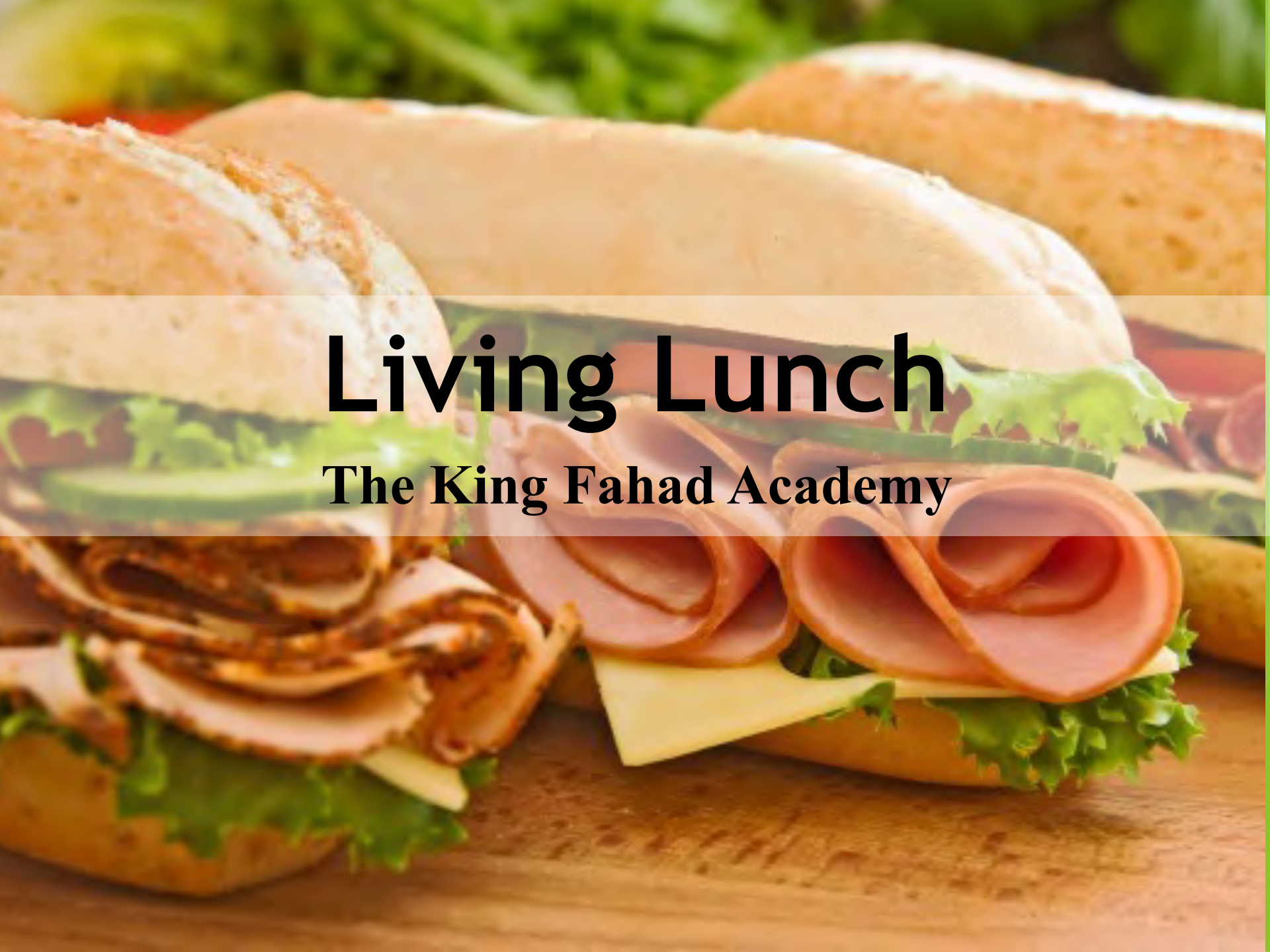
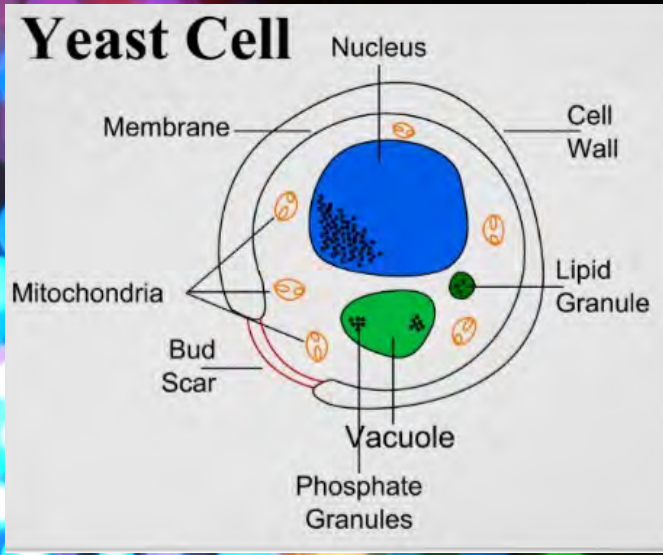


