

SGH Program in Tsukuba

- Each student has an individual project. You need to assert something about a problem they have chosen in September.
- You will join the summer camp of UBC, [Future Global Leaders](#).

First Week

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Week 1							
09:00-12:00	Lecture	Lecture	Lecture	Lecture	Lecture	Explore Vancouver (biking, shopping, food carts)	Lynn Valley Suspension Bridge
13:00-15:00	Leadership Workshop	Team Project	Team Project	Team Project	Professional Site Visit		
15:00-18:00	Frisbee Game	Bocce Game	Swimming	Social Time			
Evening	Orientation	Museum of Anthropology	Movie Night	Study Group	Student Social		Games and Laundry

Second Week

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 2					
09:00-12:00	Lecture	Lecture	Lecture	Lecture	Student Presentations
13:00-15:00	Leadership Speaker	Team Project	Team Project	Team Project	
15:00-18:00	Social Time		Free Time		Graduation Ceremony and Celebration
Evening	Night Market	Vancouver Art Gallery	Beach BBQ	Pizza Movie Night	

Team Project Hours

- 18 hours within the program, including the preparation of presentation.
- Enough? Too short?
- It really depends on how to handle the problem and ways to reach at the conclusion.

Report Conference

- After coming back to this country, each of you will also give a presentation.
- Of whom? Individual?

Team Project Topic

Team Project Topic

- First negotiation.
- You have to be nice, corporative, and have to give a good impression on your topic. Don't forget your smile. You cannot force others to follow your opinion. (First discipline for future leaders)

