Food Races: Viscosity of Food

Special Interest Areas

ADVENTURE & SPORT
ARTS & LITERATURE
CREATING A BETTER WORLD
ENVIRONMENT
GROWTH & DEVELOPMENT
STEM & INNOVATION

Sections

Joey Scouts
Cub Scouts
Scouts
Venturer Scouts
Rover Scouts

Scouts VICTORIA

http://challengecards.scouthack.com/card/52/

SPICES Growth Areas

SOCIAL
PHYSICAL
INTELLECTUAL
CHARACTER
EMOTIONAL
SPIRITUAL

Challenge Areas

COMMUNITY
PERSONAL GROWTH
OUTDOOR
CREATIVE

Scout Method Elements

COMMUNITY INVOLVEMENT
LEARNING BY DOING
NATURE AND THE OUTDOORS
PATROL SYSTEM
PERSONAL PROGRESSION
PROMISE AND LAW
SYMBOLIC FRAMEWORK
YOUTH LEADING, ADULTS SUPPORTING

The Adventure

Investigate the viscosity of a range of foods.

Plan

1. How do you think the different foods will act differently?
2. How might the thickness of the liquids affect the results?
3. Investigate what the Viscosity means?
4. Investigate what scientific confounding variables are? What will need to do to make sure each liquid race is fair?
5. Think about why we repeat scientific experiments? Why do we want to do experiments more than once?
6. Collect the materials required for the experiments and recording your results. Communicate with your patrol and leaders if you need to bring items from home.
7. Develop hypotheses regarding which liquids will be fastest and why.
8. Read the safety requirements and discuss with your leaders/adult supervisors what supervision and safety requirements might be needed.

Do

1. Set up the experiment and record materials and hypotheses.
2. Make sure everyone is aware of the safety rules.
3. Set up a ramp tract for your liquids to race down.
4. We’re going to test cooking oil, orange juice, milk, chocolate sauce and tomato sauce. Prepare your liquids to race.
5. Pour the cooking oil down the ramp
6. Time how long it takes for the liquid to reach the bottom of the ramp
7. Repeat this step three times
8. Measure the length on the substance (some substances may not reach the bottom of the ramp
9. Record your results in the tables below
10. Repeat steps 5-9 for all the liquids.

Review

1. Evaluate your hypotheses. Which liquids were fastest? Why?
2. How did the thickness of the liquids affect the distance they travelled?
3. Why do you think some liquids flow more eagerly than others?
4. Which fluid, do you think, has the highest viscosity based on your results? Which has the least?
5. Think of some other household foods and liquids. Would they travel faster or slower than the liquid you tested?
6. If you were to do this activity again, what would you do the same? What would you do differently?

Safety

- Allergen warning: While participants shouldn’t need to touch the foods or liquids there is still a risk they may come in contact. Individuals with severe allergies to the foods being tested will need to be careful and should make sure they wash their hands thoroughly with soap and water before eating or touching their mouth and face. You may consider wearing gloves if needed.

Variations

- Encourage participants to test other foods and liquids in the race. Before you race the liquid, see if you can predict which foods it will be faster than, and which it will be slower than.
- A larger program can be build using other ‘Chemical Properties’ or chemistry challenge cards.