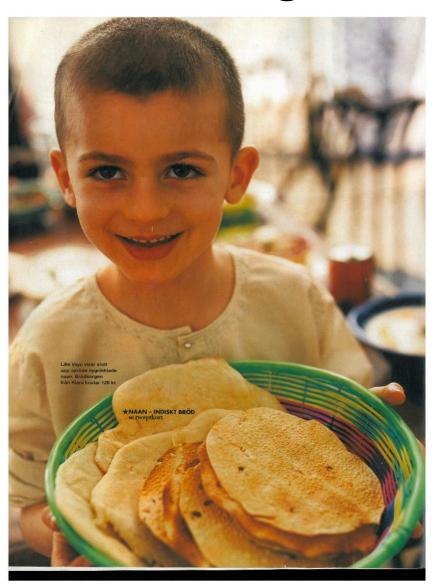
### Young Chefs: From Cooking to Science

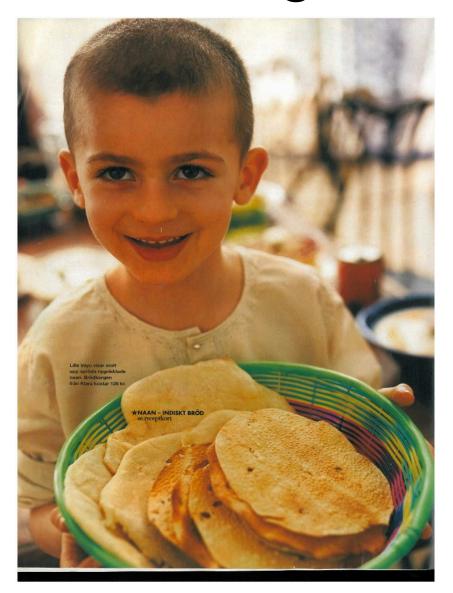
11/10/2015



# Cooking



# Cooking



### Science



## Young Chefs Program

- Started at Carleton College, MN 2011
- · Uses cooking to teach scientific concepts and methods to youth
- Programs in in U.S, Canada, Philippines; most are teacher partnerships



#### SCIENCE

COOKING



#### **MENTORING**

- Empower students with tangible culinary skills and knowledge
- Engage students with scientific concepts and methods
- Inspire success in the classroom, kitchen, and beyond

# Goals of today

- Explore examples of teaching science through cooking
- Learn how to use Young Chefs resources in classroom

### Curriculum

- Focuses on culinary creativity and exploration
- Spans biological and physical sciences
- Mapped to the NGSS and MN State Science Standards

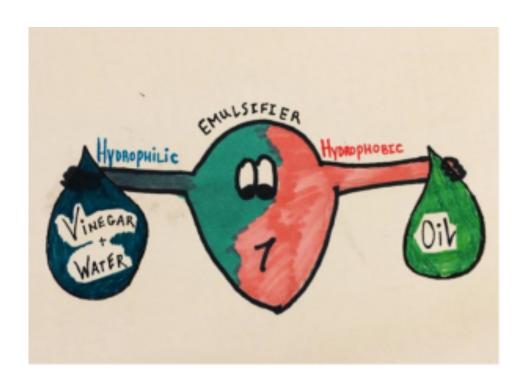


### Lesson Plans

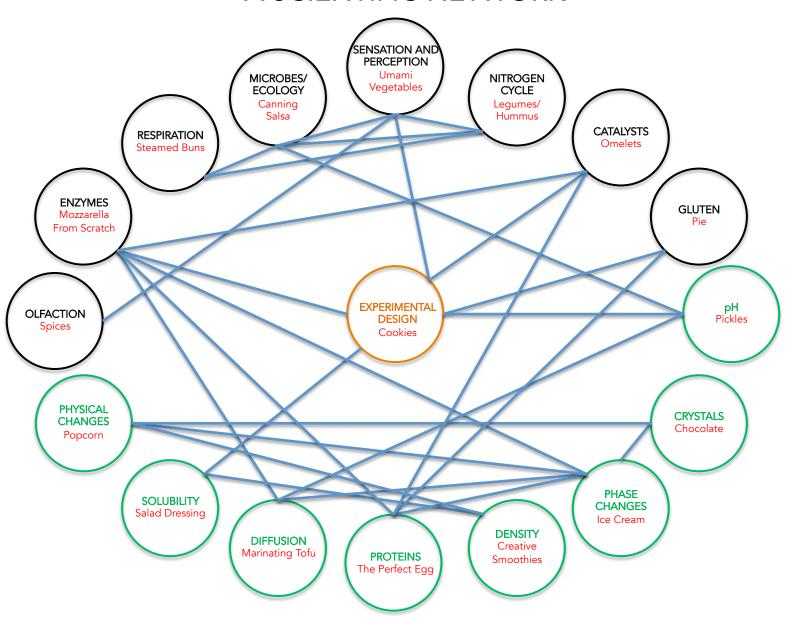
- Focuses on scientific method: observation, conclusions
- Contains scientific background, lesson roadmap
- Symbols, diagrams, demonstrations



