1. **Let $\vec{e}_1, \vec{e}_2$ be Max's vectors and let $\vec{d}_1, \vec{d}_2$ be Lily's vectors. The cup and the plate can be represented in terms of Max's and Lily's vectors because $\text{span}\{\vec{e}_1, \vec{e}_2\} = \text{span}\{\vec{d}_1, \vec{d}_2\}$. Neither representation is more correct—it's just a different perspective.**

2. **Max and Lily are viewing the same objects but using different bases. Neither is more correct than the other.**

3. **Basis $\rightarrow$ linearly independent spanning set.**

   Different bases $\rightarrow$ different representation of items as coordinates.

   Max and Lily sitting at different positions on the table $\rightarrow$ different "standard" bases $\rightarrow$ confusion about coordinates.