

# **The Snack bar Game: sustainability and teaching of addition and multiplication principles<sup>1</sup>**

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The teaching of Combinatorial Analysis in Basic Education is still done in a very mechanical way by some teachers, through the memorization of formulas and calculations. This practice is repeated superficially, not stimulating the construction of concepts and combinatorial reasoning. This results in low learning, disinterest and even fear of the students in relation to the subject, contributes to the increase in school dropout and the transfer of this deficiency to graduation. Moreover, facing the themes and skills currently discussed, it is necessary that teachers adapt themselves to the training of citizens aware of their social role. From these reflections, the objective of this work is to present the original game called "Snack bar", which introduces and compares the concepts of the combinatorics addition and multiplication principles, and at the same time addresses issues related to the waste of disposable materials, promoting a critical reflection of students on sustainability. The planning of activities is inspired by the methodology of Problem Solving. The game consists of a board split in five colors (and their corresponding five symbols due to the Color blindness), a menu and a group of cards, each one containing a question and its solution. The cards are associated to the colors (symbols) of the board and correspond to the complexity level of the contents of the addition and multiplication principles. On its turn, a group raffles a "question card" and reads it to the opposing team. If answer is right, they must move their piece with the amount of spaces described in this letter. The group that first reaches the space "THE END", wins the game. Finally, the teacher consolidates the contents learned by presenting them in a formal way.

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