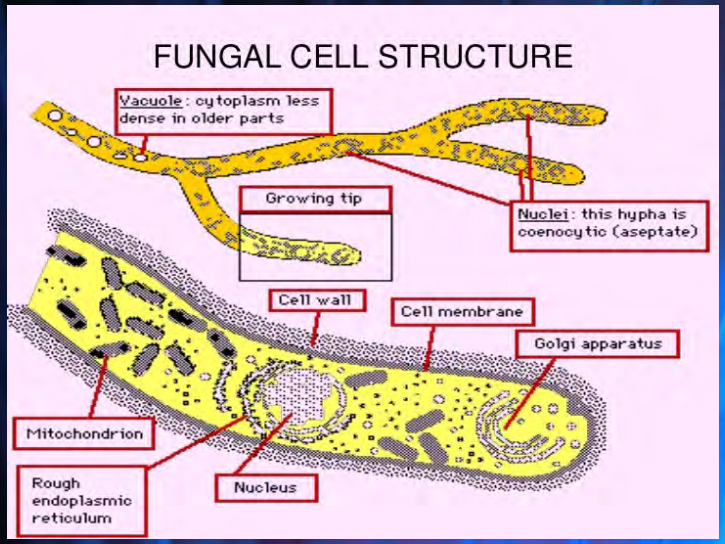
Living Lunch

The King Fahad Academy

Introduction

In our science lessons we studied fungi and mould and we learned that fungi are the main reason why we can't leave our lunches in our schoolbag for a whole week, or store fruit and vegetables for too long.



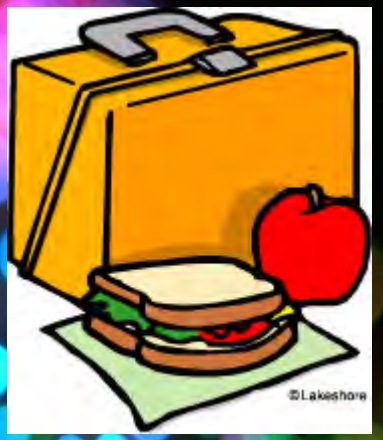


Fungi are a group of organisms, which are classified in their own kingdom. Fungi are found all over Earth and on everything including on land, in the air, in water and even in plants and animals.

Why choose this experiment!

