

The Crystal Forest Worksheet

Discussion Questions

1. Describe what happened in this activity.
2. The porous paper promoted both capillary action and evaporation. How might this facilitate the growth of crystals?
3. The bluing solution contains Prussian blue in two forms, one soluble and one insoluble. The soluble form is $\text{KFe}^{\text{III}}\text{Fe}^{\text{II}}(\text{CN})_6$, and the insoluble form is $\text{Fe}^{\text{III}}_4[\text{Fe}^{\text{II}}(\text{CN})_6]_3$. These react with ammonia to produce $\text{KNaFe}^{\text{II}}\text{Fe}^{\text{II}}(\text{CN})_6$ and $\text{Na}_4\text{Fe}^{\text{II}}_4[\text{Fe}^{\text{II}}(\text{CN})_6]_3$, respectively. Has the Prussian blue been oxidized or reduced by the ammonia? These reactions are shown in the *Background* section.
4. Write three testable questions that can be answered by modifying your current set-up and performing an experiment.