

# Chapter 7: Grains



**FoodMASTER**

Food, Math, and Science Teaching Enhancement Resource  
Supported by NIH Science Education Partnership Award (SEPA)

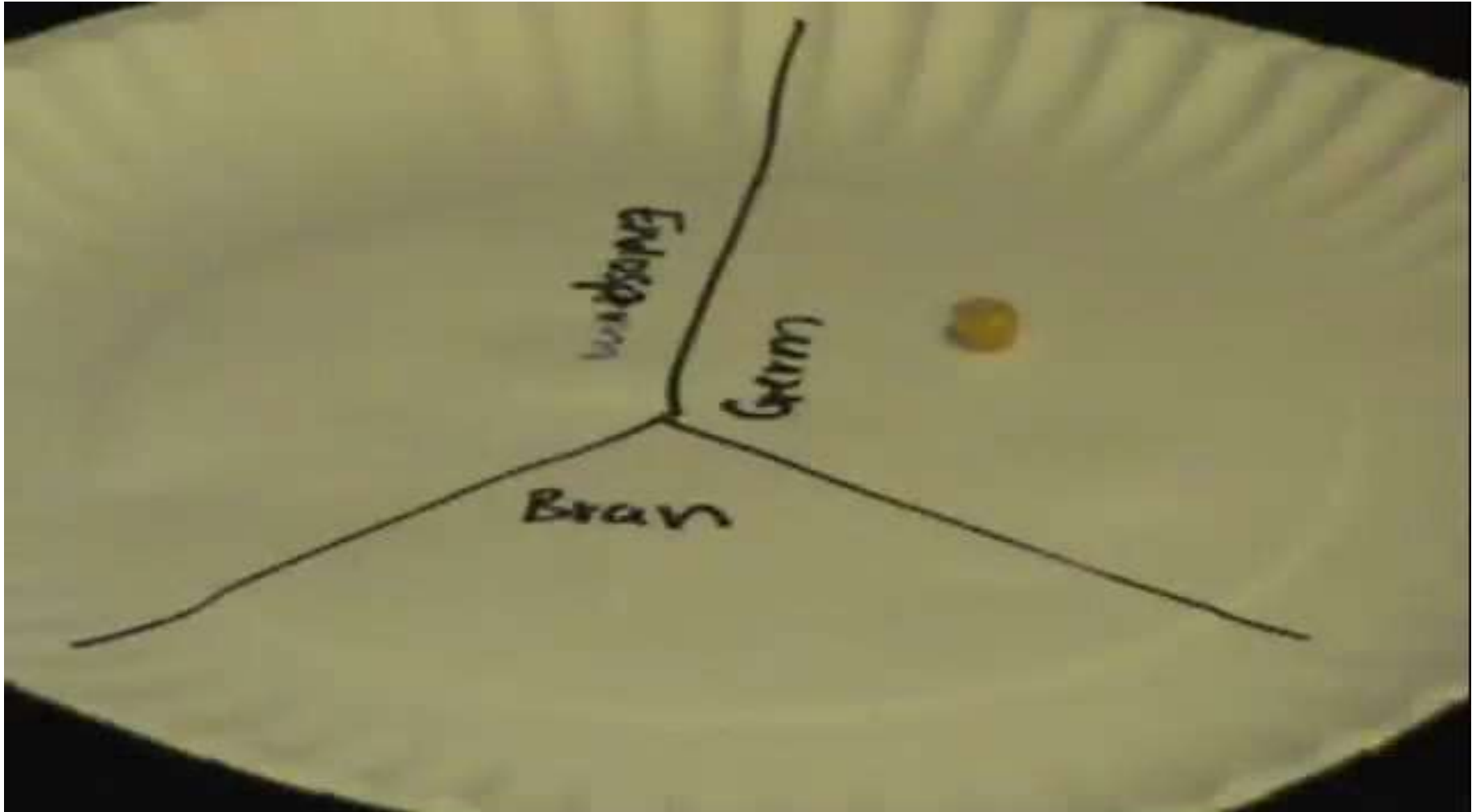




# **Food Explorations Lab I: Great Grains**

# Lab I: Great Grains

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Getting started... What to Expect in Lab I

