**🔠 Activity 4: “Water Words!” – Word Search Puzzle**

**🎙️ Activity Introduction**

"Get ready to dive into some water science vocabulary! These words are key to understanding how water behaves — especially when it comes to hardness, softness, and lather. Search carefully and find them all!"

**👨‍💻 Developer Guide Instructions**

* Use 10x10 grid, words placed in all directions.
* Ripple animation when a word is found.
* Pop-up explanation for each found word.

**🖥️ Learner Instructions**

1. Scan the grid to find the listed words.
2. Click and drag to highlight them.
3. Read the pop-up to reinforce learning.

**💡 Hint**

"Look for words related to water’s mineral content, sources, and soap reactions."

**📜 Activity Content**

| **Word** | **Explanation** |
| --- | --- |
| LATHER | “Foam formed by soft water with soap.” |
| SCUM | “White residue from hard water and soap.” |
| SOAP | “Cleaning agent affected by hardness.” |
| HARD | “Water with high mineral content.” |
| SOFT | “Water with low mineral content.” |
| RAIN | “Naturally soft water.” |
| BOREHOLE | “Often a source of hard water.” |
| DISTILLED | “Pure water from distillation.” |

**🎙️ Activity Conclusion**

"Excellent work! You decoded all the water-related vocabulary like a science sleuth. Now you can spot water types and their behaviour just from the clues!"

**✅ Key Takeaways:**

* **Soft water:** Lathers easily with soap (e.g., rainwater, distilled water).
* **Hard water:** Forms scum, caused by dissolved calcium/magnesium ions from rocks/soil.
* **Types:** Temporary hardness (hydrogen carbonates, removable by boiling) and permanent hardness (sulphates/chlorides, not removable by boiling).
* **Effects of hard water:** Scale in kettles/pipes, more soap needed, clogging in hot water systems.