



INTRODUCTION TO INTERNET AND WEB

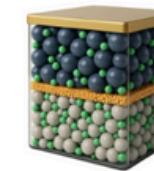
Final Project

EV Battery Explorer Website

KHULANGOO 202455472

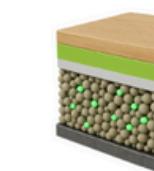


BATTERY TYPES



Lithium-Ion

Lightweight, rechargeable, high energy density

[Read More](#)

Solid-State

Safer, solid electrolyte, high potential

[Read More](#)

Nickel-Metal Hydride

Reliable, moderate density, rechargeable

[Read More](#)

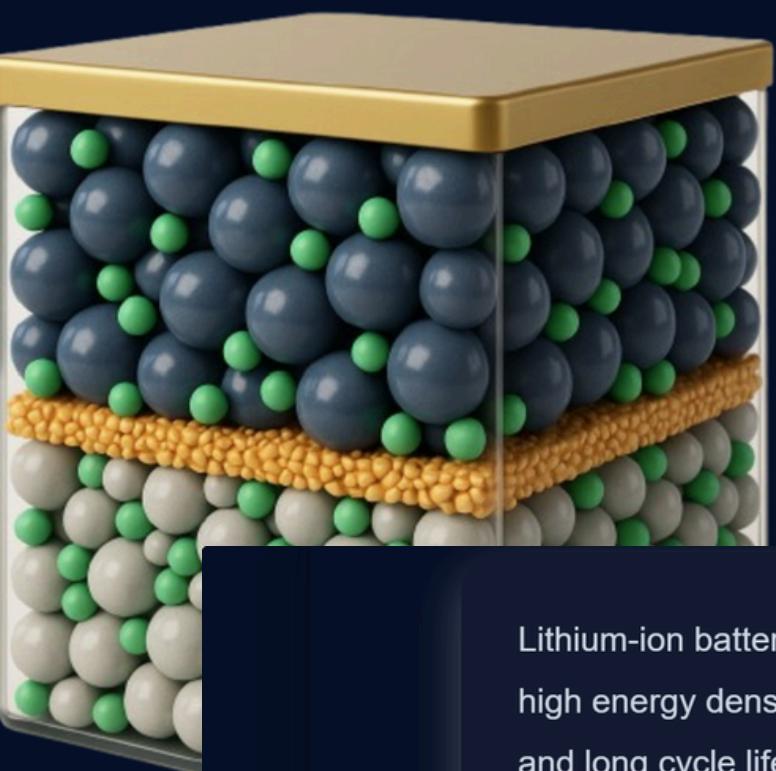
**Drive electric,
breathe better**

**More information about
EV battery**

- How to check EV battery health
- How to recurrent EV battery

Sample EV

Lithium Ion



Brief description

Real-life applications

Electric Vehicles
Click or hover

Smartphones
Click or hover

Laptops
Click or hover

Power Tools
Click or hover

Advantages & Disadvantages

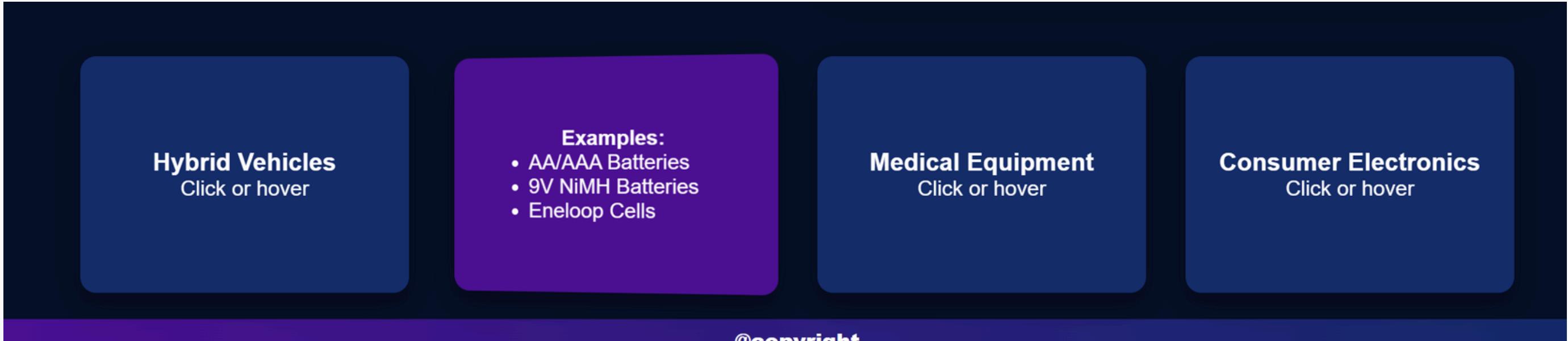


Pros	Cons
High energy density	Can overheat if damaged
Long cycle life	Relatively expensive
Lightweight and compact	Requires protection circuitry