# Lab I: Grain Grains

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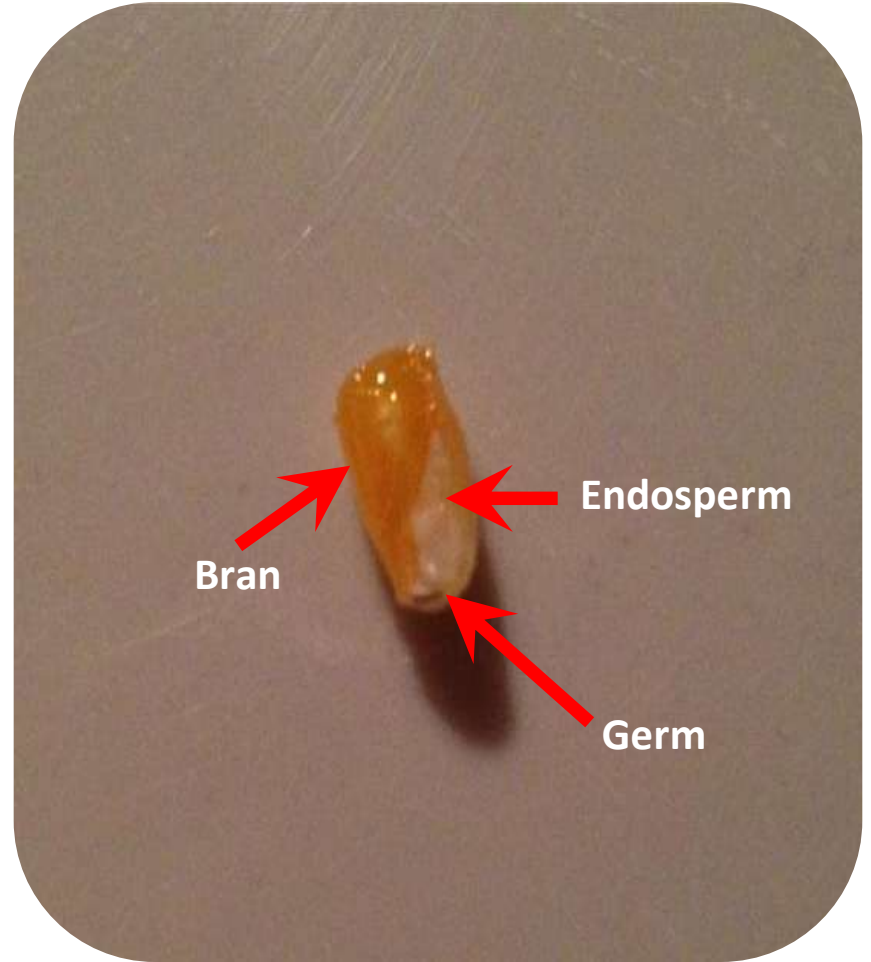
**Pre-soak corn kernels in water.**

# Lab I: Grain Grains

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**BEFORE Slicing**



**AFTER Slicing**

**Carefully slice the corn kernel in half.**

# Lab I: Grain Grains

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**BEFORE Adding Iodine Solution**



**AFTER Adding Iodine Solution**

**Place 1 drop of iodine solution on each part of the dissected kernel.**



# **Food Explorations Lab II: Globs of Gluten**

# Lab II: Globs of Gluten

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Getting started... What to Expect in Lab II

