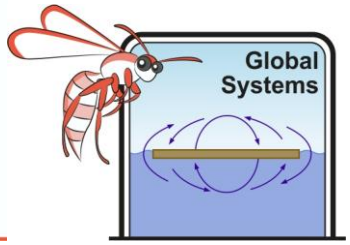
Fermentation - Teacher Demonstration



Fermentation/decomposition: Carbohydrate in living things decomposes to form methane or alcohol. Fermentation in an animal's stomach produces methane whereas decomposition by bacteria produces alcohol.

AIM **To demonstrate that decomposition of plant and animal materials produces carbon dioxide and methane.**

This activity mimics the decomposition of lagoonal and marine organisms to produce oil and gas.

Materials

- 2L cool drink bottle or washed wine bottle
- 1 long glass rod
- 1 rubber glove or balloon (Note: The methane molecule is small enough to penetrate latex and some will be lost)
- Strong sealing tape
- 1tbs tinned or fresh fish and 5 shredded lettuce or spinach leaves
- Sand or soil
- A funnel
- 1.5L pond water, muddy puddle water or the water from under plant pots

Method

1. Using the funnel, drop 3 or 4cm soil into the bottle
2. Add layers of animal and vegetable shreds
3. Place the glass rod into the bottle
4. Pour the pond water down the rod to prevent splashing
5. Remove the rod
6. Fit the empty glove or balloon over the end of the bottle and seal well
7. Leave in a warm spot to rot

Safety notes

Label the bottle "DO NOT OPEN" and add a biohazard symbol.
Do not expose the experiment to open flame, as methane is combustible
Dispose of carefully after use

Observations

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Conclusion

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