Related Electric Vehicles

- Tesla Model 3
- Nissan Leaf
- Ford Mustang Mach-E
- Hyundai Ioniq 5
- Kia EV6





HTML:

```
<div class="flip-card-container">
  <div class="flip-card">
    <div class="flip-card-inner">
      <div class="flip-card-front">
        <h3>Electric Buses & Trains</h3>
        <p>Click or hover</p>
      </div>
      <div class="flip-card-back">
        <h4>Examples:</h4>
        <ul>
          <li>CAPABUS (Shanghai)</li>
          <li>Ultracap tram (CAF)</li>
          <li>Skoda hybrid trolleybuses</li>
        </ul>
      </div>
    </div>
    <div class="flip-card">
      <div class="flip-card-inner">
        <div class="flip-card-front">
          <h3>Power Grid Stabilization</h3>
          <p>Click or hover</p>
        </div>
        <div class="flip-card-back">
          <h4>Examples:</h4>
          <ul>
            <li>Grid voltage smoothing</li>
            <li>Peak power buffering</li>
            <li>UPS backup systems</li>
          </ul>
        </div>
      </div>
    </div>
  </div>
</div>
```

CSS:

```
.flip-card-container {
  display: flex;
  justify-content: center;
  gap: 30px;
  flex-wrap: wrap;
  margin-top: 40px;
}

.flip-card {
  background: transparent;
  width: 250px;
  height: 180px;
  perspective: 1000px;
}

.flip-card-inner {
  position: relative;
  width: 100%;
  height: 100%;
  transition: transform 0.8s;
  transform-style: preserve-3d;
}

.flip-card:hover .flip-card-inner {
  transform: rotateY(180deg);
}

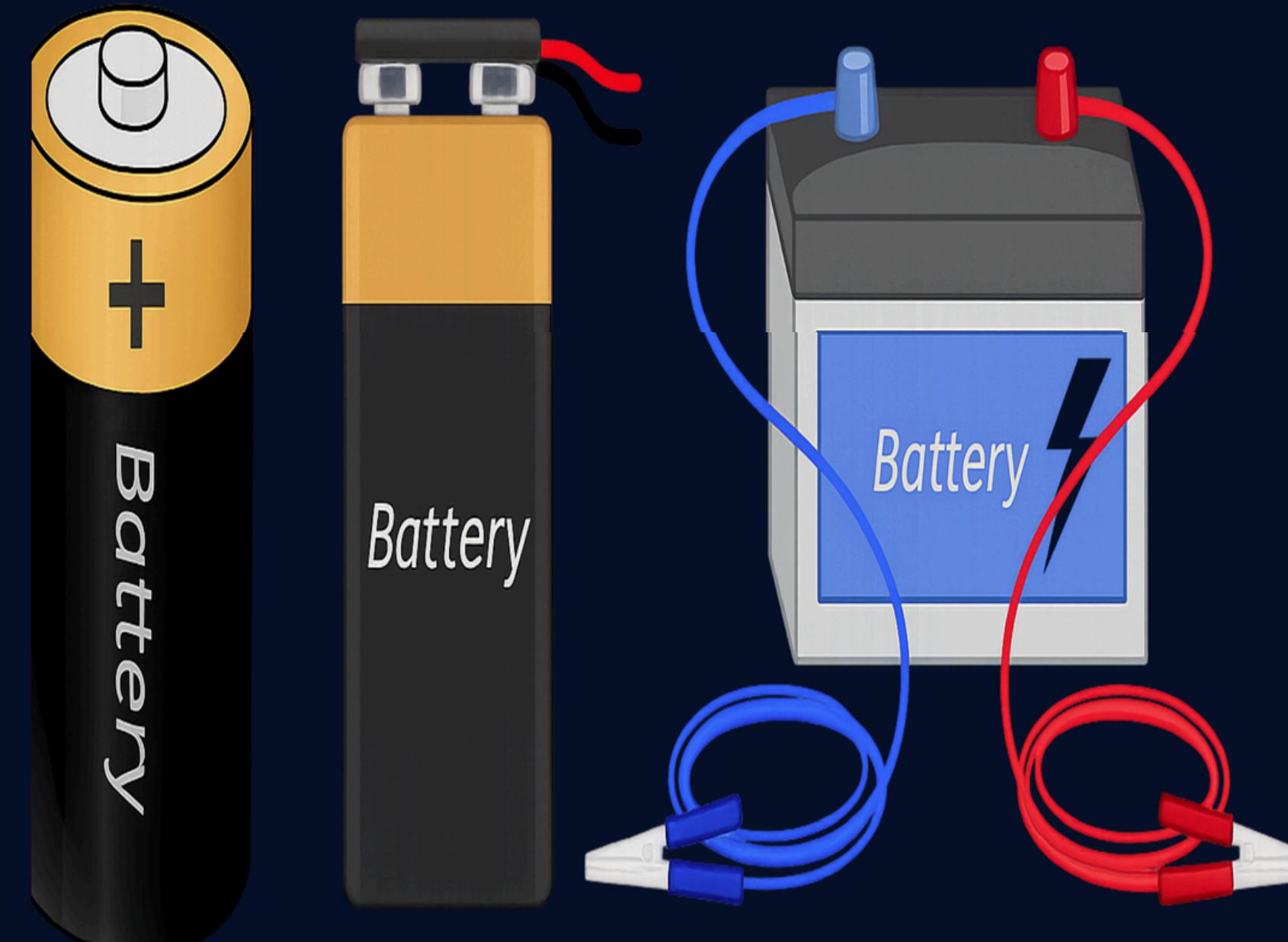
.flip-card-front, .flip-card-back {
  position: absolute;
  width: 100%;
  height: 100%;
  backface-visibility: hidden;
  border-radius: 12px;
  padding: 20px;
  box-shadow: 0 8px 20px rgba(0,0,0,0.3);
  display: flex;
  flex-direction: column;
  justify-content: center;
```

