**🎯 Activity 2: 🧩 Sequencing Game – “Fix the Distillation Setup”**

**🎙️ Activity Introduction**

"Can you set up a real working distillation unit? 🔧 Drag the parts into the right sequence to build a complete system. Think like a lab scientist!"

**🛠 Developer Guide Instructions**

* Present draggable labelled components of the distillation apparatus in disassembled form.
* Snap-to-slot logic with instant correct/incorrect facilitative feedback for each placement.
* Highlight correct slots with green glow and incorrect slots with red pulse.
* Keep the original sequence exactly as provided.
* Lock the setup once all components are correctly placed.

**🖥 Learner Instructions (On-Screen)**

* "Drag each component to its correct position in the distillation setup."
* "Arrange the parts in the correct order from heating to collection."
* "Watch the system come to life once completed."

**💡 Hints (On-Screen)**

* "Start where the water sample is heated."
* "Cooling happens after evaporation."
* "The final step is the collection of pure water."

**📜 Activity Content – Correct Sequence and Hints**

| **Step** | **Icon** | **Component** | **Hint** |
| --- | --- | --- | --- |
| **1** | 🧪 | Round-bottom flask | This is where the heating starts. It holds the hard water sample. |
| **2** | 🌡️ | Liebig condenser | This cools the vapour into liquid. It must come after the flask. |
| **3** | 💧 | Cold water inlet and outlet | These regulate cooling. One lets cold water in, the other lets it out. |
| **4** | 🔥 | Heat source | This provides the energy to boil the hard water. |
| **5** | 🧫 | Receiving flask | This catches the pure water after it condenses. |

**🗨 Specific Facilitative Feedbacks**

**Round-bottom flask:**

* ✅ "Correct! This is where the impure water is first heated."
* ❌ "Not quite. This component should hold the hard water sample — try again."

**Liebig condenser:**

* ✅ "Well placed! It cools the vapour into liquid."
* ❌ "This must come immediately after the boiling flask to cool the steam."

**Cold water inlet/outlet:**

* ✅ "Perfect! These keep the condenser cool."
* ❌ "These belong inside the condenser to control the temperature. Try again."

**Heat source:**

* ✅ "Right choice! This initiates boiling of the water."
* ❌ "Check again. This must be under the flask, not after the condenser."

**Receiving flask:**

* ✅ "Well done! This catches the clean water after condensation."
* ❌ "This is the final step. It should not be placed before the condenser."

**🎙️ Activity Conclusion**

"Well done! You correctly built a distillation system. Distillation removes all impurities by boiling the water and collecting the pure vapour. You are now ready to purify water like a professional."