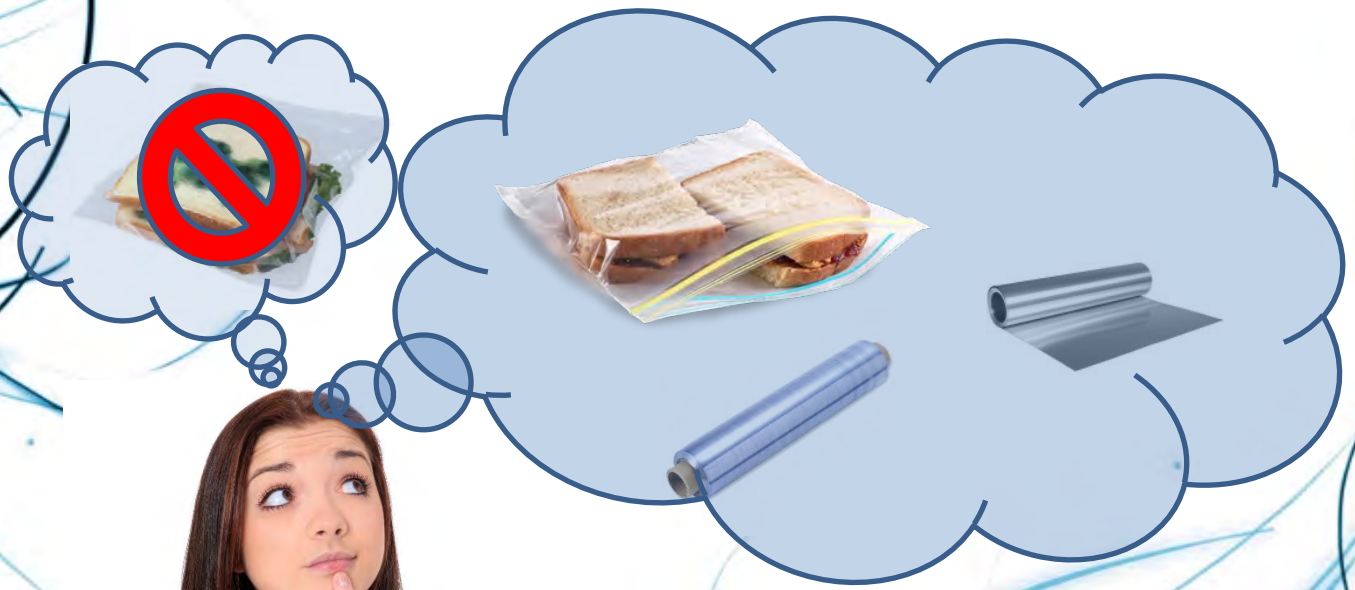
- Us, as students, almost always carry sandwiches with us for lunch. Though the thing is, we cannot leave our sandwiches in our bags because it will turn mouldy.

So we decided to carry out an experiment to find the best wrapping that can be used to preserve our sandwiches!



Aim:

- To investigate which sandwich wrapping is best at preventing mould growth.



Hypothesis

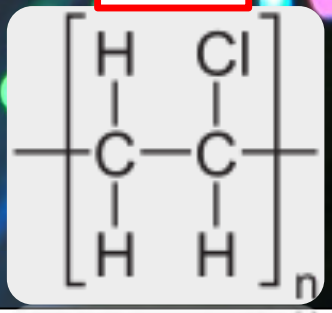
- Upon testing the four materials, we predicted that the cling film will withstand mould growth the longest because of the following reasons:

Science of Cling Film

Plastic wrap sometimes called cling film is a thin plastic film typically used for sealing food items in containers to keep them fresh over a longer period of time. Plastic wrap, typically sold on rolls in boxes with a cutting edge, clings to many smooth surfaces and can thus remain tight over the opening of a container without an adhesive.