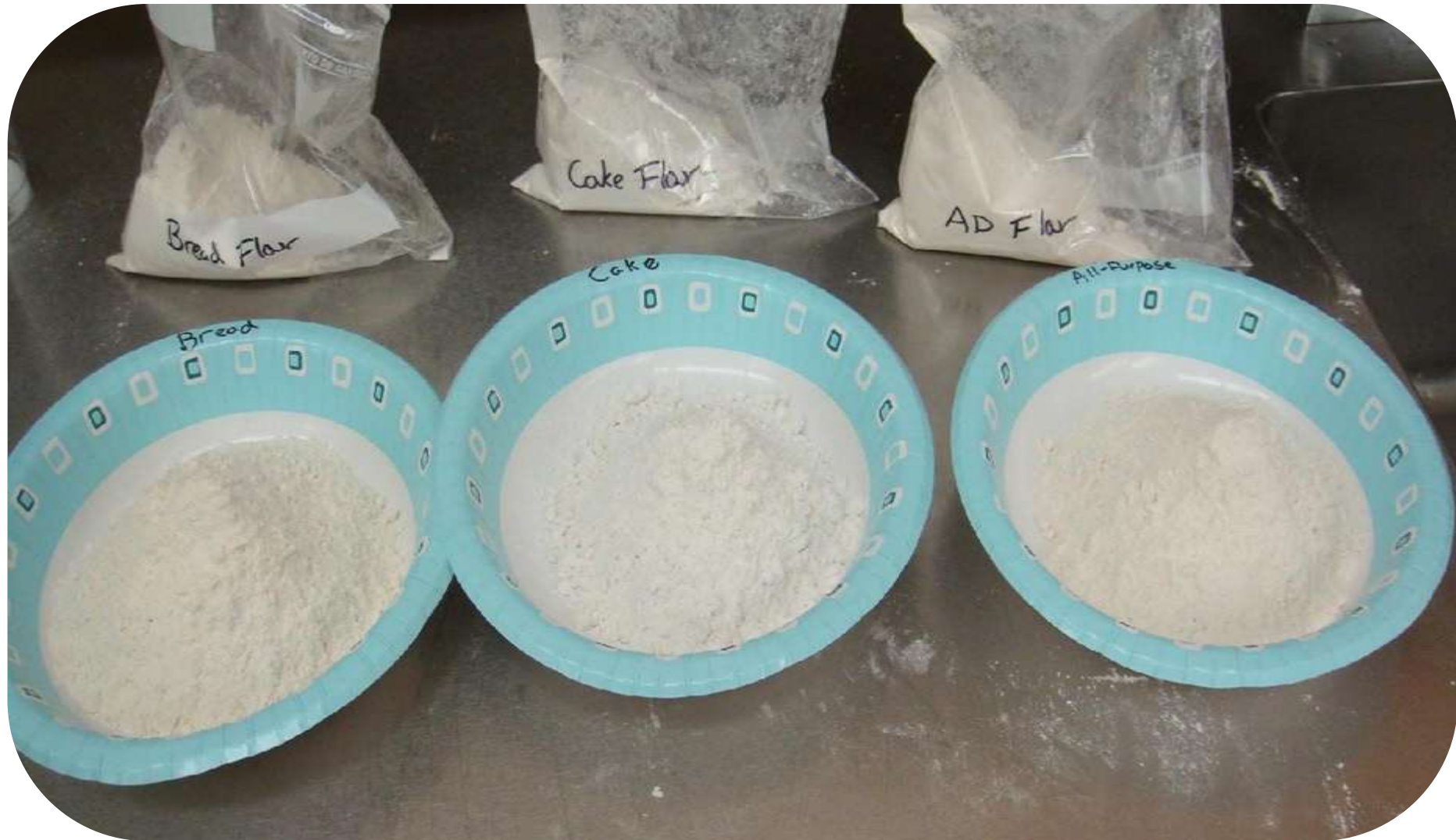


## Lab II: Globs of Gluten



**Measure 1 ½ cups of each flour into small-Ziplock bags and label the flours and their corresponding bowls: Bread Flour, Cake Flour, All-Purpose Flour.**

## Lab II: Globs of Gluten



**Pour  $\frac{1}{2}$  of each flour type into the labeled bowls.**

# Lab II: Globs of Gluten



Prepare your flour type by adding water.

