



# RECIPE 01

## Ingredient List



1: Water

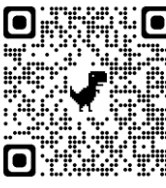
2: Gelatin

3: Potato Starch

4: Glycerin

5: Coffee Grounds

6: Tea Grounds



## Preparation Steps



## Material Assessments

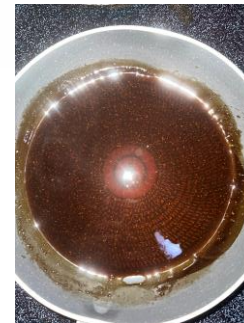


## Forming Technique

## References

[https://naturelab.risd.edu/discover/biomaterials-you-can-make-at-home/?mc\\_cid=af61d94ee1&mc\\_eid=1a40f53cf1](https://naturelab.risd.edu/discover/biomaterials-you-can-make-at-home/?mc_cid=af61d94ee1&mc_eid=1a40f53cf1)

Tala Sweilem, Leen Yaish





### Ingredient List



1: Water



2: Gelatin



3: Corn Starch



4: Glycerin

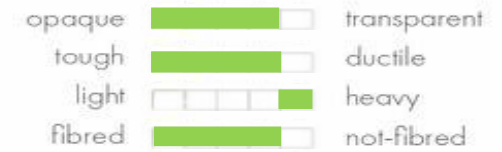


5: Pistachios

### Preparation Steps



### Material Assessments



## RECIPE 02

### Forming Technique



### References

[https://naturelab.risd.edu/discover/biomaterials-you-can-make-at-home/?mc\\_cid=af61d94ee1&mc\\_eid=1a40f53cf1](https://naturelab.risd.edu/discover/biomaterials-you-can-make-at-home/?mc_cid=af61d94ee1&mc_eid=1a40f53cf1)

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# RECIPE 03

## Ingredient List



1: Water



2: Corn Starch



3: Sand



4: Glycerin



## Preparation Steps



## Material Assessments

hard	<input checked="" type="checkbox"/>	soft	<input type="checkbox"/>	opaque	<input checked="" type="checkbox"/>	transparent	<input type="checkbox"/>
smooth	<input checked="" type="checkbox"/>	rough	<input type="checkbox"/>	tough	<input checked="" type="checkbox"/>	ductile	<input type="checkbox"/>
matte	<input checked="" type="checkbox"/>	glossy	<input type="checkbox"/>	light	<input type="checkbox"/>	heavy	<input checked="" type="checkbox"/>
elastic	<input type="checkbox"/>	not elastic	<input checked="" type="checkbox"/>	fibred	<input checked="" type="checkbox"/>	not-fibred	<input type="checkbox"/>
strong	<input checked="" type="checkbox"/>	weak	<input type="checkbox"/>				

## Forming Technique



## References

[https://naturelab.risd.edu/discover/biomaterials-you-can-make-at-home/?mc\\_cid=af61d94ee1&mc\\_eid=1a40f53cf1](https://naturelab.risd.edu/discover/biomaterials-you-can-make-at-home/?mc_cid=af61d94ee1&mc_eid=1a40f53cf1)

