**🎯 Activity 2: 🏷️ Labelling Game – “Name the Distillation Setup”**

**🎙️ Activity Introduction**

"Can you identify all the important parts of a real distillation apparatus? Drag the correct labels onto the diagram and check if you are right!"

**🛠 Developer Guide Instructions**

* Present a **completed illustration** of the distillation apparatus.
* Provide draggable text labels for each component (e.g., *Round-bottom flask*, *Liebig condenser*).
* Learners drag each label to the correct hotspot zone on the diagram.
* Use **snap-to-zone logic** with instant correct/incorrect facilitative feedback.
* Highlight correct zones with a **green glow** and incorrect placements with a **red pulse**.
* Trigger an **animated vapour-to-condensate flow** once all labels are correct.
* Lock labels in place after correct placement.

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

* "Drag each label to its correct place on the distillation setup."
* "Identify all the parts correctly to activate the system animation."

**💡 Hints (On-Screen)**

* "Start with the container that holds the impure water."
* "Remember where cooling happens after evaporation."
* "The last part is where pure water is collected."

**📜 Activity Content – Labels & Hotspot Hints**

|  |  |  |
| --- | --- | --- |
| **Label** | **Icon** | **Placement Hint** |
| Round-bottom flask | 🧪 | Holds the hard water sample, where heating begins |
| Liebig condenser | 🌡️ | Cools vapour into liquid, must follow the flask |
| Cold water inlet/outlet | 💧 | Controls condenser cooling with water flow |
| Heat source | 🔥 | Sits under the flask, provides boiling energy |
| Receiving flask | 🧫 | Collects pure water after condensation |

**🗨 Specific Facilitative Feedbacks**

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

**Liebig condenser** ✅ "Well placed! It cools the vapour into liquid."  
 ❌ "This comes directly after the boiling flask to condense steam."

**Cold water inlet/outlet** ✅ "Perfect! These regulate the condenser’s cooling."  
 ❌ "Not correct. These are the cooling connectors on the condenser."

**Heat source** ✅ "Right choice! This is the energy for boiling."  
 ❌ "Check again. The heat must go under the flask, not anywhere else."

**Receiving flask** ✅ "Well done! This collects the purified water."  
 ❌ "Incorrect. This is the last stage, where pure water is collected."

**🎙️ Activity Conclusion**

"Great work! You have correctly labelled all the parts of the distillation apparatus. Distillation works by heating impure water, cooling the vapour, and collecting pure liquid. You now understand how each part plays a role in water purification."