



Task 6: Study a technological problem and find a solution:

(CLIL Lesson Plan - Mixing Protein Dough - Classic Nougat)

Work in a team. Each team has a different case file describing a caramel or nougat production problem. Your case includes:

- Technological problem;
- Manufacturing defect(s);
- Problem solving table with possible causes and solutions.

1. Carefully read and discuss the case in your team.

2. Be ready to present your case to the class and explain your reasoning:

- What happened?
- Why did it happen?
- How can it be fixed?

Team 1 / Case 1 Sticky, uncuttable nougat

Technological problem:

After cooling overnight, the nougat is too sticky and cannot be cut into clean pieces. It sticks to the knife and collapses in shape.

Manufacturing defects identification:

- Incomplete setting.
- Structural failure.

Problem solving table:

Defect	Possible Cause	Solution
Surface sticks to tools, marshmallow-like consistency, won't hold shape.	The meringue was under-whipped or the sugar syrup was not heated to the correct temperature (below 145°C). Protein structure didn't fully form.	Re-check thermometer accuracy. Whip egg whites to a stiff, glossy stage. Ensure syrup reaches 145°C before combining.





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Team 2 / Case 2 Hard, crumbly nougat

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Technological problem:

The nougat is very hard, dry, and cracks easily when cut. It has lost its chewiness.

Manufacturing defects identification:

- Overworked protein network.
- Moisture loss.

Problem solving table:

Defect	Possible cause	Solution
Brittle texture, breaks under pressure, dry mouthfeel.	The egg whites and syrup were overmixed, causing excessive protein development. Also possible overcooking of sugar mixture.	Mix only until the meringue becomes thick and glossy. Do not continue beating beyond that point. Monitor syrup temperature carefully.





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Team 3 / Case 3 Collapsed, flat nougat

Technological problem:

The nougat looks flat and spread out instead of firm and tall. The texture is soft and greasy, not structured.

Manufacturing defects identification:

- Loss of aeration.
- Weak foam.

Problem solving table:

Defect	Possible cause	Solution
Spreads out in the tin, oily on top, soft structure.	Egg whites were contaminated with fat or not beaten properly. Also, the honey was poured too slowly and cooled before integrating.	Ensure the mixing bowl is perfectly clean and dry. Whisk whites at low to medium speed to stabilize. Pour hot honey immediately in a steady stream.