Topic

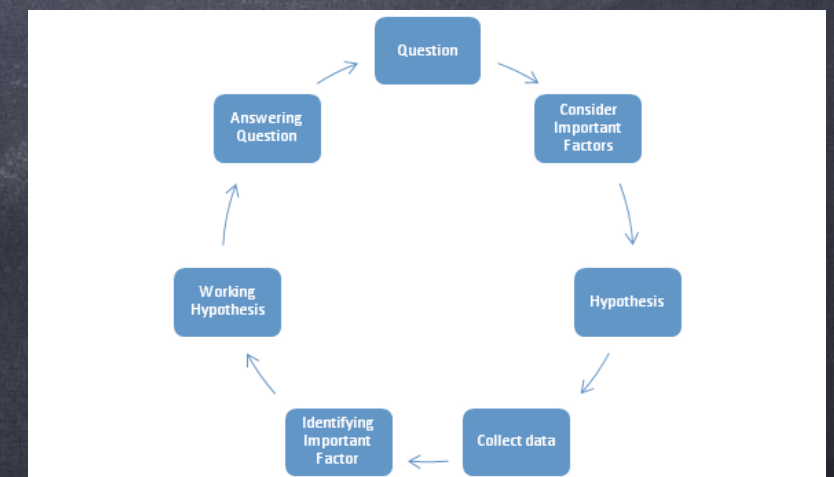
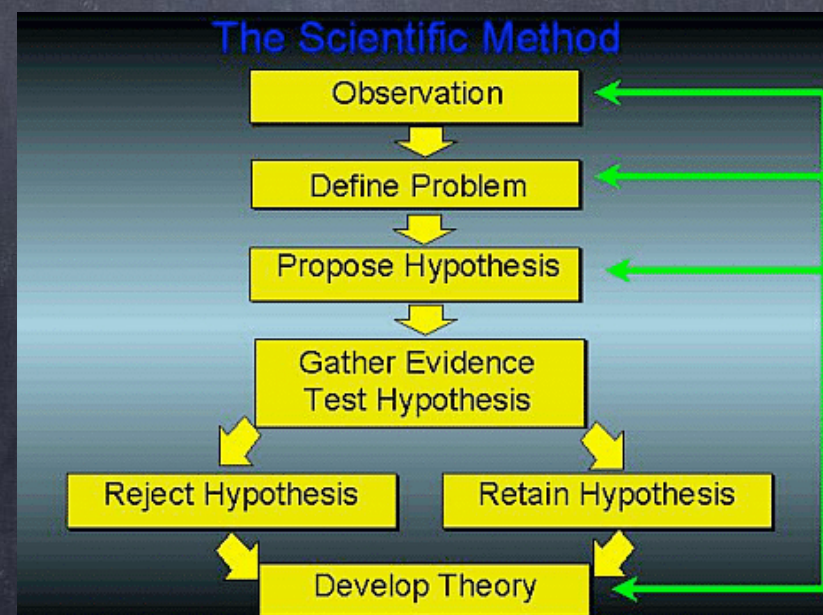
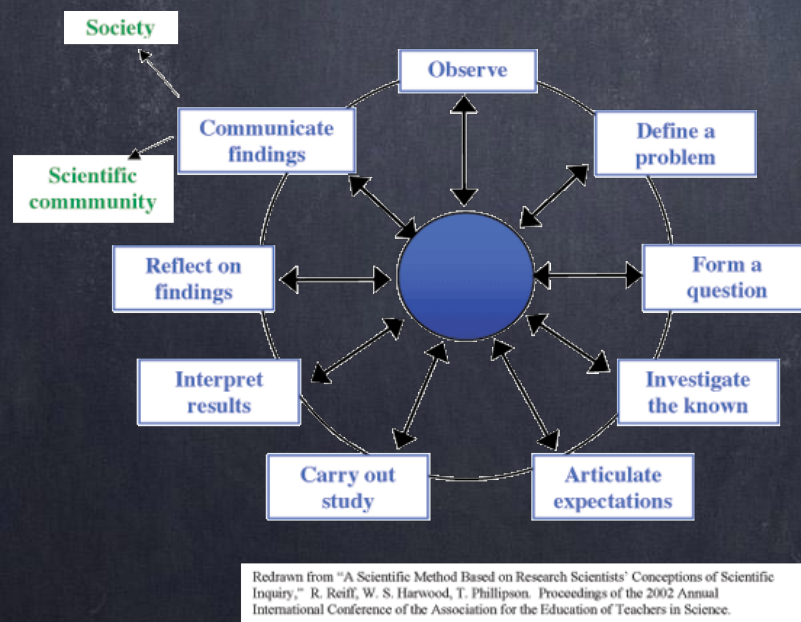
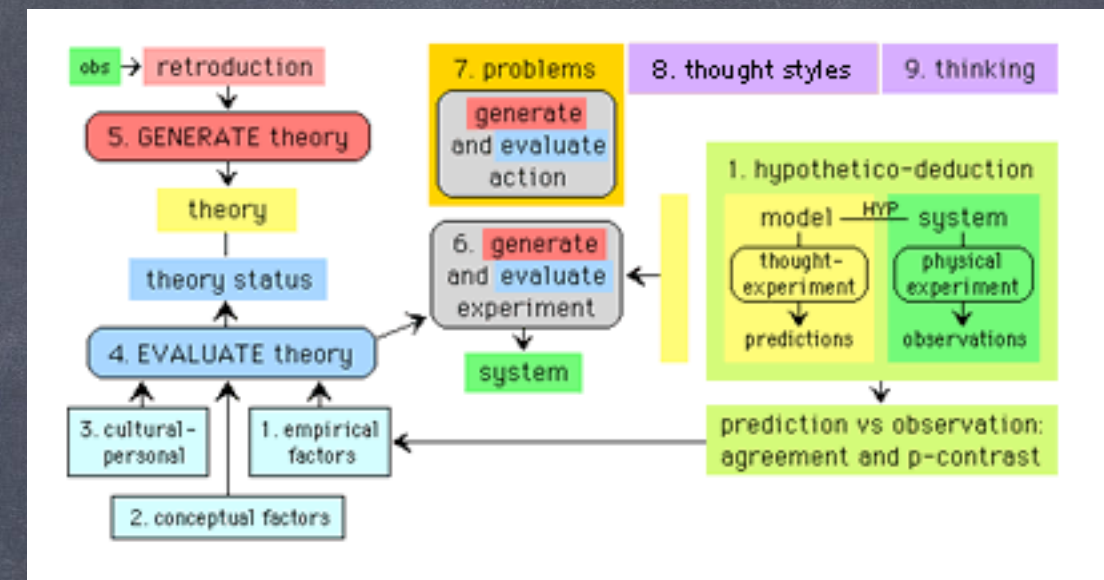
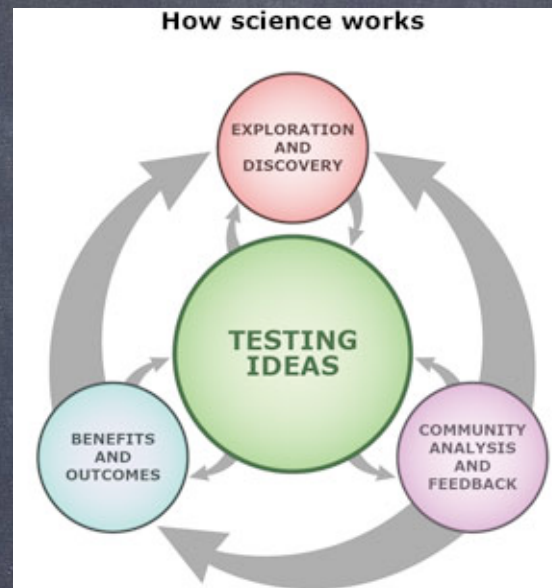
