White Bread Experiment

This is a hands-on experiment our young scientists won't soon forget. We all know the importance of thoroughly washing our hands, but how clean are our hands? How clean are these household and classroom items we touch multiple times a day?

Skills students will practice:

- Observation
- Critical Thinking
- Asking Questions/Curiosity
- Plan and Carry Out Investigations
- Analyze Data
- Explore Cause and Effect
- Communication

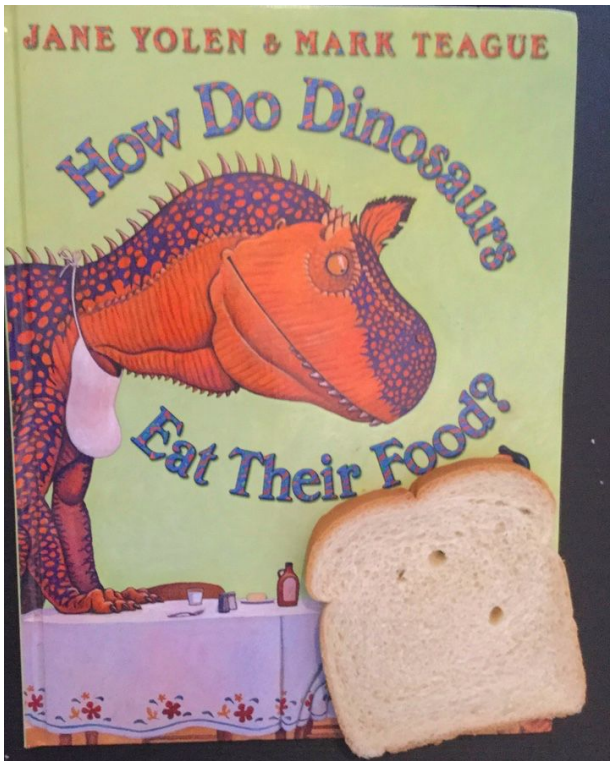
NGSS:

<u>K-2-ETS1-1 Engineering Design</u>

Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

Suggested Materials:

- Enough slices of fresh, white bread for each item you'd like to test
- 1 plastic sealable sandwich bag for each slice of bread that you'll test
- A control slice of bread that has not been touched (use gloves or clean tongs)
- Predictions, Observations, and Data Worksheet
- Whatever items are frequently touched in your home or classroom:
    - Clean hands: warm water and soap for 20 seconds
    - Clean hands: hand sanitizer
    - Dirty hands
    - Your face
    - Anything with a touch screen
    - Phone
    - Keyboard
    - TV remote or gaming controller
    - Door handle
    - Light switch
    - Favorite book
    - Favorite toy
    - Your pillow

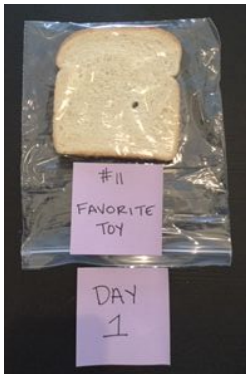


Procedure:

1. Using new gloves or clean tongs, remove 1 slice of fresh white bread and seal it into a plastic sandwich bag.
    a. Number and label the bag as Control (bag #1)

2. Wipe dry, clean hands that have been washed thoroughly for at least 20 seconds with soap and warm on the next slice of bread.
    a. Number and label the bag as Clean hands- Soap and Warm Water (bag #2)


3. Continue to repeat this process for each surface you'd like to test. Make sure to correctly label and number each bag.

4. Leave the sealed bags with their labels on a table or counter for up to one month.
5. Make predictions about which slices of bread will grow the most mold. Which slices will get moldy the fastest? Why?
6. Record your data on the Predictions, Observations, and Data Worksheet
7. Share your results @chabotspace #showchabotyourprogress #whitebreadchallenge