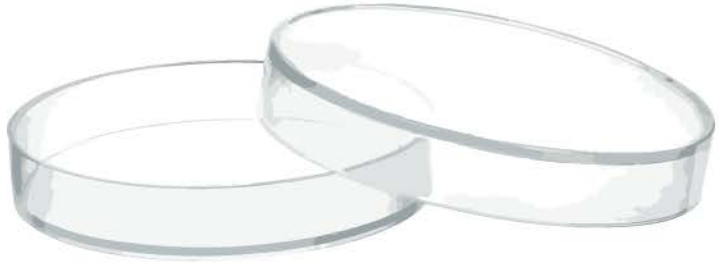
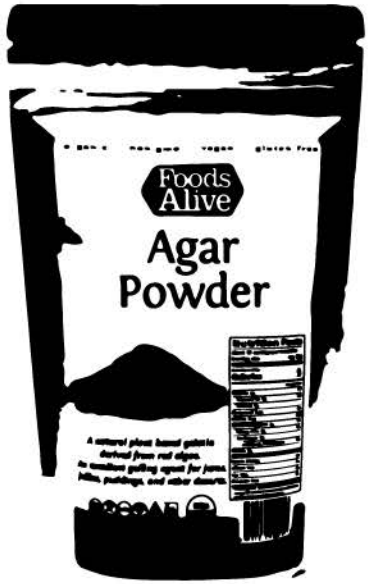
WHAT I NEED

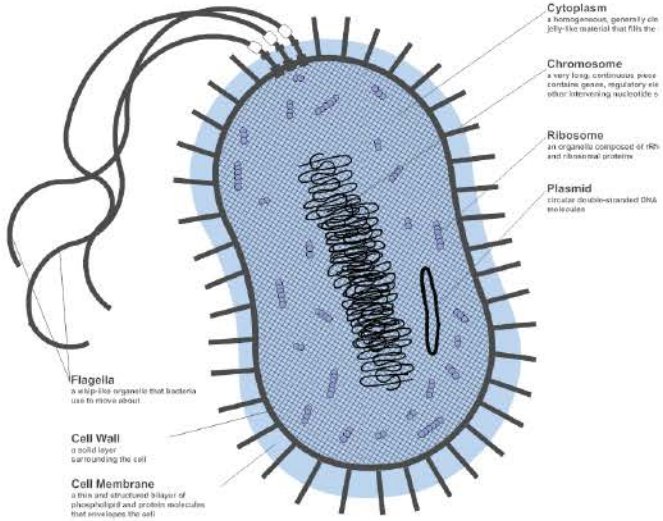
_____'s

Observation Journal

Ask a question	
Make a hypothesis	
Plan an experiment	
Gather materials	







1. Prepare the agar. Agar is the jelly-like substance used to culture bacteria. It is made from a type of red algae, which provides an ideal growing surface for many different types of bacteria. Some types of agar contain added nutrients (such as sheep's blood) which help to promote more vigorous bacterial growth.

The easiest type of agar to use in this experiment is a nutrient agar which comes in powder form. You will need as much agar as you need, but don't use less than 1.2 grams (½ teaspoon) of agar powder for every 10 centimetres Petri dish you wish to use.

In a heatproof dish or bowl, stir 1.2 grams of the nutrient agar powder into 60 millilitres of hot water. Multiply these quantities by however many Petri dishes you plan on using.
Place the bowl or dish in the microwave, and let it begin to boil for 1 or more minutes, watching to make sure that the agar solution doesn't boil over.
When the solution is ready, the agar powder should be completely dissolved and the liquid should be clear in color.
Allow the agar solution to cool for several minutes before proceeding.

2. Prepare the Petri dishes. Petri dishes have two halves which slot into one another. This protects the contents from any unwanted contaminated air, but also allows any gasses produced by the bacteria to escape.

Petri dishes must be completely sterilized before they are used for growing bacteria, otherwise, the results of the experiment could be affected.

Very carefully, pour the warm agar solution into the bottom half of the Petri dish - just enough to form a layer over the bottom of the dish. Work in the presence of a candle with a tall flame or a Bunsen burner to keep contamination low.
Quickly replace the top half of the Petri dish to prevent any airborne bacteria from contaminating the experiment. Set the Petri dishes aside for 30 minutes to 2 hours, until the agar solution cools and hardens.

3. Introduce bacteria to the Petri dishes. There a couple of methods of doing this - through direct contact or through sample collection.
Direct contact: This is when bacteria are transferred to the Petri dish using direct contact, i.e. touching the agar or placing an object in the agar. Use a sterile cotton swab if you have one available.
Sample collection: With this method, you can collect bacteria from almost any surface and transfer it to the Petri dish, all you need are some clean cotton swabs. Grab a swab and swipe it over of any surface you can think of. Then use it to streak the surface of the agar (without tearing it). These places harbor a lot of bacteria, results show in a couple days time.

