



## @ HOME SCIENCE DISCOVERY MISSIONS – PROTEIN GLUE



### What Do We Need?

- Milk (skimmed/low fat)
- Vinegar
- Baking soda (baking powder)
- Coffee filter



### Protocol

1. Put two mugs of milk into a kettle and heat to about 50 ° C.  
*TIP: Do not let it boil!*
2. Put the vinegar drop by drop, stirring constantly until you see that two distinct layers form.
3. Let the mixture stand and cool.
4. Filter the mixture using a coffee filter, recovering only the solid part.
5. Dry out the mixture with absorbent paper and place it in a bowl.
6. Add 3 teaspoons of baking soda and mix well until a homogeneous mixture similar to white glue appears.

### YOUR MISSION REPORT

- What happens when the temperature of the milk is too hot or the milk boils (step 1)?
- What type of materials can you glue with this mixture? Why? (for example, plastic, paper, cardboard, etc.)
- For how long is the glue effective? (does it still work after 3 days/ 1 week?)
- Where do you see science in this mission?



**Did you know?**  
Protein glue was used to make the war planes of WW2

Learn more!



Video here:

<https://tinyurl.com/ycdf27zt>

Student feedback - How did you like this mission?



not at all



not much



a bit



liked it



liked it a lot



liked it best

Family feedback - How did you like this mission?



not at all



not much



a bit



liked it



liked it a lot



liked it best

Did you use the 'Learn more!' resources?

Yes

No

What was good/bad about this mission?