

# Problem Ideas

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# Example: Research Problem Statement

## Example - Research Problem Statements

### Problem Statement

Lots of people go fishing for red fish and do not catch anything. There aren't as many red fish as there used to be.



### Research Problem Statement

**Game fishermen** fishing in the lower **Laguna Madre of Texas** reported between **2002-2007** a **decrease of 20%** in red drum (i.e., *Sciaenops ocellatus*). Studies show this loss can be attributed to **premature death due to mouth infections** caused when **undersized fish are caught and released**.

Who?

What?

Where?

When?

How Many?



## Problem Statement 1:

Students often carry multiple electronic devices in their backpacks, but the battery life of these devices might not be great due to poor design or age. Students may not always have access to outlets to plug in chargers in classrooms that lack lots of outlets.

## Research Problem Statement 1:

Lithium batteries, which is very common type of rechargeable battery, have a lifespan of 2-5 years (300-1000 cycles)<sup>[1]</sup>, as they age, they degrade in capacity. This reflects in the usage patterns of users, devices are typically replaced corresponding when the battery life has majorly degraded. The hardware in these devices might be still completely capable, but since one component has failed, people have to buy new devices to replace them and the cycle repeats.

## Problem Statement 2:

Our (YES, OURS, MLKHS) School ID cards are insecure. If stolen, they can be used to access sensitive accounts and student information.

## Research Problem Statement2:

Schools have been increasingly targeted by cyberattacks, student data is more valuable than most people realize, potentially involving financial information and private information about the student according to multiple reports.<sup>[2][4]</sup> These cyber attacks are happening without having access to these incredibly insecure IDs, imagine if they did.

Our ID cards have too much sensitive data on them in plain, the most significant is that both the full name of the student and their 6-digit ID is present in plain text. Both both of these allows any person to log into the Google account or Aeries account of the student if they know the formula and the student has not changed their password, which is very common.

## Problem Statement 3:

Students get sick easily at school because illnesses spread quickly in classrooms with poor air circulation.

## Research Problem Statement 3:

More than two-thirds of children missed at least one day of school for illness or injury in the previous year according to 2022 National Survey of Children's Health. [\[3\]](#)

The air circulation in our school is not great, coupled with the fact of the proximity of students to each other in each classroom makes illness spreading very easy.