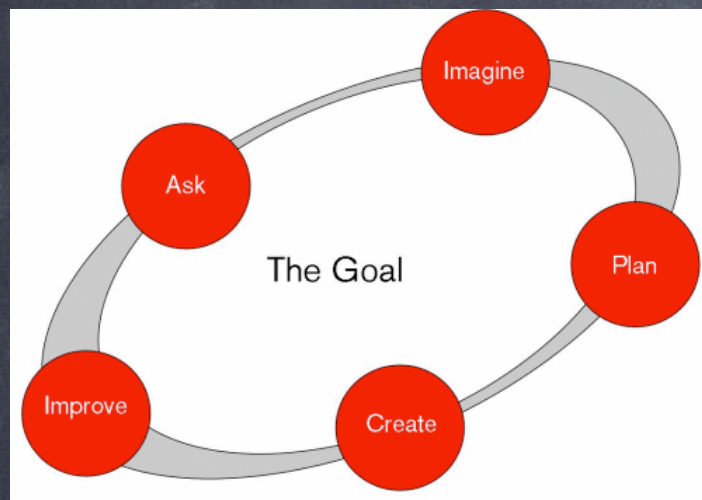
- Problem, easy to point out or to criticise, but too abstract to formulate the solution.
- Solution, hard to get, especially feasible ones.
- Let's break down the problem.