Contents

1. What is a battery?
2. What are the main parts of a battery?
3. How does a battery really work?
4. Measuring batteries

What is a battery?

A battery is a compact device that stores chemical energy and transforms it into electrical energy on demand. Unlike the electricity we receive from the grid—which is generated in distant power plants and travels long distances through power lines—a battery works independently, using internal chemical reactions to generate power precisely when and where it's needed. This makes batteries essential for powering everything from tiny hearing aids to massive electric vehicles. The concept of storing energy for later use has existed for centuries, but it was the invention of the modern battery that revolutionized portable power. In earlier times, people relied on fire as their primary energy source, requiring wood or coal to be burned for heat or motion. These methods were powerful but slow and inefficient. A campfire could take time to ignite, and steam engines needed hours to build pressure. In contrast, a battery delivers energy instantly—press a button on your phone or start an electric car, and it responds immediately. That's the power of stored electricity, always ready when you need it.



What are the main parts of a battery?

HTML:

```
</head>
<body>
  <nav class="nav">
    <input type="checkbox" id = "check">
    <label for="check" class="checkbtn">
      <i class="fas fa-bars"></i>
    </label>
    <label class="logo"> EV Battery Explorer</label>
    <ul>
      <li><a href="index.html">Home</a></li>
      <li><a class="active" href="about.html">About</a></li>
      <li><a href="types.html">Types</a></li>
      <li><a href="contact.html">Contact</a></li>
    </ul>
  </nav>
  <div class="container">
    <nav class="contents">
      <h3> Contents </h3>
      <ol>
        <li><a href = "#battery"> What is a battery?</a></li>
        <li><a href = "#parts"> What are the main parts of a battery?</a></li>
        <li><a href = "#work"> How does a battery really work?</a></li>
        <li><a href = "#measuring"> Measuring batteries</a></li>
      </ol>
    </nav>
    <p> A battery is a compact device that stores chemical energy and tra...
    The concept of storing energy for later use has existed for centuries, but it was th...
      <img src = "battery.png" class="about-pic">
    </section>
    <section id="parts">
      <h2> What are the main parts of a battery?</h2>
      <p> A battery may look like a simple object on the outside, but insi...
    The anode is the negative terminal, and the cathode is the positive terminal. These...
    Some batteries may also include other components like a separator (to prevent the an...
      <img src = "parts.jpg" class="about-pic">
    </section>
    <section id="work">
      <h2> How does a battery really work?</h2>
      <p> A battery works by turning stored chemical energy into electrica...
    As electrons move through the device, they provide power—lighting a bulb, running a...
    In rechargeable batteries, like those in laptops or electric cars, the chemical react...
      <img src = "work.png" class="about-pic">
    </section>
    <section id="measuring">
      <h2> Measuring batteries</h2>
      <p> When it comes to electric vehicles, measuring a battery isn't ju...
    </div>
```

