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## Engineering Design Coaching Tool

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# Engineering Design Coaching Tool

Version 1.0  
designed by

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## **Abstract**

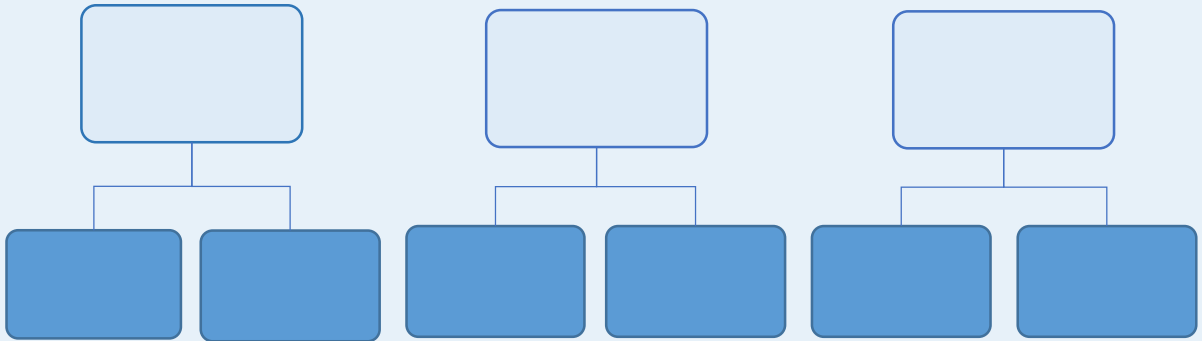
*The Engineering Design Coaching Tool is an instructional tool designed to elicit student reasoning and guide design decisions. We present the Engineering Design Coaching Tool in a fillable version and in the context of the Solarize Your World curriculum. We recommend using the coaching tool for stimulating learning during formal and informal design review sessions.*

<https://docs.lib.purdue.edu/eneoer/1>

# Engineering Design Coaching Tool

## Experiential Questions

I noticed that you have , can you tell me more about this?

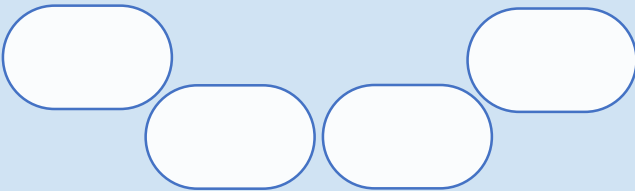


How did you reach your decision?

What are the advantages/disadvantages of this?

## Trade-Offs Questions

I heard you talk about ,  
how about ?



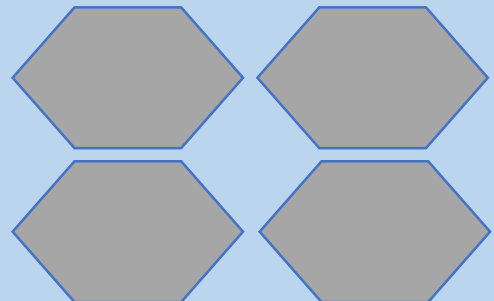
You mentioned , and ,  
How do they impact each other?

What were your trade-offs? For  
example, when you lowered , did  
this negatively impact  or ?

## First Principles Questions (Science and Math Principles)

You talked about  / ,  
what's the underlying  
science/math principle here?

Can you please tell me how  
, would play a role on  
your ?



## Complex Abstractions Questions

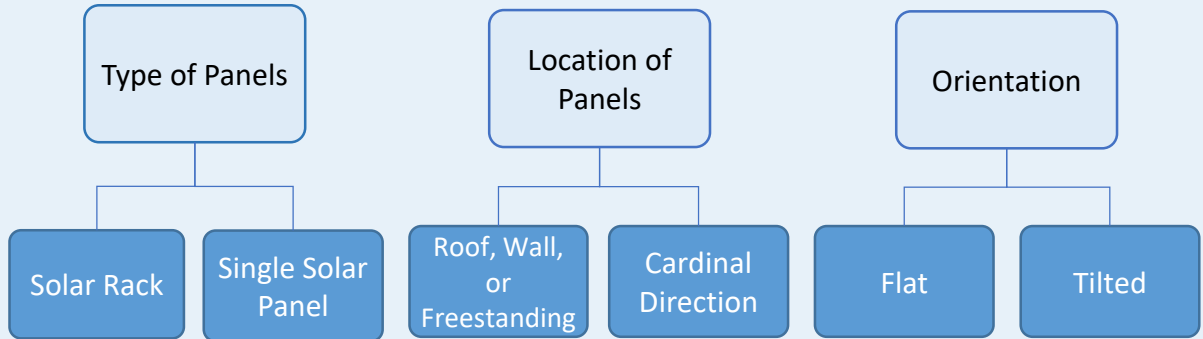
Consider , how would your solution change with/without this aspect?

Imagine no , how would this affect your solution?

# Engineering Design Coaching Tool (Solarize Your World)

## Experiential Questions

I noticed that you have , can you tell me more about this?



How did you reach your decision?

What are the advantages/disadvantages of this?

## Trade-Offs Questions

I heard you talk about , how about ?

Building Cost

Safety

Electricity production

Aesthetic appeal

You mentioned , and , How do they impact each other?

What were your trade-offs? For example, when you lowered , did this negatively impact  or ?

## First Principles Questions (Science and Math Principles)

You talked about  / , what's the underlying science/math principle here?

Can you please tell me how , would play a role on your ?

Seasonal Variation

Solar Path

Solar Insolation

Heat Transfer

## Complex Abstractions Questions

Consider , how would your solution change with/without this aspect?

Imagine no , how would this affect your solution?