📍 **Station 3: Mystery Material Match!**
**Focus:** Identifying Materials by Properties
**NGSS Standard:** 5-PS1-3

### Goal:

Investigate mystery materials from a first aid kit and figure out which one is best for which job—cleaning, covering, or sticking! You’ll use your senses and tools to compare texture, absorbency, and stickiness.

**Materials:**

 Cotton ball

 Gauze pad

 Alcohol wipe (dry/unused)

 First aid tape

 Fabric adhesive bandage

 Magnifying glass

 Tweezers

 Water dropper

 Paper towel (for drying off)

**Student Directions:**

1. **Set up your station:**
Place all five mystery materials in front of you. Use the tweezers to handle them if needed.
2. **Observe each material’s texture:**
	* Use your **hands** and the **magnifying glass**.
	* Is it soft? Scratchy? Smooth? Sticky?
	* Record your texture description in the chart.
3. **Test water absorbency:**
	* Use the **water dropper** to place 1–2 drops of water on each material.
	* Watch what happens—does it soak in quickly, slowly, or not at all?
	* Mark “Yes” or “No” for water absorbency in your chart.
4. **Match each material to a first aid job:**
Think like a scientist! Ask yourself:
	* Which one is best for cleaning a cut?
	* Which one sticks and stays in place?
	* Which one covers or protects the wound?
5. **Complete your chart below.**
Be ready to share your choices and your reasoning!

### 📋 Record It:

| **Material** | **Texture (what does it feel/look like?)** | **Absorbs Water?** | **Best Job in First Aid?** |
| --- | --- | --- | --- |
| Cotton Ball | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | ☐ Yes ☐ No | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Gauze | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | ☐ Yes ☐ No | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Alcohol Wipe (dry) | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | ☐ Yes ☐ No | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Tape | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | ☐ Yes ☐ No | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Fabric Bandage | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | ☐ Yes ☐ No | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

### 💬 Think & Reflect:

**What clues helped you figure out what each material is best used for?**
→ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
→ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Why is it important for first aid materials to have different properties?**
→ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

🧠 **Wrap-Up Reflection:**

* Which bandage or material would you choose in a real emergency? Why?
→ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* What happens when you cool a “burn”? Can all changes be undone?
→ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* What makes a first aid material good for the job?
→ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

### 📍 **Activity Summary:**

**Focus:** Identifying Materials by Properties
**NGSS Standard:**

* **5-PS1-3** – Make observations and measurements to identify materials based on their properties.

### ✅ ITEEA STEL Standards – Elementary Level

**STEL 1A** – Everyone can design solutions to problems.
→ Students use observation and critical thinking to match materials with first aid needs.

**STEL 4A** – The use of materials is determined by their properties.
→ Students investigate how properties like texture, absorbency, and stickiness affect material use in medical care.

**STEL 7A** – Technological products and systems are created to meet human needs.
→ This activity demonstrates how specific materials are selected for first aid tools that meet healing and safety needs.

**STEL 8A** – Testing and evaluating are part of the design process.
→ Learners gather evidence and data through direct testing of each mystery material.

### ✅ Common Core Math Standards – Elementary Level

**CCSS.MATH.CONTENT.5.MD.A.1** – Convert among different-sized standard measurement units within a given measurement system.
→ Students apply this concept when using the dropper to test absorbency and compare outcomes across materials (optional unit-based extension).

**CCSS.MATH.PRACTICE.MP2** – Reason abstractly and quantitatively.
→ Learners interpret test results logically to assign appropriate first aid uses.

**CCSS.MATH.PRACTICE.MP5** – Use appropriate tools strategically.
→ Magnifying glass, tweezers, and droppers are used purposefully for scientific observation.

**CCSS.MATH.PRACTICE.MP6** – Attend to precision.
→ Careful observations and consistent testing help students draw accurate conclusions about material properties.

### ✅ Summary

This hands-on activity supports **NGSS** physical science goals by connecting **observable material properties** to **real-world medical functions**. It aligns with **ITEEA STEL standards** by reinforcing how engineers and designers test materials to meet human needs, and integrates **Common Core math practices** by promoting reasoning, tool use, and precision in testing.