JavaScript:

```
-about.js > ...
const navLinks = document.querySelectorAll('.contents a');
const sections = document.querySelectorAll('.article h2[id]')

window.addEventListener('scroll', () => {
  let current = '';
  sections.forEach(section => {
    const sectionTop = section.offsetTop - 150;
    if (pageYOffset >= sectionTop) {
      current = section.getAttribute('id');
    }
  });
}

navLinks.forEach(link => {
  link.classList.remove('active');
  if (link.getAttribute('href').includes(current)) {
    link.classList.add('active');
  }
});
```

```
351 .contents a {
352   font-weight: 500;
353 }
354 }
355 }
356 }
357 .contents a:hover {
358   text-decoration: underline;
359   color: #6366f1;
360 }
361 .contents a.active{
362   color: #6366f1;
363   font-weight: 700;
364 }
365 .article {
366   max-width: 800px;
367   color: #d9e8f2;
368 }
369 .article h2 {
370   color: #ffffff;
371   margin-top: 20px;
372 }
373 .article p{
374   margin-top: 10px;
375   text-indent: 50px;
376   line-height: 1.5;
377 }
378 .about-pic{
379   margin-top: 20px;
380   margin-bottom: 10px;
381   height: 100vh;
382   width: 900px;
383   justify-content: center;
384 }
385 }
```

CSS:

BATTERY TYPES

Search...

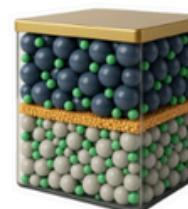
Life-Span

- All
- Short
- Medium
- Long
- Very Long

Price: \$0 - \$1500

Energy Density

- All
- 0-100 Wh/kg
- 100-200 Wh/kg
- 200-300 Wh/kg
- 300-400 Wh/kg



Lithium-Ion

Lightweight, rechargeable, high energy density

[Read more](#)



Solid-State

Safer, solid electrolyte, high potential

[Read More](#)



Nickel-Metal Hydride

Reliable, moderate density, rechargeable

[Read More](#)



Lead-Acid



Ultracapacitors



Lithium Iron Phosphate

Sort by: Life-Span, Price, Energy Density, Power Density

HTML:

```
<div>
    <div class="left">
        <div class="filter-group">...
        </div>
        <div class="filter-group">...
        </div>

        <div class="filter-group">...
        </div>

        <div class="filter-group">...
        </div>
        <button id="resetButton" class="reset-btn">Reset Filters</button>
    </div>
</div>

<div class="right">
    <div class="card-list">
        <div class="card" data-price="120" data-life="long" data-energy="150" data-power="300">...
        </div>
        <div class="card" data-price="300" data-life="very_long" data-energy="300" data-power="400">...
        </div>
        <div class="card" data-price="250" data-life="medium" data-energy="90" data-power="800">...
        </div>
        <div class="card" data-price="150" data-life="short" data-energy="40" data-power="250">...
        </div>
        <div class="card" data-price="1000" data-life="very_long" data-energy="7" data-power="1000">...
        </div>
        <div class="card" data-price="120" data-life="very_long" data-energy="120" data-power="400">...
        </div>
    </div>
</div>
```