Science Fair



- Science Projects, Science Fairs

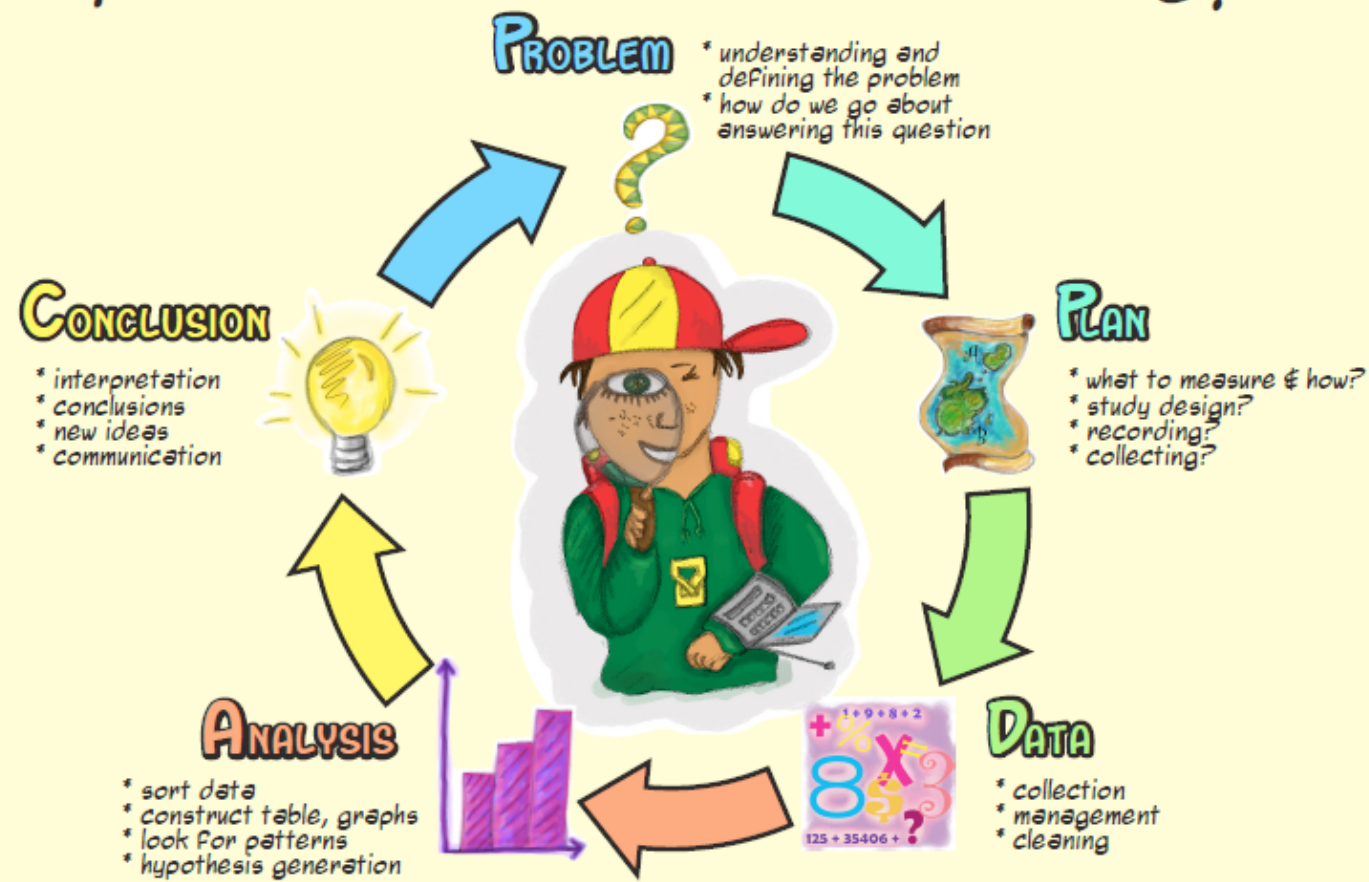
Cycles for Scientific Inquiry



Purpose To Use PPDAC

- To develop and facilitate the scientific communication
- To provide a model story for problem identification, goal setting, and goal achievement
- It is a five-steps as well as a storyboard

Are You a Data Detective?