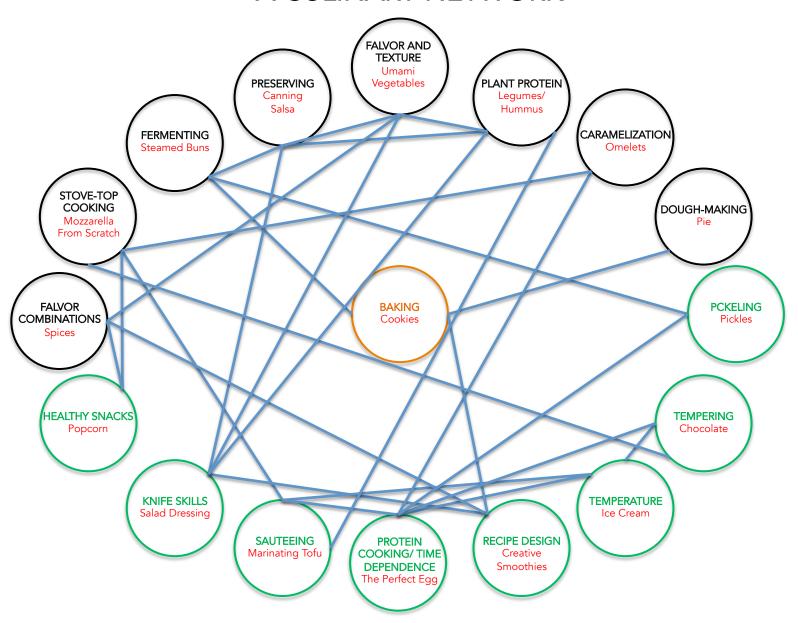




#### A SCIENTIFIC NETWORK



#### A CULINARY NETWORK



Chili peppers: Evolution and Natural Selection



### Chili peppers: Molecular solubility

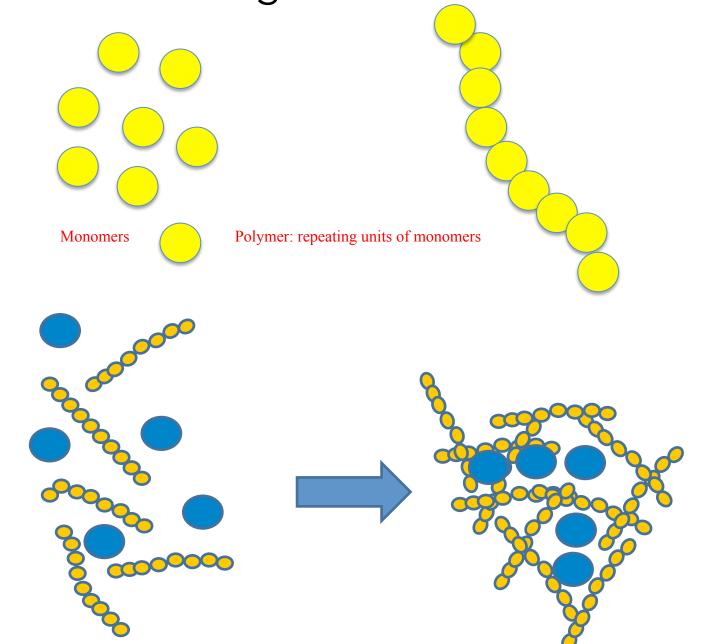
### Chili peppers: Molecular solubility



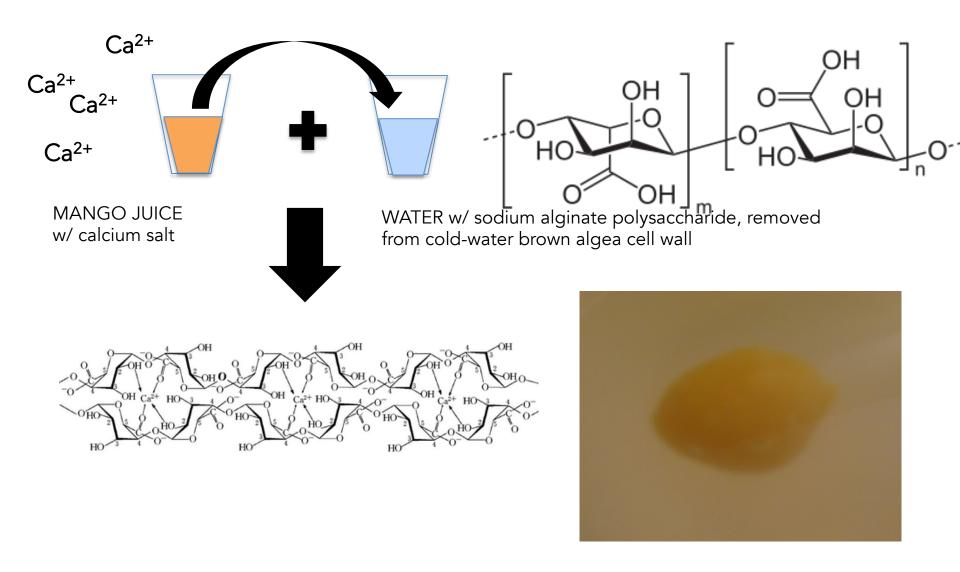
### Chili peppers: Molecular solubility



Polymer crosslinking: structure and function



### Polymer crosslinking: structure and function



### Polymer crosslinking: structure and function



# Respiration: matter and energy

 $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O + 36 \text{ or } 38 \text{ ATP}$ Sugar + Oxygen  $\rightarrow$  Carbon Dioxide + Water + Energy



# Respiration: matter and energy



## http://youngchefsprogram.org youngchefprogram@gmail.com



### Join us!

- Bill Yosses, Former White House Pastry Chef
- Deborah Gross, Carleton Professor of Chemistry
- Eric McDonald, Carleton Professor of Science Ed.
- Carleton College volunteers and leaders
- Carleton Center for Community and Civic Engagment
- Harvard Medical School; Harvard SEAS
- Fort Peck and Hopi Native American Tribes
- NYC Department of Education
- MIT Urban Agriculture Lab









