

Piecing it Together

School Curriculum

Name: _____

Entry/Exit tickets will be graded for intellectual engagement only, not correctness.

Scenario:

To investigate the impact of different learning strategies and break types on reading comprehension, researchers randomly selected 10 elementary schools from the Bay Area to participate in the study. Within each school, six classrooms were chosen, with each assigned to a unique combination of instructional method and break type. The instructional methods included peer discussion groups, silent independent reading with reflection questions, and teacher-led interactive lectures, while the break types consisted of snack breaks and exercise breaks. This resulted in a total of 60 classrooms, each with approximately 25 students, yielding a total of 1,500 students in the study. Over the course of eight weeks, students engaged in their assigned instructional method and break type, after which they completed a standardized reading comprehension test scored on a 0 to 100 scale.

a. Sketch a design blueprint

- Clearly indicate the blocking factor (show grouping)
- Clearly indicate the experimental units *and* measurement units
- Show how treatments are assigned within blocks

b. Identify the following:

- Treatment structure:

- Design structure:

c. Provide the skeleton of the ANOVA table for the analysis of this experiment, including the subsampling effect. Specify which effects should be fixed and which should be random.

Source of Variation	DF: Total =

d. What is the denominator DF for testing the effect of instructional method? What about the interaction effect?