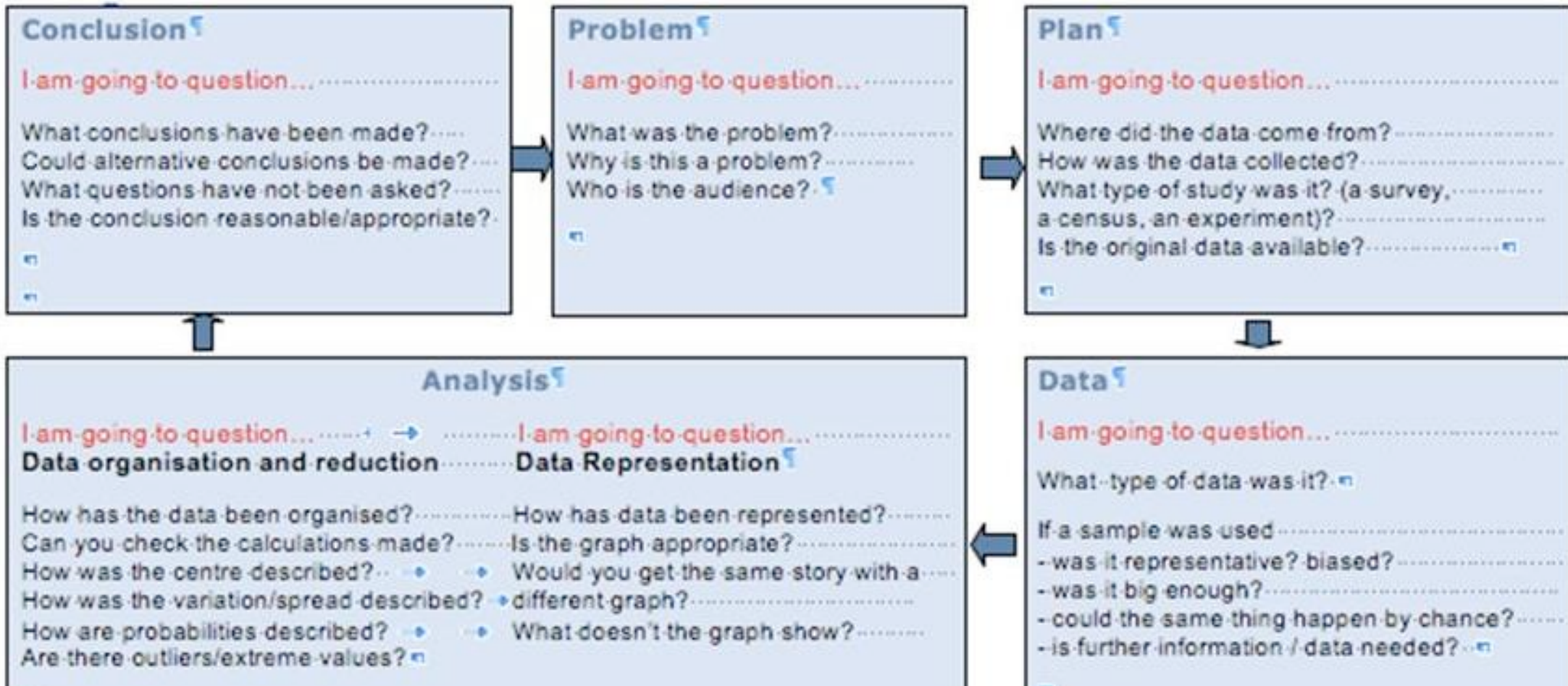


Data detectives use PPDAC

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PPDAC for Youth

