Biology A · Unit 3 · Level 2

Energy Changes: Hot or Cold?



TODAY'S PLAN

- 👥 Jobs
- ⚠️ Safety
- 🌱 Steps
- ✅ Check
- 📝 Reflect

Get ready

Jobs



Reader

Reads the thermometer at the start and the end.



Adder

Adds the baking soda to the vinegar (Investigation 1).



Recorder

Writes the start and end temperatures.



Cleaner

Wipes the table and dumps cups where the teacher says.

Safety

Be Safe



🥽 Goggles on. Vinegar and calcium chloride can sting eyes.

🧤 Calcium chloride gets hot. Staff pours it; do not touch it.

🚫 Do not taste anything in the lab.

🧼 Wash hands after.

Steps

Steps 1 of 2



1. 🌡️ **Investigation 1**: put the thermometer in the vinegar. Record the start temp.
2. 🧂 **Add** all the baking soda. Watch it fizz.
3. 📉 **Record** the end temp when it stops changing. Did it go up or down?
4. 🌡️ **Investigation 2**: thermometer in the baking soda solution. Record the start temp.

Steps

Steps 2 of 2



1. 🧂 Staff **adds** the calcium chloride.
2. 📈 **Record** the highest temp.
3. 🧠 **Decide**: temperature down = endothermic; temperature up = exothermic.

🃏 Check 1 of 2



The temperature went up. The reaction is…

Hold up 1, 2, or 3:

1️⃣ Exothermic

2️⃣ Endothermic

3️⃣ Not a reaction



Exothermic

Up = heat released = exothermic.

🃏 Check 2 of 2



A cold pack uses a reaction that is…

Hold up 1, 2, or 3:

1️⃣ Exothermic

2️⃣ Burning

3️⃣ Endothermic

✅ Answer · Card 2 of 2



Endothermic

It takes in heat, so it feels cold.

Wrap-Up

Clean Up + Reflect



- 🧽 **Clean up**
- 🧼 **Wash hands**
- 📝 **Finish the table and reflection**