WEEK 1 5-11 OCT

RESEARCH & PREPARE

WEEK 2 12-18 OCT

START & OBSERVE

WEEK 3 19-25 OCT

OBSERVE & LEARN & RESEARCH

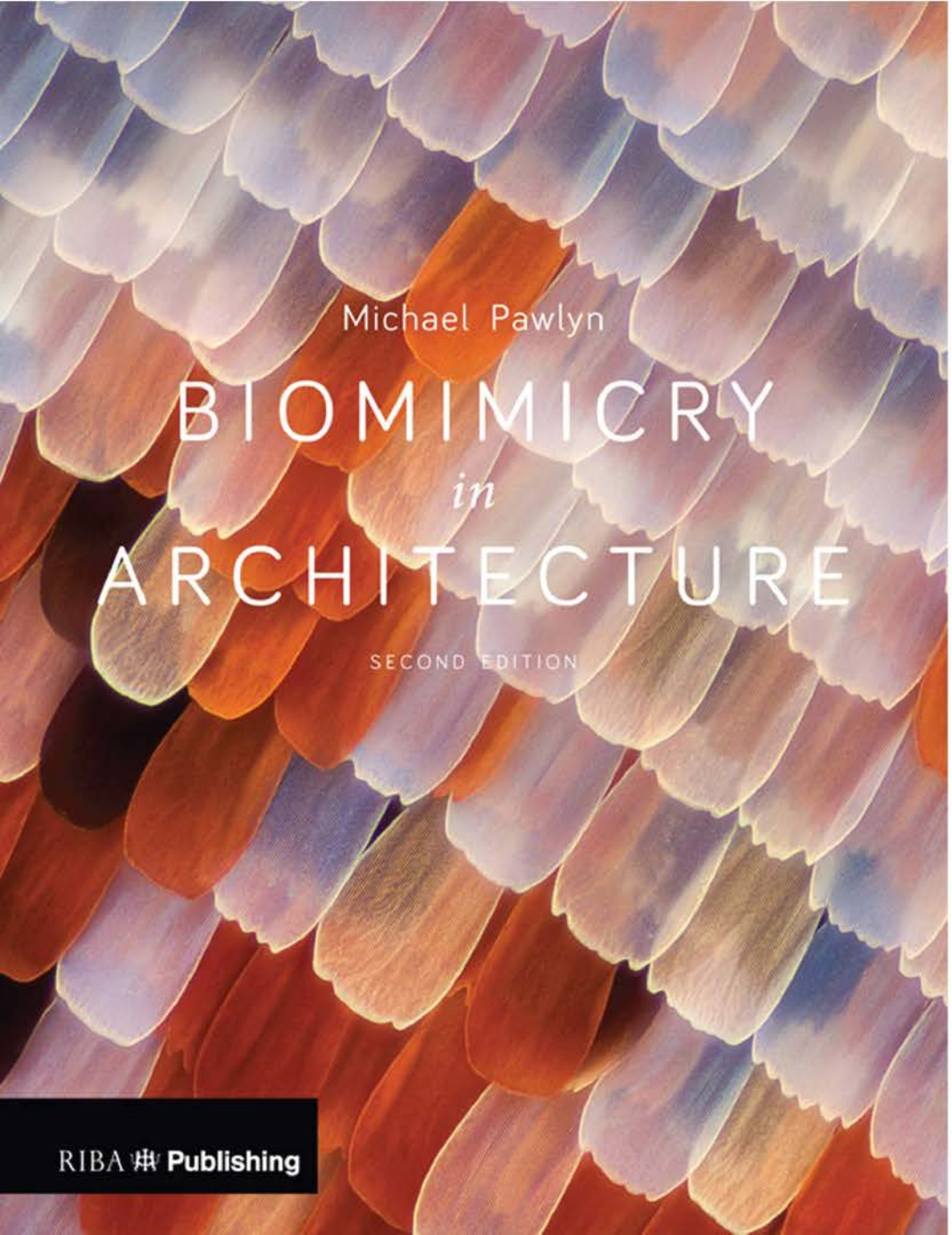
WEEK 4 26 OCT-1 NOV

FIRST REFLECTING + KEEP ON OBSERVE & LEARN & RESEARCH

- HOW TO CONTROL MOULD GROWTH (GROW IT INTENTIONALLY) AND WHAT ARE THE RESULTS (COMPARING WITH HOUSEHOLD RESULTS) ?

- CAN DIFFERENT TYPES OF BACTERIA AND MOULD LIVE TOGETHER AND HOW DO THEY INFLUENCE EACH OTHER ?

- HOW LONG DOES MOULD DIGEST DIFFERENT TYPES OF MATERIALS ?



Biomimicry
is a technological-oriented approach focused on putting nature's lessons into practice.
According to Janine Benyus, biomimicry sees nature as: a model.
It studies nature's models and imitates them or uses them as inspiration for designs or processes with the goal of solving human problems.