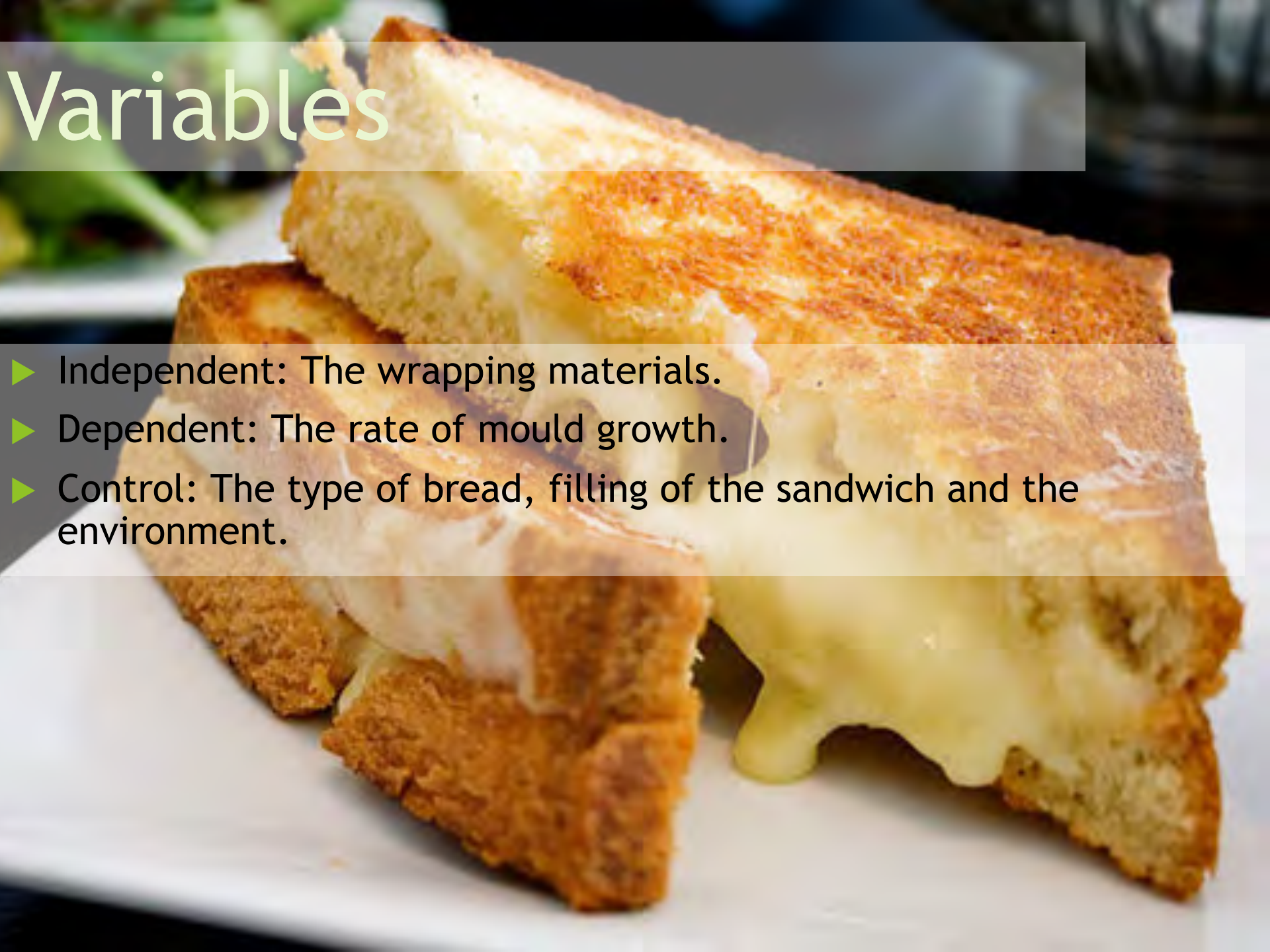
Clingfilm prevents the sandwich from coming in contact with air by clinging tightly onto the surface of the sandwich forming an air-tight seal which avoids the sandwich from coming in contact with mould spores present in the atmosphere. Clingfilm stops the mould spores in the air landing on the sandwich. So the sandwich is less likely to become mouldy!

PVC



Plastic wrap was first created from polyvinyl chloride

Variables



- Independent: The wrapping materials.
- Dependent: The rate of mould growth.
- Control: The type of bread, filling of the sandwich and the environment.

Materials:

- *Knife*
- *4 labels*
- *Ruler*
- *Disposable gloves*
- *Mayonnaise*
- *Tray*
- *3x Cheese slices*
- *Camera*
- *White bread*
- *Cling film*
- *Tin foil*
- *Sandwich bag*

Method

1. Set out all the materials on your working area.
2. Prepare the sandwich containing the fillings; cheese and mayonnaise.
3. Cut the sandwich into four pieces.
4. Wrap each piece of sandwich with a different wrapper.
5. Label each piece and add the date of the day the experiment started onto the wrapper.
6. Observe the sandwiches and record the progression of mould growth by taking photo-graphical evidence daily until the 6 days are over.

