Discover Dairy - Cheese

Sections

Joey Scouts
Cub Scouts
Scouts
Venturer Scouts
Rover Scouts

Scouts VICTORIA

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Challenge Areas

COMMUNITY
CREATIVE
OUTDOOR
PERSONAL GROWTH

Scout Method Elements

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

SPICES Growth Areas

CHARACTER
EMOTIONAL
INTELLECTUAL
PHYSICAL
SOCIAL
SPIRITUAL

The Adventure

How does milk become cheese? Discover dairy and the science behind cheese making for a tasty treat.

Plan

1. Investigate sources, components, and products of diary including discussion around what sorts of animals produce milk. As a challenge, try to find the most obscure diary product you can – for instance yak butter or camel milk.
2. Investigate different types of cheese and what determines the flavour and texture of different cheeses.
3. Investigate the science behind cheese-making and the reactions that are occurring.
4. Hypothesis what other products may be made during and by the cheese-making process and what these could be used for.
5. Collect the materials required for the experiments and recording your results. You will need milk, white vinegar or apple cider vinegar, a stove, a saucepan, a measuring cup, a strainer with small holes, a bowl, cold water, cheesecloth, and salt and/or other seasonings (optional).
6. 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 initial observations of the ingredients.
2. Make sure everyone is aware of the safety rules.
3. In a saucepan, heat your milk over a medium heat, stirring constantly to avoid burning. Ideally, you want your milk to have a higher fat content to ensure a larger amount of cheese is produced.
4. Once the milk boils, turn the heat to low and add half a cup of vinegar whilst stirring. This should cause the mixture to separate into curds and whey (a yellow-green liquid). If separation does not occur, keep adding vinegar until it does.
5. Immediately following the formation of curds, pour them through a strainer and rinse with cold water. You want to remove as much of the whey as quickly as possible to improve the texture of your cheese as prolonged exposure to the whey will continue the reaction with the milk protien creating a more rubbery cheese.
6. Press the curds to remove any remaining liquid.
7. Season your cheese to taste using salt, pepper, chives, and/or whatever other flavourings you would like.
8. Wrap your cheese in cheesecloth (or another food safe fabric such as undyed cotton) and allow it to sit on a bench for 1-2 hours before moving your cheese to a fridge.
9. Taste your cheese and record your observations regarding taste, texture, colour, etc. What shop cheeses is this cheese most like?

Review

1. Evaluate your hypothesis. What products were made and what could these be used for?
2. Consider if your cheese tastes like cheese from the shops. If not, why not? What is present in shop cheese that isn't in your cheese? If you have access to a shop, have a look and see if you can find a cheese that has the same colour and texture as your cheese.
3. What could be done differently to improve your product? Does they type of vinegar effect the product?
4. What other sources of heat could be used for your cheese? Would this effect the product?

Safety

- Allergen warning: This challenge card involves the use of diary and may not be suitable for individuals who are lactose or milk protein intolerant, especially during the tasting section.
- Temperature warning: Heating is required. Be careful to avoid burns and other heat related injuries.

Variations

- Depending on factors such as time limit, budget, and age group, you can investigate other types of cheese making and cheese making kits such as those listed at Cheese Making and Cultures for Health
- This challenge card can be paired with other Discover Dairy challenge cards for a Discover Dairy night.
- Use the cheese to cook something such as toasted sandwiches or pizza. In patrols, you could have a DIY diary cooking competition.
- Leaders with younger Scouts may consider heating the milk for their Scouts.