CSS:

```
264 #searchInput {  
265   width: 80%;  
266   max-width: 400px;  
267   padding: 10px 15px;  
268   margin-top: 25px;  
269   margin-bottom: 20px;  
270   border: 1px solid #ccc;  
271   border-radius: 6px;  
272   font-size: 16px;  
273 }  
274 .sidebar-filters {  
275   margin-top: 30px;  
276   margin-left: 50px;  
277   width: 200px;  
278   padding: 25px;  
279   font-family: Arial, sans-serif;  
280   background-color: white;  
281   border-right: 1px solid #ccc;  
282 }  
283  
284 .filter-group {  
285   margin-bottom: 30px;  
286 }  
287  
288 .filter-group h4 {  
289   margin-bottom: 10px;  
290   font-size: 16px;  
291   color: #333;  
292 }  
293  
294 .filter-group label {  
295   display: block;  
296   margin-bottom: 8px;
```

```
312  
313 @media (max-width: 600px) {  
314   .card-list {  
315     grid-template-columns: 1fr;  
316   }  
317  
318   .whole {  
319     flex-direction: column;  
320   }  
321  
322   .right {  
323     max-width: 100%;  
324   }  
325  
326   .left {  
327     width: 100%;  
328   }  
329 }  
330 .reset-btn {  
331   margin-top: 20px;  
332   padding: 10px;  
333   background-color: #13245c;  
334   color: white;  
335   border: none;  
336   cursor: pointer;  
337   width: 100%;  
338   font-weight: bold;  
339   border-radius: 5px;  
340 }  
341 input[type="range"] {  
342   width: 100%;  
343   margin-top: 10px;  
344 }
```

```
25  label.logo{  
26   color: white;  
27   padding: 0px 50px;  
28   line-height: 50px;  
29   font-size: 20px;  
30   font-weight: bold;  
31   position: relative;  
32   z-index: 1000;  
33   margin-top: 10px;  
34 }  
35 nav ul{  
36   position: relative;  
37   float: right;  
38   margin-right: 20px;  
39 }  
40 nav ul li{  
41   display: inline-block;  
42   line-height: 50px;  
43   margin: 0 5px;  
44 }  
45 nav ul li a{  
46   color: white;  
47   font-size: 15px;  
48   padding: 7px 13px;  
49   border-radius: 3px;  
50   text-transform: uppercase;  
51 }  
52 a.active, a:hover{  
53   background: #97b0c4;  
54   transition: .5s;  
55 }  
56 .checkbox{  
57   font-size: 20px;
```

JavaScript:

```
function filterCards() {
    const searchTerm = searchInput.value.toLowerCase().trim();

    const selectedLife = document.querySelector('input[name="life"]:checked').value;
    const selectedEnergy = document.querySelector('input[name="energy"]:checked').value;
    const selectedPower = document.querySelector('input[name="power"]:checked').value;
    const maxPrice = parseFloat(priceRange.value);

    // Update price label
    priceLabel.textContent = `$0 - ${maxPrice}`;

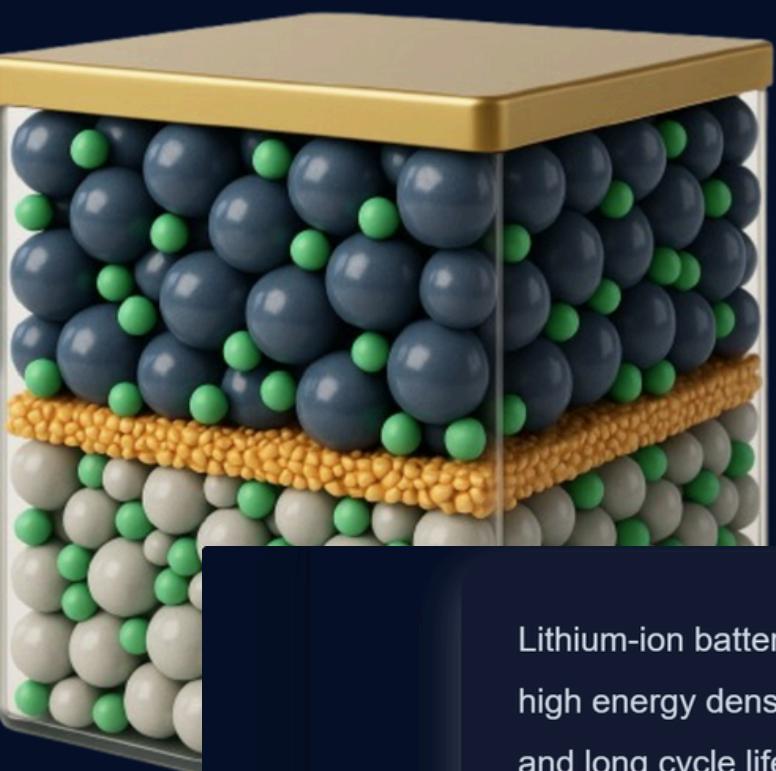
    cards.forEach(card => {
        const title = card.querySelector('.card-title').textContent.toLowerCase();
        const life = card.dataset.life;
        const price = parseFloat(card.dataset.price);
        const energy = parseFloat(card.dataset.energy);
        const power = parseFloat(card.dataset.power);

        const matchSearch = title.includes(searchTerm);
        const matchLife = selectedLife === "" || life === selectedLife;
        const matchEnergy = selectedEnergy === "" || isInRange(energy, selectedEnergy);
        const matchPower = selectedPower === "" || isInRange(power, selectedPower);
        const matchPrice = price <= maxPrice;

        const show = matchSearch && matchLife && matchPrice && matchEnergy && matchPower;
        card.style.display = show ? 'block' : 'none';
    });
}
```