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## Ingredient List



1- Avocado skins and pit

2-Glycerin

3-Water

4-White vinegar

5-Gelatin

## Preparation Steps



## Material Assessments

hard



soft

opaque



transparent

smooth



rough

tough



ductile

matte



glossy

light



heavy

elastic



not elastic

fibred



not-fibred

strong



weak

## RECIPE 04

## Forming Technique



## References

<http://www.materio.org/recipe/651>

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## Ingredient List



1-tapioca starch



2-crushed eggshells



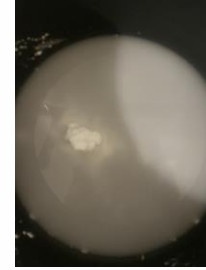
3-glycerin



4-water



## Preparation Steps



## Material Assessments



## RECIPE 05

### Forming Technique

References  
<http://www.materiom.org/recipe/682>

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# RECIPE 06

## Ingredient List



1-Gelatin



2-Water



3-Glycerin



4-Dish soap



## Preparation Steps



## Material Assessments

hard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	soft	<input checked="" type="checkbox"/>	<input type="checkbox"/>	opaque	<input checked="" type="checkbox"/>	<input type="checkbox"/>	transparent	<input type="checkbox"/>	<input type="checkbox"/>
smooth	<input checked="" type="checkbox"/>	<input type="checkbox"/>	rough	<input type="checkbox"/>	<input type="checkbox"/>	tough	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ductile	<input type="checkbox"/>	<input type="checkbox"/>
matte	<input type="checkbox"/>	<input type="checkbox"/>	glossy	<input type="checkbox"/>	<input checked="" type="checkbox"/>	light	<input type="checkbox"/>	<input type="checkbox"/>	heavy	<input type="checkbox"/>	<input checked="" type="checkbox"/>
elastic	<input type="checkbox"/>	<input type="checkbox"/>	not elastic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	fibred	<input checked="" type="checkbox"/>	<input type="checkbox"/>	not-fibred	<input type="checkbox"/>	<input type="checkbox"/>
strong	<input checked="" type="checkbox"/>	<input type="checkbox"/>	weak	<input type="checkbox"/>	<input type="checkbox"/>						

## Forming Technique



**References**  
<https://minormakerslab.gitbook.io/students-1920/andrei/dusanka/week-1-8/7-or-transforming-molding-and-casting-with-bioplastics/assignment-1-intro/assignment-1-bioplastics>  
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S-1



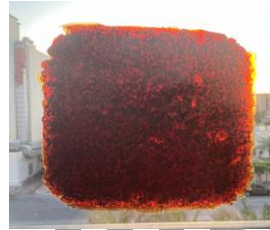
S-2



S-3

Starch based samples

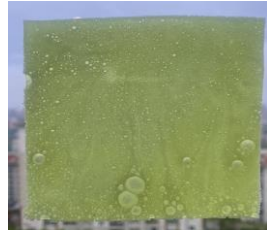
S1,2,3



G-1



G-2



G-3

Gelatin based samples

G1,2,3

S-1  
-.25gr  
-25 gr  
-125 gr  
-.3. gr

oven:

microwave:

air dry:

100.C

0.25.hours/0.days

S- 2  
-.60gr -25 gr  
-.6 gr  
-10 gr  
-.6. gr

oven:

air fryer:

air dry:

21C

48.hours/2.days

S- 3  
-15 gr  
-25 gr  
-.5. gr  
100 gr

oven:

air fryer:

air dry:

21C

90.hours/4.days

G-1  
-.60 gr -.4. gr  
-10gr -.3. gr  
-.6. gr  
-.6. gr

oven:

air fryer:

air dry:

21C

48.hours/2.days

G- 2  
-.35 gr -16 gr  
-15. gr  
-.80 gr  
-4. gr

oven:

air fryer:

air dry:

21C

10.hours/0.days

G- 3  
30. gr  
100 gr  
16  
-20. gr  
-10 gr

oven:

air fryer:

air dry:

21C

16.hours/0.days

Drying Method

Temperature

Time period

microwave:

air fryer:

air fryer:

air dry:

air dry:

air dry:

Drying Method

Temperature

Time period

air fryer:

air fryer:

air fryer:

air dry:

air dry:

air dry:

21C

21C

21C

48.hours/2.days

10.hours/0.days

16.hours/0.days

Observations about the materials and their effects (starch based)

- 1) Out of the three types of starch that were used, tapioca created the best result.
- 2) One of the major drawbacks of using starch is its lack of flexibility.
- 3) It provides a matte like texture.

Observations about the materials and their effects: (gelatin based)

- 1) Acts as a binding material
- 2) Provides a translucent view to the bioplastic.
- 3) Creates elasticity to the bioplastic