**🎯 Activity 2: 🎮 Guessing Game – “Name That Element!”**

**🎤 Activity Introduction 🎤**

“Each atom has its own unique fingerprint—its electron arrangement. In this guessing game, your job is to identify the correct element based on how its electrons are arranged across energy levels. Think like a detective. The total number of electrons equals the atomic number!”

**👨‍💻 Developer Guide**

* For each question:
  + Display a **Hint** such as "2.8.2".
  + Present four multiple-choice options.
  + Only one correct answer based on total electrons.
* After the learner makes a choice:
  + Show specific facilitative feedback for that choice.
  + Allow a “Check Answer” button before moving on.
* At the end:
  + Show general feedback narration.
* Optional: Add “Retry Incorrect Only” flow.

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

You will be shown an electron arrangement.  
Choose the element whose atomic number matches the total electrons.  
You may use a periodic table if needed.

**💡 Hint**

* Electron arrangement shows how electrons fill shells in order: 2 → 8 → 8 → 18.
* Total electrons = Atomic Number.
* Example: **2.8.1 = 11 electrons → Sodium (Na)**.
* Add up the numbers in the arrangement, then find the element with that atomic number.

**📊 Activity Content – Sample Questions**

**🧩 Question 1**

**Hint:** 2.8.2  
Choices:

* ☐ Calcium
* ☐ Sodium
* ☑ Magnesium
* ☐ Neon

Facilitative Feedback:

* **Calcium:** Calcium has 20 electrons. 2.8.2 adds up to 12.
* **Sodium:** Sodium has 11 electrons. This arrangement has 12.
* **Magnesium:** ✅ Correct. Magnesium has 12 electrons arranged as 2 in the 1st shell, 8 in the 2nd, and 2 in the 3rd.
* **Neon:** Neon has 10 electrons. Check your total again.

**🧩 Question 2**

**Hint:** 2.5  
Choices:

* ☐ Oxygen
* ☑ Nitrogen
* ☐ Carbon
* ☐ Fluorine

Facilitative Feedback:

* **Oxygen:** Oxygen has 8 electrons. 2.5 adds up to 7.
* **Nitrogen:** ✅ Correct. 2 + 5 = 7 electrons. Nitrogen has atomic number 7.
* **Carbon:** Carbon has 6 electrons. This clue points to 7 electrons.
* **Fluorine:** Fluorine has 9 electrons. This clue has only 7.

**🧩 Question 3**

**Hint:** 2.8.8.1  
Choices:

* ☐ Calcium
* ☐ Argon
* ☑ Potassium
* ☐ Chlorine

Facilitative Feedback:

* **Calcium:** Calcium has 20 electrons. This configuration adds up to 19.
* **Argon:** Argon has 18 electrons. This configuration has 19.
* **Potassium:** ✅ Correct. Potassium has 19 electrons: 2 + 8 + 8 + 1.
* **Chlorine:** Chlorine has 17 electrons. This arrangement shows more than that.

**🧩 Question 4**

**Hint:** 2.8.6  
Choices:

* ☐ Chlorine
* ☑ Sulphur
* ☐ Phosphorus
* ☐ Neon

Facilitative Feedback:

* **Chlorine:** Chlorine has 17 electrons. 2.8.6 = 16.
* **Sulphur:** ✅ Correct. Sulphur has 16 electrons. 2 + 8 + 6 = 16.
* **Phosphorus:** Phosphorus has 15 electrons. This clue totals 16.
* **Neon:** Neon has only 10 electrons.

**🧩 Question 5**

**Hint:** 2.8  
Choices:

* ☐ Oxygen
* ☐ Fluorine
* ☑ Neon
* ☐ Carbon

Facilitative Feedback:

* **Oxygen:** Oxygen has 8 electrons. This configuration adds up to 10.
* **Fluorine:** Fluorine has 9 electrons.
* **Neon:** ✅ Correct. Neon has a full second shell: 2 + 8 = 10 electrons.
* **Carbon:** Carbon has 6 electrons. This configuration has 10.

**🎤 Activity Conclusion 🎤**

“Well done! You have successfully matched electron arrangements to their elements. Electron configuration is a key to understanding atomic structure and periodic placement. Keep practising to strengthen your scientific deduction skills!”