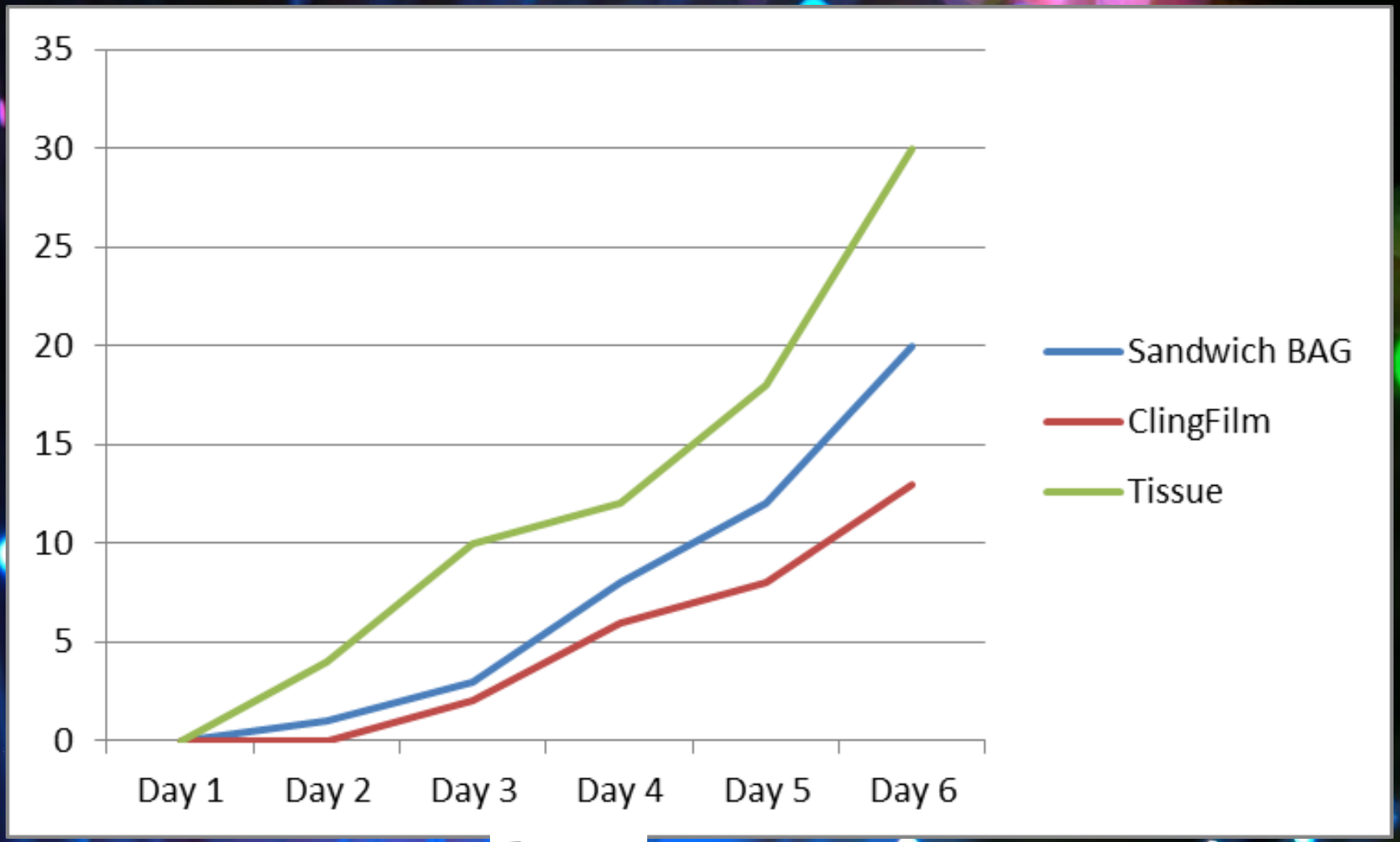
Data

Number of Mould Colonies

Day	Sandwich Bag	Clingfilm	Tissue
Day 1	0	0	0
Day 2	1	0	4
Day 3	3	2	10
Day 4	8	6	12
Day 5	12	8	18
Day 6	20	13	30

Graph

The effect of different wrapping materials on mould growth .



