The Design Process

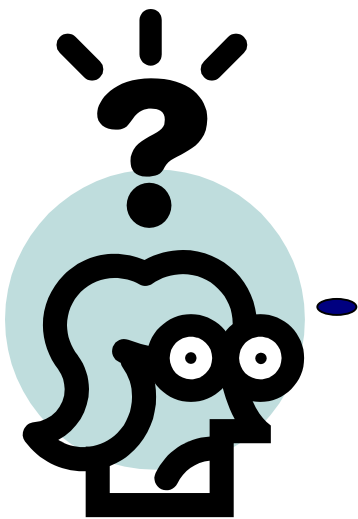## PLTW Engineering Design and Development

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Identify

- What exactly is the problem you are trying to solve?
- Who, What, Where, When, Why, How?
- Includes the problem statement

I can't park my car at John Jay!

Gather

- Gather information relating and pertaining to the problem you are trying to solve
- What exactly is the problem I am trying to solve?
- Does it match my original problem statement?

Maybe I'll go out to the parking lot and see where the true problems are …

Research

- Research your problem from the information you gathered
- Go to the library and research articles, abstracts, books, and magazines related to your problem
- Visit the problem (physically)
- Travel to other locations that have solutions that may help fit your problem

I heard Beacon High School has the BEST parking lot design, Maybe I should visit and take pictures.
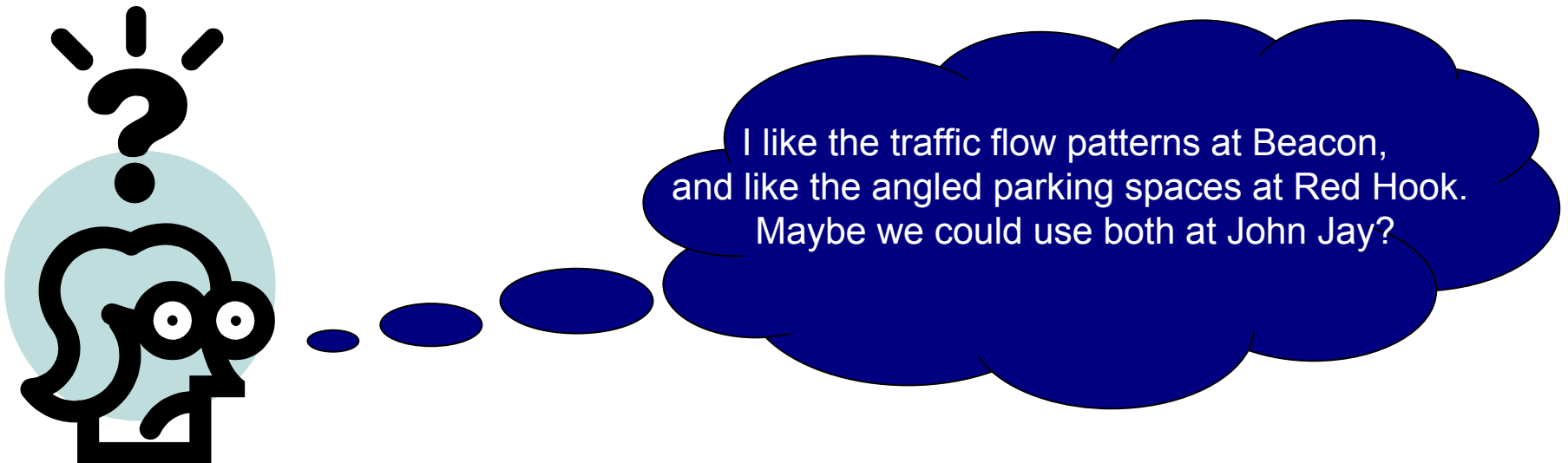
Analyze

- Analyze the information you researched
- Is any of it useful?
- Is there any information worth looking into?
- Will this information really pertain to me?

Vassar Hospital has a multiple story parking garage. There was no problems there. Is it worth the time designing a parking garage for John Jay High School?

Decide

- Decide what information/research/designs will work best for the solution to your problem
- Pick and pull solutions from those ideas and incorporate them into your overall master solution

I like the traffic flow patterns at Beacon, and like the angled parking spaces at Red Hook. Maybe we could use both at John Jay?
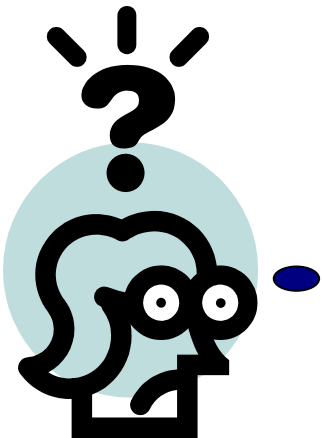
Implement

- Implement your ideas from research and visitations to form thumbnails and sketches
- Make working drawings using CAD or Inventor
- Build a working model or prototype of your solution to this problem

If I make drawings in CAD, and build a model parking lot, maybe others will know exactly what I'm talking about?.
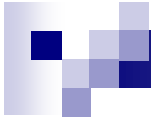
Feedback

- Obtain feedback by presenting your ideas to others

- Show your final idea to professionals in your field

- Record concerns, ideas, and suggestions they may have

After I presented my solution,
A civil Engineer said I couldn't
build a parking lot on the roof
on John Jay!

Revisit the Design Process

- Identify
- Gather
- Research
- Analyze
- Decide
- Implement
- Feedback

This is the most important step!