**🎯 Activity 5: 🔡 Atom Vocabulary – “Crossword Puzzle”**

🎙️ **Activity Introduction** 🎤  
“Atoms have a language of their own. In this crossword challenge, your mission is to solve each hint using words we have learned. Each answer unlocks part of the atomic world. Are you ready to decode the structure of an atom one word at a time?”

**Media Suggestions**  
• [📊 Crossword grid with active typing cells]  
• [🔘 Buttons: Check Answer, Reveal Answer, Reset Puzzle]  
• [🎧 Optional audio narration for each hint and feedback]

**Developer Notes**  
• Use a 7×7 responsive crossword grid with real-time validation.  
• Correct entries turn green; incorrect entries shake or highlight red briefly.  
• Enable “Check” button for each word and a “Reveal” button that unlocks the correct term after one failed attempt.  
• Display facilitative feedback for each hint below the puzzle when submitted.

**Learner Instructions (On Screen)**  
• Click any square to begin.  
• Read the hint and type your answer.  
• Use Check to verify your answer.  
• Use Reveal if you need help.

**Activity Content – Hints and Answer List**

**🔠 Across**

1. Positively charged particle (6 letters) → Proton
2. Basic unit of matter (4 letters) → Atom
3. Negative particle in an atom (8 letters) → Electron

**🔡 Down**  
2. Central part of atom (7 letters) → Nucleus  
3. Neutral particle (7 letters) → Neutron  
4. Region where electrons are found (6 letters) → Shells

**Facilitative Feedback Per Hint**  
**Across Hints**  
**1 Across: Proton**  
• ✅ Correct! Protons are found in the nucleus and carry a positive charge.  
• ❌ Hint: This particle is found in the centre and is positively charged.

**2 Across: Atom**  
• ✅ Well done! The atom is the basic unit of all matter.  
• ❌ Hint: This is the smallest building block of matter.

**3 Across: Electron**  
• ✅ Correct! Electrons are negatively charged and orbit the nucleus.  
• ❌ Hint: This particle is tiny, negatively charged, and found in shells.

**Down Hints**  
**2 Down: Nucleus**  
• ✅ Excellent! The nucleus is the centre of the atom, containing protons and neutrons.  
• ❌ Hint: This part is dense and found at the atom's core.

**4 Down: Neutron**  
• ✅ Correct! Neutrons are neutral and found in the nucleus.  
• ❌ Hint: This particle has no charge and sits next to protons.

**6 Down: Shells**  
• ✅ Great job! Shells are energy levels where electrons orbit the nucleus.  
• ❌ Hint: Electrons move in these circular paths around the nucleus.

🎙️ **Activity Conclusion** 🎤  
“Brilliant work! You have unlocked the key terms that describe the building blocks of matter. Understanding these words helps you speak the language of atoms like a true scientist. Keep up the sharp thinking!”

**✅ Key Takeaways:**

* An atom is the smallest particle of an element that can take part in chemical reactions.
* It is made up of protons (positive), neutrons (neutral), and electrons (negative).
* Protons and neutrons (nucleons) are found in the nucleus, while electrons occupy energy levels around it.
* Atoms are electrically neutral because the number of protons equals the number of electrons.
* Atomic models/diagrams are used to illustrate atomic structure.