

Bubble Survivorship Activity

Question: Do baby mammals survive better if parents take care of them?

Hypothesis:

Prediction:

Procedure:

1. In your group of 4 students, designate one student as the bubble blower, one as the time-keeper, one as the data recorder, and one to watch a bubble (the “parent”). (The parent just watches in the first round of 10 bubbles).
2. In **round one**, the group members – including the parent – must do nothing to interfere with the bubbles.
3. Blow a few bubbles. The watcher immediately picks one bubble and yells “Start”. The watcher must keep her/his eye on the bubble as long as possible (sometimes a little harder outside). When the bubble pops, the watcher yells “Stop”.
4. The time-keeper starts keeping time, in seconds, when the watcher yells “Start” and will stop when the watcher yells “Stop”.
5. Record the number of seconds the bubble stayed “alive” (the time between “Start” and “Stop”).
6. Repeat for 10 bubbles total.
7. **Round two.** Repeat steps 1-6 but this time have the watcher, or “parent”, use his/her hands, mouth (blowing air), or paper fans to “care” for the “babies” (bubbles) and try to prevent them from coming into contact with anything that might pop them. The goal is to keep the bubble “alive” for as long as possible without popping.
8. Graph your data.

Materials: Bubbles and bubble wands, stopwatch or clock with a second hand. This exercise is easily done outside. You can make your own bubbles: The recipe is: 8 cups of water with 1/2 cup liquid dish soap, and 1 teaspoon glycerin (optional, and can be replaced with 4 TBS corn syrup). This amount will be enough for 8 groups of 4 students (32 students total). Each group will use 1 cup or less of the bubble solution.

Safety Considerations: * SLIPPERY. When doing this lab inside I like to make the bubble blower stand on an old towel or sheet so that if bubble solution drips on the floor it will be easily cleaned up. However, with a lot of bubbles popping there inevitably will be a little slippery soap residue left on the floor. Keep a mop nearby, alert the custodians, and put out the “caution – floor is slippery” cones. Alternatively, you can do this lab outdoors, which is a treat for the kids; on windy days, however, it may be hard to keep the bubble in sight until it pops.

Bubble Baby #	Age (in seconds) at Death - Without Care	Age (in seconds) at Death - With Care
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
AVERAGE		

Table 1. How long the bubble babies lived.

Questions:

1. How does the life span of an uncared for bubble compare to the life span of a cared for bubble?
2. How does the independent variable relate to the dependent variable?
3. What is the difference in average life span between the 2 groups (not cared for and cared for)?
4. What factor led to longer bubble life spans?