Let S be a set, and $\mathcal{S}' = \{S_1, S_2, \ldots, S_m\}$ be a given collection of sets. Also, let $\mathcal{S}'' \subseteq \mathcal{S}'$.

- If $S \subseteq \bigcup_{S_i \in \mathcal{S}''} S_i$, then $\mathcal{S}''$ is a *covering* of S.
- If (i) $\forall_{S_i, S_j \in \mathcal{S}''} S_i \cap S_j = \phi$ and (ii) $\bigcup_{S_j \in \mathcal{S}''} S_j \subseteq S$, then $\mathcal{S}''$ is a *packing* of S.
- If (i) $\forall_{S_i, S_j \in \mathcal{S}''} S_i \cap S_j = \phi$ and (ii) $\bigcup_{S_i \in \mathcal{S}''} S_i = S$, then $\mathcal{S}''$ is a *partitioning* of S.
- If (i) $S' \subseteq S$ and (ii) S' contains at least one element of each set in $\mathcal{S}'$, then S' is a *hitting set* of $\mathcal{S}'$.