**Add** 1/4 cup for bread & all-purpose flour. Add 1/8 cup for cake flour

# Lab II: Globs of Gluten

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**Stir with a plastic fork.**

## Lab II: Globbs of Gluten

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**Place the flour ball  
onto your work  
surface.**

**Using your timer,  
knead the flour ball  
for 10 minutes.**



## Lab II: Globs of Gluten

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**Allow the flour balls to rest in their individual bowls for 10 minutes.**

## Lab II: Globs of Gluten



**Wash the flour ball until only a stringy, sticky ball remains in the strainer.**

# Lab II: Globs of Gluten



**Example balls of gluten.**

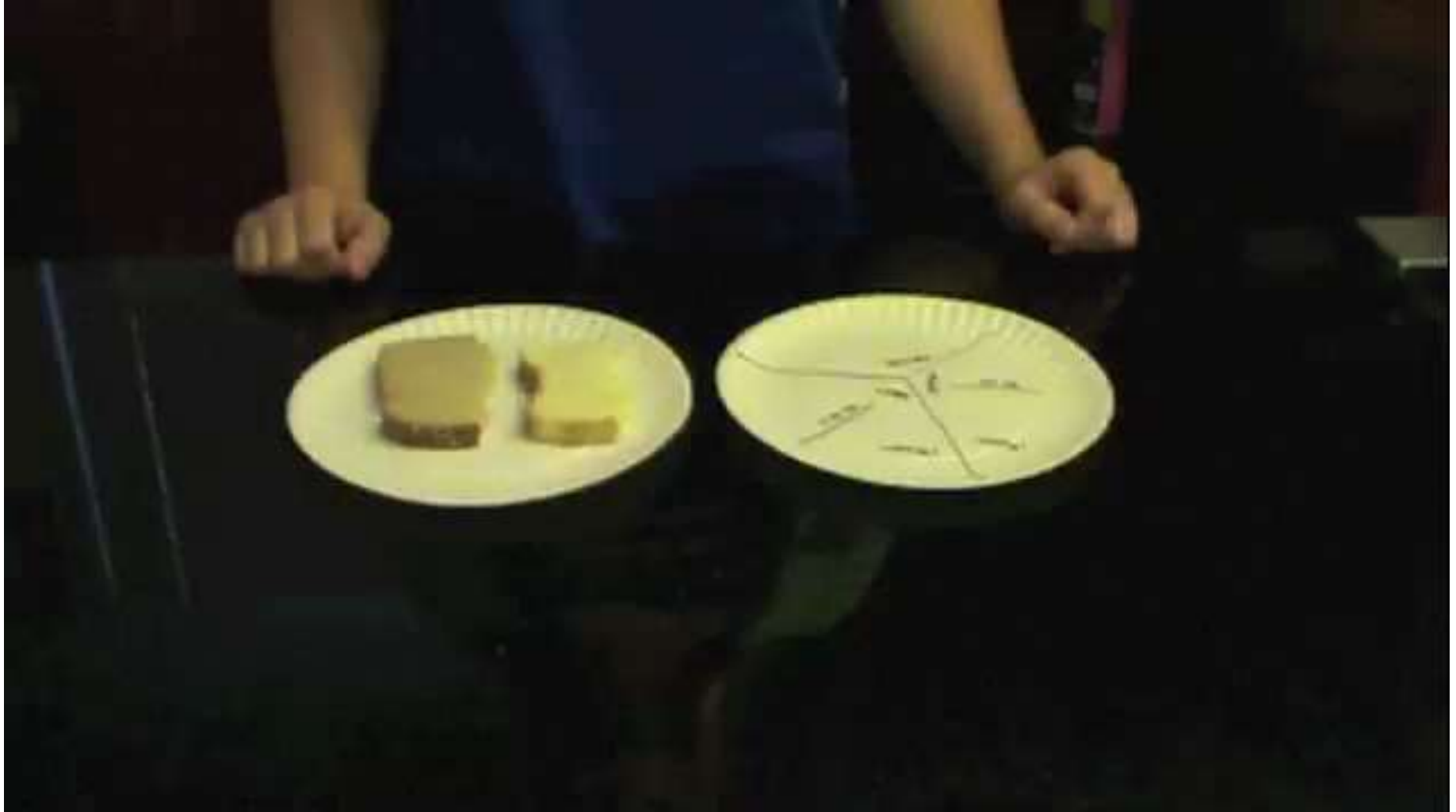




# **Food Explorations Lab III: Amylase in Action**

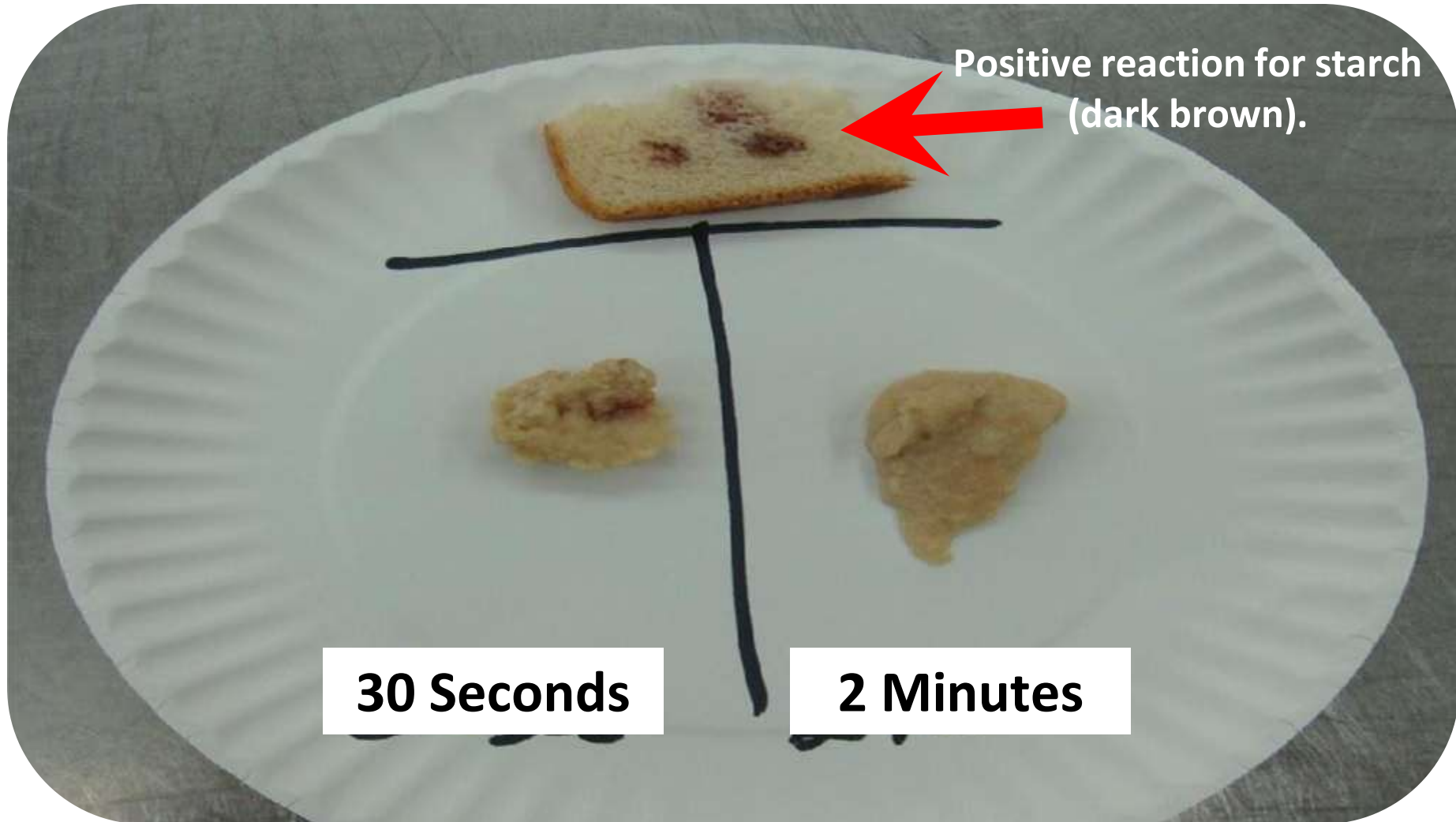
# Lab III: Amylase in Action

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Getting started... What to Expect in Lab III

# Lab III: Amylase in Action



Reaction of white bread to the iodine solution as a control, at 30 seconds, and at 2 minutes.