

**Use Your Knowledge Activity - Malnutrition - Chapter 4: Nutrition, metabolism, enzymes**

**Task:**

**Use your knowledge of micro and macronutrients to design a new RUTF (ready-to-use-therapeutic food) for people suffering from malnutrition and that are at risk for food allergies**

**Team up** with up to three of your classmates sitting nearby to design an RUTF similar to the Peanut Butter Project, but for use in areas with higher risks of nut allergies. Your RUTF should contain high levels of the macro and micronutrients missing in the diet of a person suffering from malnutrition. Your RUTF should not contain any nut products and should be easy to store and transport.

**Write** a description of your new RUTF in the space below.

**Background information:**

**Nut allergies:** One of the most common food allergies is peanut allergy. While allergies to nuts are uncommon in many developing countries, they can be common in industrialized areas. Eating peanuts or peanut products can cause a severe allergic reaction that can be fatal, and people that are allergic to peanuts are often also allergic to tree nuts (like almonds, walnuts, pecans, and cashews). Although the number of people that suffer from food allergies varies by country, ***malnutrition is a global problem*** so supplemental foods that are not based on nuts could be important tools against malnutrition.

RUTF suitable for people at risk for nut allergies	
What ingredients are in your RUTF?	
What macronutrients does your RUTF contain?	
What micronutrients does your RUTF contain?	
Describe how you would package your RUTF to make it easy to store and distribute.	
What would you name your new RUTF?	

**Instructor notes:** This exercise addresses Driving Questions #1, #2, and #4. Students should form groups of 2–4 students sitting nearby and brainstorm to come up with potential RUTF recipes. Instructors should provide a quick overview of malnutrition as a global problem and the risks of nut allergies. Students will develop their own non-nut-based RUTF and consider how to incorporate macro and micronutrients as well as how to package their supplement. Students should be allowed to develop their ideas in their groups, then instructors should facilitate a class discussion of the supplement ideas.

**Total time budget = 15 min**

- 3 min instructor introduction and overview
- 7 min student brainstorming
- 5 min class discussion

**RUBRIC:** 5 points total, 1 for each answer

RUTF suitable for people at risk for nut allergies	
What ingredients are in your RUTF?	RUTF should not contain any nut products but otherwise can vary widely as long as ingredients are rich in macro and micronutrients needed in a malnourished diet.
What macronutrients does your RUTF contain?	RUTF should contain high levels of fat, protein, and carbohydrates.
What micronutrients does your RUTF contain?	RUTF should contain essential vitamins and minerals (e.g., be fortified with calcium, potassium, vitamin C, vitamin D, etc.).
Describe how you would package your RUTF to make it easy to store and distribute.	Answers can vary widely and creativity can be encouraged here (i.e., it does not have to be a paste in a packet like the Peanut Butter Project).
What would you name your new RUTF?	Students can be creative in picking a catchy name. A catchy name could help raise awareness for the project (both for people using the RUTF and for potential donors).