Analysis of Data

Number of Mould Patches

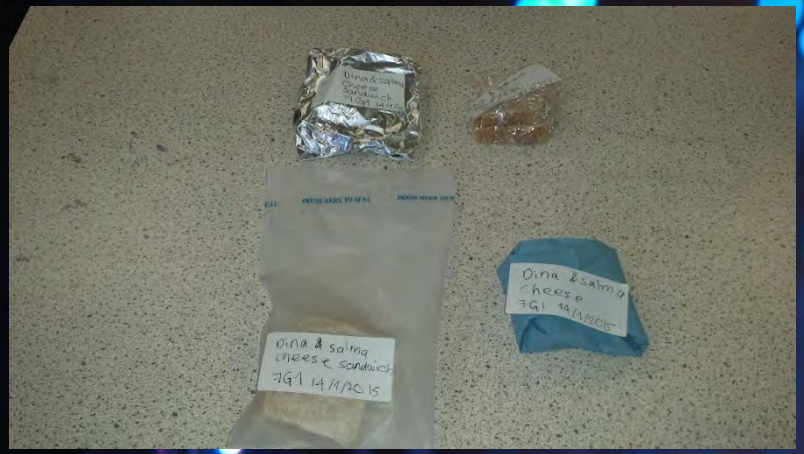
Day	Sandwich Bag	Clingfilm	Tissue
Day 1	0	0	0
Day 2	1	0	4
Day 3	3	2	10
Day 4	8	6	12
Day 5	12	8	18
Day 6	20	13	30

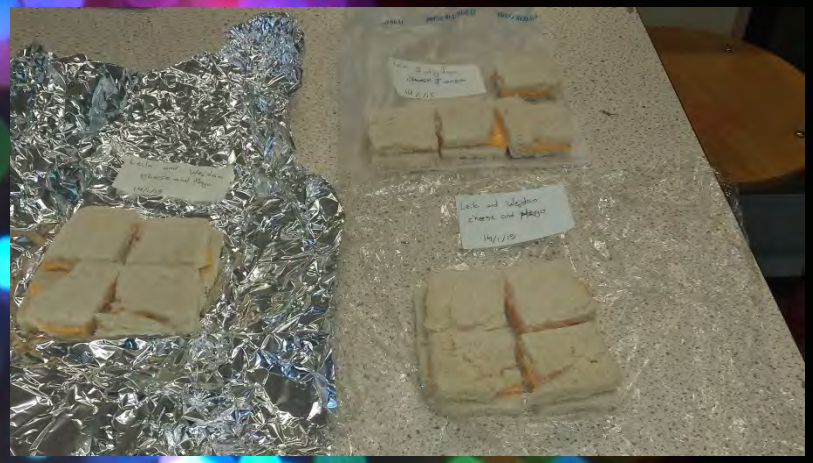
On the first day, there were 0 number of mould colonies on each sandwich.

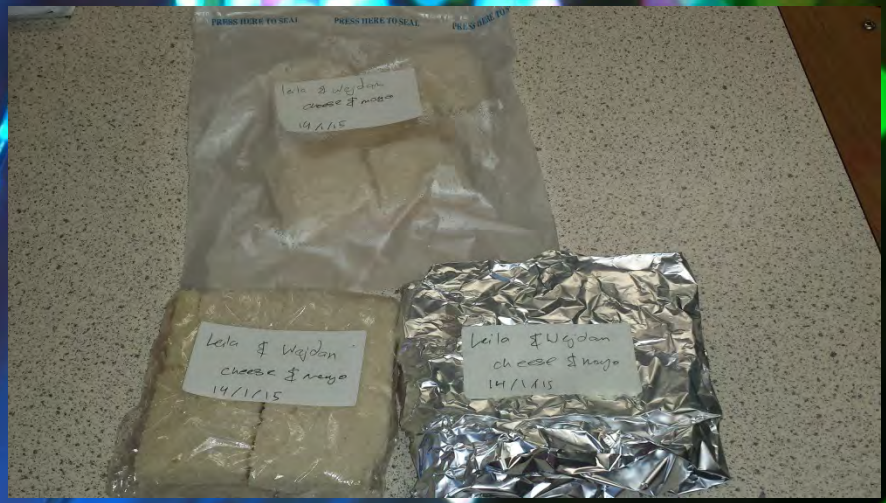
From the data we can see that the tissue paper preformed the worst because the number of mould colonies increased rapidly. E.g. Day 5-6 the mould colonies increased by 18 patches.

