UNIT: FIRST AID

What’s It Made Of? – Synthetic vs. Natural

Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.

Investigation Goal:

Learn to identify whether materials are natural or synthetic, and explore why synthetic materials are useful in medical care.

Background Info:

* **Natural materials** come directly from nature (plants, animals, minerals).
* **Synthetic materials** are **man-made** from natural resources using **chemical processes** (like plastic or petroleum jelly).
* Many first aid materials are chosen based on their strength, flexibility, absorbency, or ability to protect wounds.

MATERIALS:

* Cotton bandage
* Adhesive bandage (Band-Aid)
* Gauze pad
* Petroleum jelly or antibiotic ointment
* Magnifying glass
* Optional: “What’s It Made From?” info sheet or product label

STUDENT DIRECTIONS:

1. **Use the magnifying glass** to look closely at each material.
   * What’s its texture like?
   * Is it stretchy? Soft? Sticky?
   * Does it remind you of something natural or plastic-like?
2. **Use your sense of touch and observation** to make an educated guess:
   * Was this material made directly from plants or animals (**natural**)?
   * Or was it made in a factory from processed chemicals (**synthetic**)?
3. **Look at product labels or the info sheet** (if provided) to check your guess. If no label is available, write your best guess based on texture, look, and feel.
4. **Complete the table below** with your group.

### **Record Your Observations:**

|  |  |  |
| --- | --- | --- |
| **Item** | **Natural or Synthetic?** | **What’s it made from (or your best guess)?** |
| Cotton Bandage | ☐ Natural ☐ Synthetic |  |
| Adhesive Bandage | ☐ Natural ☐ Synthetic |  |
| Gauze Pad | ☐ Natural ☐ Synthetic |  |
| Ointment | ☐ Natural ☐ Synthetic |  |

**Reflect & Explain:**

1. Why do we use synthetic materials in first aid instead of only natural ones?  
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2. Which material surprised you the most? Why?  
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3. Think like an engineer! What would be one natural material you could use to replace something synthetic? Would it work just as well?  
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Standards Alignment

NGSS: MS-PS1-3 STEL: STEL 1F, STEL 2E, STEL 3F, STEL 4E, STEL 7E, STEL 11F CCSS: CCSS.MATH.CONTENT.6.SP.B.5, CCSS.MATH.PRACTICE.MP2, CCSS.MATH.PRACTICE.MP5, CCSS.MATH.PRACTICE.MP6