

188180111
2775



32 Page
27.6x21.3cm

Ruled 7 mm - Ligné 7 mm

EXERCISE BOOK CAHIER D'EXERCICES

Name - Nom Science 1005 book

Subject - Sujet _____

Dec 31st

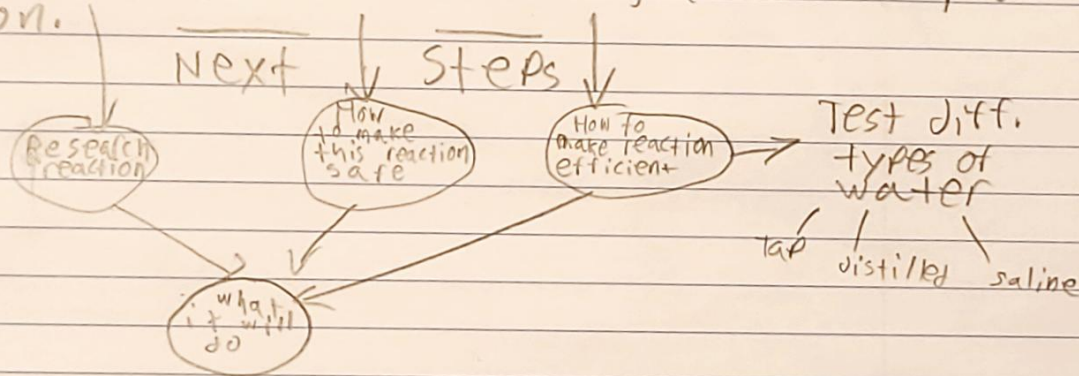
Project Brainstorming

Using reactions from alkali metals to produce energy, powering a car engine.

↳ Different reactions we could use

- Lithium + water ✓
- Sodium + water X won't use
- Potassium + water X won't use
- Hydrogen with sparks O

↳ Extract lithium during experiment, use small controlled reactions to transfer the chemical potential energy into a small engine model and produce motion.



- Step 1. Research about lithium
- Step 2. Research why it could be an alternative
- Step 3. Hypothesis + Backup info ✓
- Step 4. Ethics & due care
- Step 5. Materials and procedure writing ✓
- Step 6. Experiment ✓
- Step 7. Observations & analysis & application ✓
- Step 8. Everything else

Feb 23 2025: Disassembling the battery

step 1 take wrapper off

difficulty: easy

Comments, just rip off

Step 2 cut top off

difficulty: hard

comments, the battery got really hot (short circuit), but was still relatively easy with the right tools

Step 3 roll sides down

difficulty: hard

comments, really tedious process, had to bath in oil (mineral) to prevent the lithium from tarnishing

Step 4 extract core

difficulty: easy

comments, you needed a lot of force to get core out

Step 5 take and test lithium

difficulty: Medium

comments, had to do it in oil to stop tarnishing

Feb 23 2025: Experiment #1, Lithium in water

1cm x 1cm lithium

Distilled: Starting Temp: 21.5°C

1 Reaction time: 4.48s

Temp Increase: Not Noticeable/No increase

Notes: Lithium sizzled.

2 Reaction time: 3.20s

Temp Increase: 2.5°C increase

Notes: Lithium sizzled

Slightly bigger

3 Reaction time: 4.08s

Temp Increase: 0.5°C increase

Notes: Lithium sizzled

Final Temp: 24.5°C

Saline: starting temp: 21°C

1 Reaction time: 4.24s

Temp increase: No increase

Notes: Lithium sizzled

2 Reaction time: 5.16s

temp increase: 2°C

Notes: Lithium sizzled

Slightly bigger

3 Reaction time: 6.30s

temp increase: 3°C

Notes: Lithium sizzled

Final temp: 28°C

Tap: starting temp: 21°C

1 Reaction time: 4.25s

Temp increase: 1°C

Notes: Lithium sizzled

2 Reaction time: 4.32s

temp increase: ~~1.5~~

Notes: Lithium sizzled

Slightly bigger

3 Reaction time: 4.20s

Temp increase: 3°C

Notes: Lithium sizzled

Final temp: 27°C

Had ~~4~~ extra lithium scraps,
much bigger pieces.

1st scrap:

Reaction time: 8.43s

Temp increase: 6.5°C

2nd scrap:

Reaction time: 14.82s

temp increase: 11°C

car stuff

March 9

March 9

Different weights of lithium & stuff

#1: Weight: 48.5mg

#2: weight: 77.4mg

#3: weight: 102.6mg

#4: weight: 166.7mg

#5: weight: 279.1mg

Starting Temp
of each 21°C

N	W	TI	RT
1	48.5mg	3.5°C	9.67s
2	77.4mg	4°C	10.15s
3	102.6mg	6°C	8.6s
4	166.7mg	7.5°C	10.57s
5	279.1mg	14°C	15.82s