

Jar 1 = 10 jelly beans

Jar 2 = 80 jelly beans

Jar 3 = 640 jelly beans

If you start with 10 bacteria (Jar 1) it will multiply to 80 (Jar 2) after one hour and to 640 (Jar 3) after two hours in the danger zone.



Keeping Food Safe; Activity

Cent\$ible Nutrition Program University of Wyoming

Cooperative Extension Services, Family and Consumer Sciences

Dept 3354; 1000 E. University Ave.; Laramie, WY 82071

Visit us on the web: www.uwyo.edu/centsible

This material was funded by USDA's Food Stamp Program. USDA and The University of Wyoming are equal opportunity providers and employers.



Family & Consumer Sciences

Cent\$ible Nutrition Program

Helping Families Eat Better for Less

UNIVERSITY
OF WYOMING
Cooperative Extension Service

Penny A Day Calendar:

Would you consider working for one month if you received 1¢ for the first day and the amount doubled each day after that?

| | | | | | | |
|--|--|--|---|---|---|---|
| 1 1¢ | 2 1¢ <u>1¢</u> 2¢ | 3 2¢ <u>2¢</u> 4¢ | 4 4¢ <u>4¢</u> 8¢ | 5 8¢ <u>8¢</u> 16¢ | 6 16¢ <u>16¢</u> 32¢ | 7 32¢ <u>32¢</u> 64¢ |
| 8 64¢ <u>64¢</u> \$1.28 | 9 \$1.28 <u>\$1.28</u> \$2.56 | 10 \$2.56 <u>\$2.56</u> \$5.12 | 11 \$5.12 <u>\$5.12</u> \$10.24 | 12 \$10.24 <u>\$10.24</u> \$20.48 | 13 \$20.48 <u>\$20.48</u> \$40.96 | 14 \$40.96 <u>\$40.96</u> \$81.92 |
| 15 \$81.92 <u>\$81.92</u> \$163.84 | 16 \$163.84 <u>\$163.84</u> \$327.68 | 17 \$327.68 <u>\$327.68</u> \$655.36 | 18 \$655.36 <u>\$655.36</u> ? | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | | | | | |

This material was funded by USDA's Food Stamp Program. The Food Stamp Program provides nutrition assistance to people with low income. It can help you buy nutritious foods for a better diet. To find out more, contact your county social services office. Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Glen Whipple, Director, Cooperative Extension Service, University of Wyoming, Laramie, Wyoming 82071. Persons seeking admission, employment, or access to programs of the University of Wyoming shall be considered without regard to race, color, religion, sex, national origin, disability, age, political belief, veteran status, sexual orientation, and marital or familial status. Persons with disabilities who require alternative means for communication or program information (Braille, large print, audiotape, etc.) should contact their local UW CES Office. To file a complaint, write the UW Employment Practices/Affirmative Action Office, University of Wyoming, Dept. 3434, 1000 E. University Ave., Laramie, Wyoming 82071 3434.