Sample EV

Lithium Ion



Brief description

Real-life applications

Electric Vehicles
Click or hover

Smartphones
Click or hover

Laptops
Click or hover

Power Tools
Click or hover

Lithium-ion batteries are known for their high energy density, low self-discharge, and long cycle life. They offer excellent efficiency, thermal stability, and a strong power-to-weight ratio. Although most of their components are recyclable, recovery costs remain a challenge. Ongoing research focuses on improving safety, reducing reliance on cobalt, and extending lifespan.

Advantages & Disadvantages

Pros	Cons
High energy density	Can overheat if damaged
Long cycle life	Relatively expensive
Lightweight and compact	Requires protection circuitry

Related Electric Vehicles

- Tesla Model 3
- Nissan Leaf
- Ford Mustang Mach-E
- Hyundai Ioniq 5
- Kia EV6

Contact Information



Phone: + 010 5632 1422



Email:

khulangoo.bold@gmail.com



Send us a message

First Name

Last Name

Mail

Phone

Write your message

Send Message

Contact Information



Phone: + 010 5632 1422



Email:
khulangoo.bold@gmail.com



Send us a message

First Name

Last Name

Your message has been sent successfully! THANK YOU

Write your message

Send Message

HTML:

```
</div>
<div class="form-wrap">
  <form action="#" method="POST">
    <h2 class="form-title">Send us a message</h2>
    <div class="form-fields">
      <div class="form-group">
        <input type="text" class="fname" placeholder="First Name">
      </div>
      <div class="form-group">
        <input type="text" class="lname" placeholder="Last Name">
      </div>
      <div class="form-group">
        <input type="email" class="email" placeholder="Mail">
      </div>
      <div class="form-group">
        <input type="number" class="phone" placeholder="Phone">
      </div>
      <div class="form-group">
        <textarea name="message" id="" placeholder="Write your message">
      </div>
    </div>
    <input type="submit" value="Send Message" class="submit-button">
  </form>
</div>
</div>
```

CSS:

```
52  nav ul {
53    position: relative;
54    float: right;
55    margin-right: 20px;
56  }
57  nav ul li{
58    display: inline-block;
59    line-height: 50px;
60    margin: 0 5px;
61  }
62  nav ul li a{
63    color: white;
64    font-size: 15px;
65    padding: 7px 13px;
66    border-radius: 3px;
67    text-transform: uppercase;
68  }
69  a.active, a:hover{
70    background: #97b0c4;
71    transition: .5s;
72  }
73  .checkbtn{
74    font-size: 20px;
75    color: white;
76    float: right;
77    margin-top: 5px;
78    line-height: 40px;
79    margin-right: 40px;
80    cursor: pointer;
81    display:none;
82  }
83  .submit-button{
84    width: 96%;
85    height: 60px;
86    margin: 0px 12px;
87    border-radius: 30px;
88    font-size: 20px;;
89    font-weight: 700;
90    outline: none;
91    border:none;
92    cursor: pointer;
93    color:#fff;
94    text-align: center;
95    background: #110c3c;
96    box-shadow: 3px 3px 8px #b1b1b1, -3px -3px 8px #b1b1b1;
97    transition: .5s;
98  }
99  .submit-button:hover{
100   background: #31279d;
101 }
```



Thank you

