

This miniproject explores the idea of a Venn diagram for four sets.

First, draw a Venn diagram for four sets that includes every possible combination. If you want to avoid drawing it multiple times, you might want to photocopy it or scan it in and cut-and-paste several times for the following.

Shade in the following regions in your Venn diagram. (Show a different diagram for each part.)

- (a) $A \cap B \cap C \cap D$
- (b) $A \cap B \cap C \cap D'$
- (c) $A \cap B \cap C' \cap D$
- (d) $A \cap B \cap C' \cap D'$
- (e) $A \cap B' \cap C \cap D$
- (f) $A \cap B' \cap C \cap D'$
- (g) $A \cap B' \cap C' \cap D$
- (h) $A \cap B' \cap C' \cap D'$
- (i) $A' \cap B \cap C \cap D$
- (j) $A' \cap B \cap C \cap D'$
- (k) $A' \cap B \cap C' \cap D$
- (l) $A' \cap B \cap C' \cap D'$
- (m) $A' \cap B' \cap C \cap D$
- (n) $A' \cap B' \cap C \cap D'$
- (o) $A' \cap B' \cap C' \cap D$
- (p) $A' \cap B' \cap C' \cap D'$