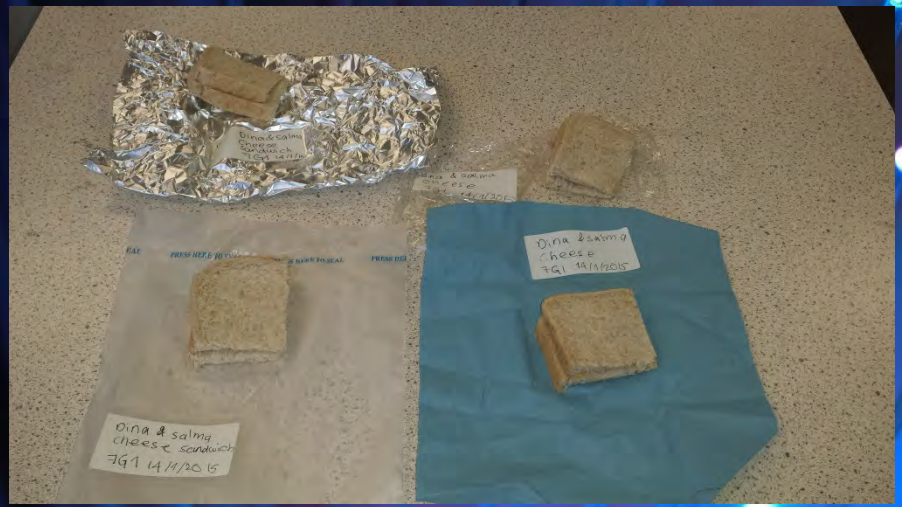
The number of mould colonies increase steadily.
After day 3 the number of mould colonies increases at
Larger rate.

From the table you can see that the cling flim preforms the best because there was less number of mould patches on the sandwich.