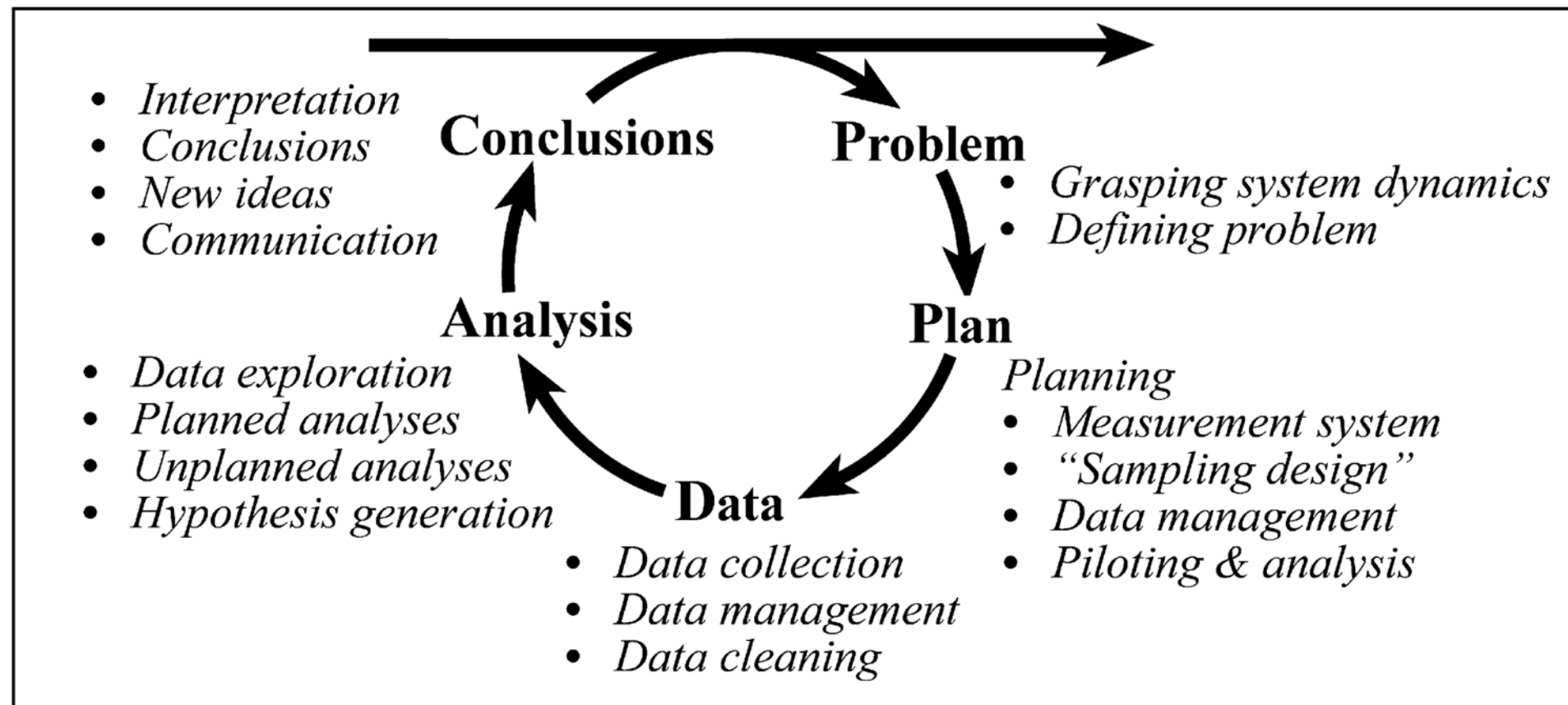
Questioning the Data Detective



PPDAC for Middle

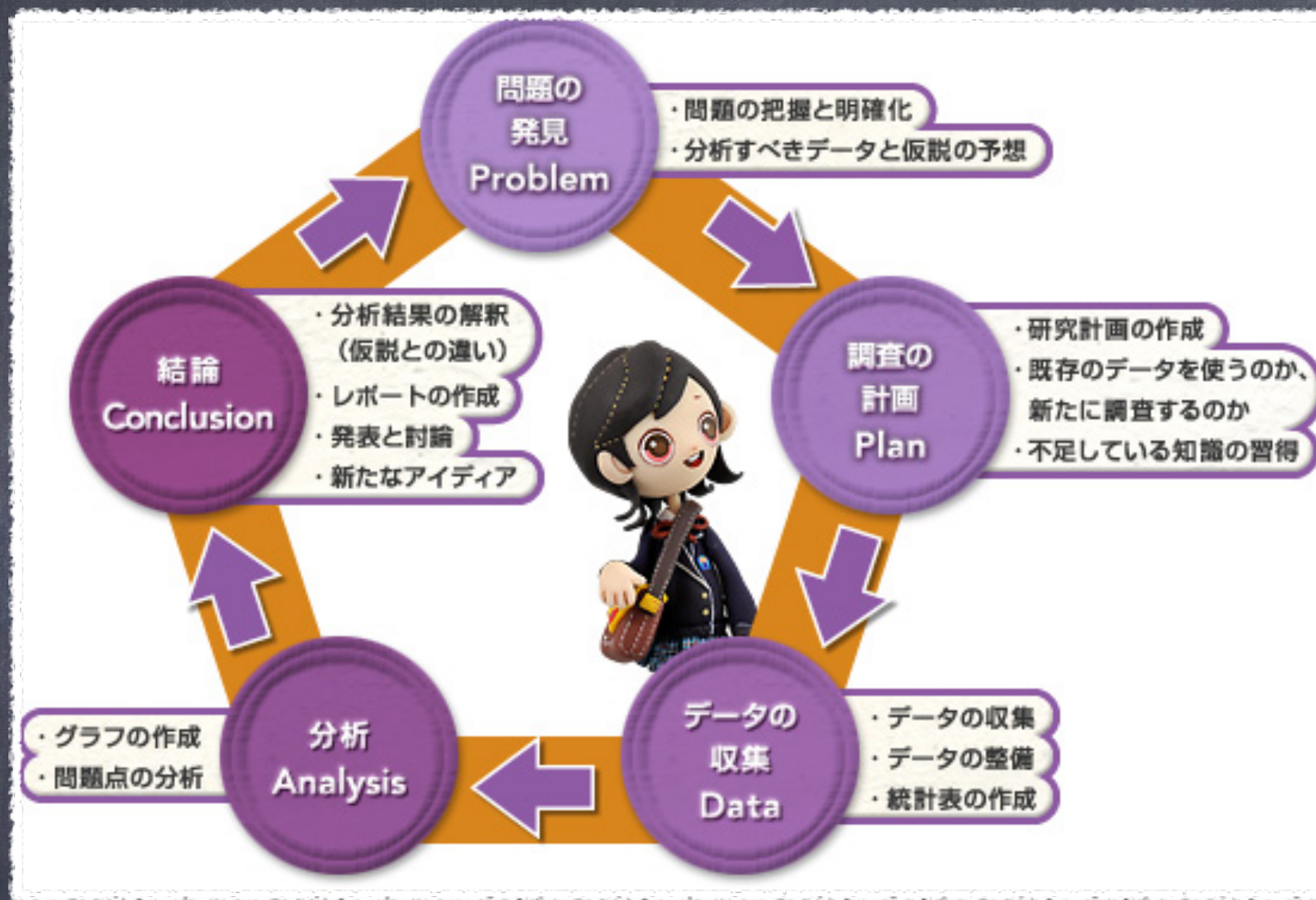
(a) DIMENSION 1 : THE INVESTIGATIVE CYCLE

