

SAMPLE BIOGAS DIGESTER EXPERIMENT

Experimental Design for Burping Bottles: This is an example of a possible experiment.

Hypothesis: Increasing the amount of paper in a bottle with manure will increase the rate at which the paper decomposes.

Methods:

- Mix 210 grams of manure with 100 mL of water
- Pour mixture into an empty water bottle
- Repeat these steps to set up a second bottle
- Place 0.5 grams of shredded paper in bottle one
- Place 1.5 grams of shredded paper in bottle two
- Place caps back on bottles and tighten the caps
- Measure the weight of each bottle and record
- Leave both bottles in the same location
- Unscrew the caps on each of the bottles once a week
- Weight the bottles once a week and record data

Data Collection:

Week	Weight of Bottle 1(g)	Bottle Observations	Weight of Bottle 1(g)	Bottle Observations
0	310.2		312.5	
1	310.1	Unscrewing the cap released a strong odor	312.4	Unscrewing the cap made a loud noise
2	310.3		312.1	
3	310.0	The bottle swelled	312.0	
4	309.8		311.6	
5	309.7		311.2	

Data Analysis: Graph data from table above

Conclusion: In this section students can decide if they reject or accept their hypothesis based on the data they collected through the experiment.