Dina & salma cheese sandwich 7G1 14/1/2015
Dina & salma cheese 7G1 14/1/2015

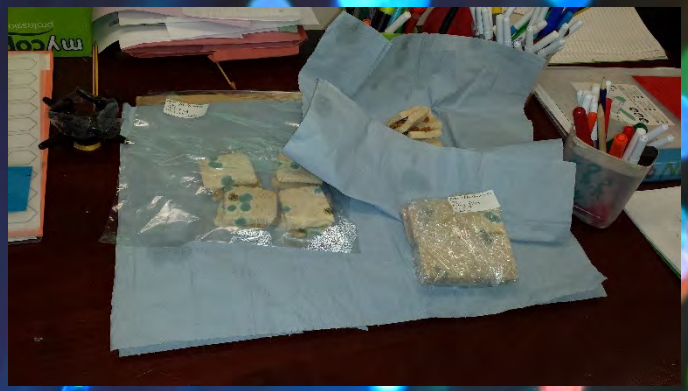


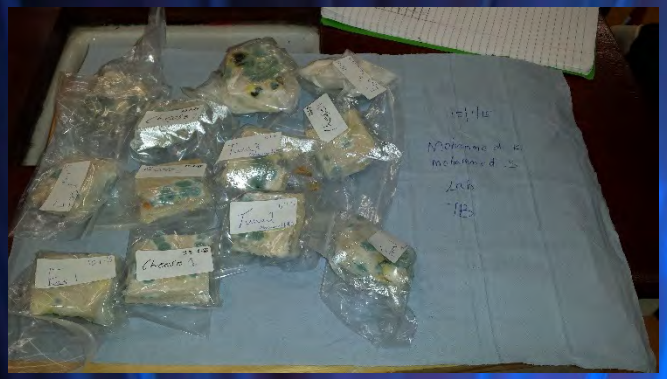

Leila & Wajdan cheese & mayo 14/1/15
Leila & Wajdan cheese & mayo 14/1/15

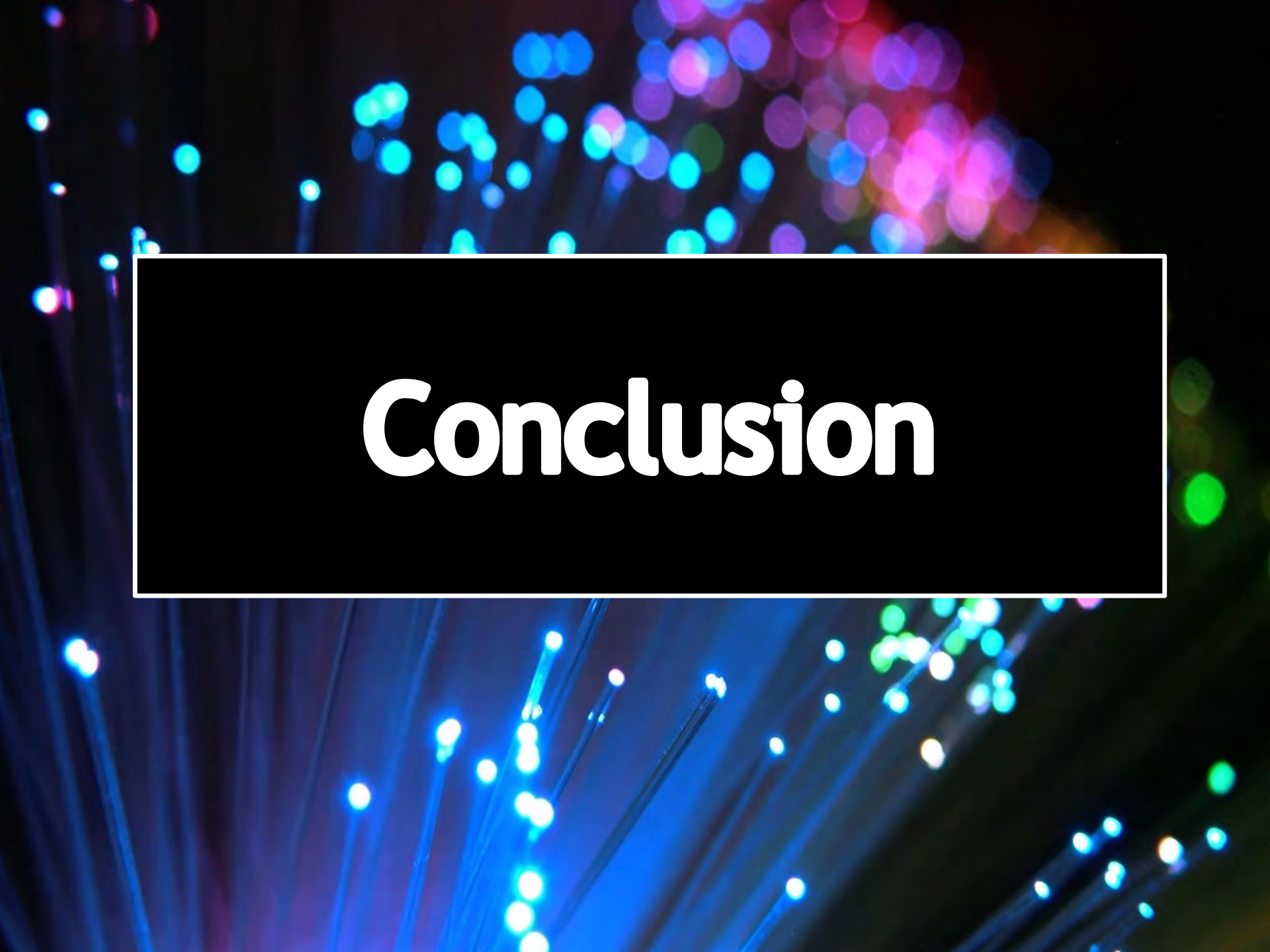

Dina & salma cheese sandwich 7G1 14/1/2015
Dina & salma cheese 7G1 14/1/2015

15/1/15

Pictures






Conclusion