(PPDAC)



Chris Wild

PPDAC for Matured

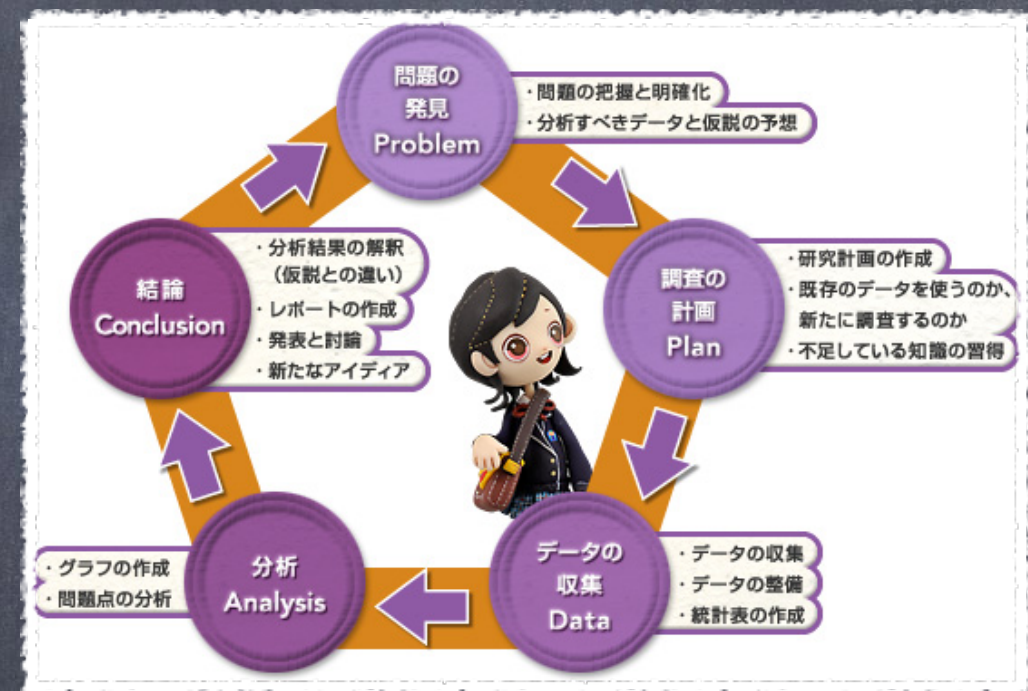


PPDAC for Japanese

From [Statistics Japan](#)

PPDAC

- “Data” may need to be replaced with “Information” or “Clues”
- “Analysis” may not be quantitative, when the “data” is not quantitative.



From [Statistics Japan](#)

- Brainstorming
- Affinity diagram, or hierarchical grouping and labelling of peaces of ideas
- Relations diagram, mind mapping, or concept mapping
- Tree diagram

Brainstorming

- It is a method for generating a large number of creative ideas in a short period of time.



Image borrowed from [Langevin](#)

Brainstorming

- Someone needs to be a facilitator
- Sometimes there may be also a recorder



Image borrowed from [Atmic Object](#)

Affinity Diagram Construction

- Brainstorm, at first
 - Select a facilitator.
 - State the issue.
 - Brainstorm and record the ideas.
 - Write each single idea on a single sticky note, card, etc.

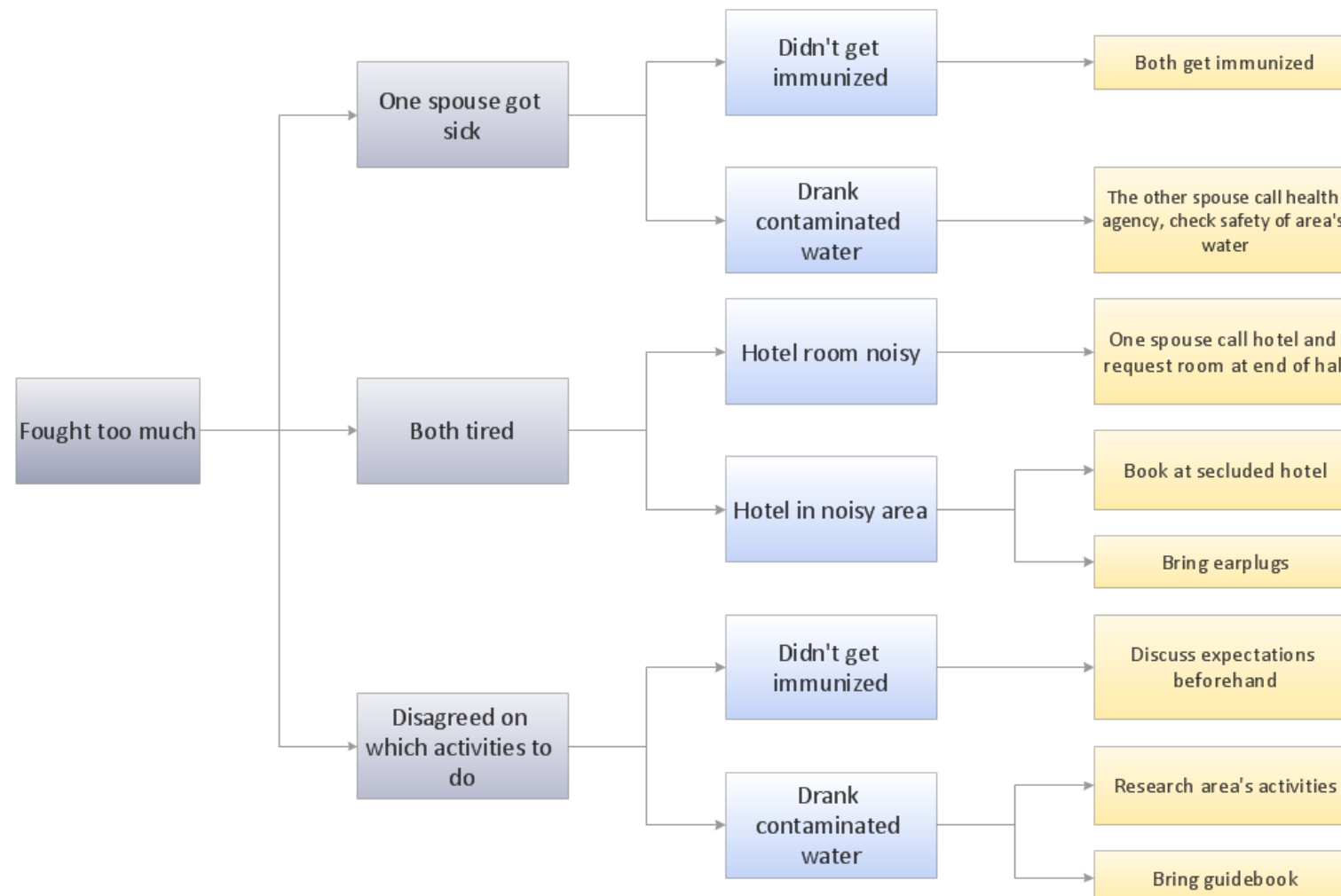
Affinity Diagram

- An affinity diagram is used to organise output from a brainstorming session.
- Affinity diagrams are useful with issues or problems that are complex or hard to understand.



Image borrowed from [Atmic Object](#)

Family Quarrels during Vacation



Tree Diagram

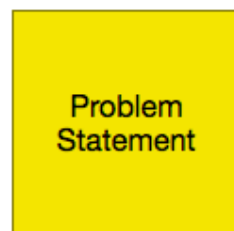
Borrowed from [ConceptDraw](#)

Tree Diagram

- Visual display of statement and breakdowns as a tree
- Statement: problem, goal, etc.
- Breakdowns: tasks, actions, subproblems, etc.

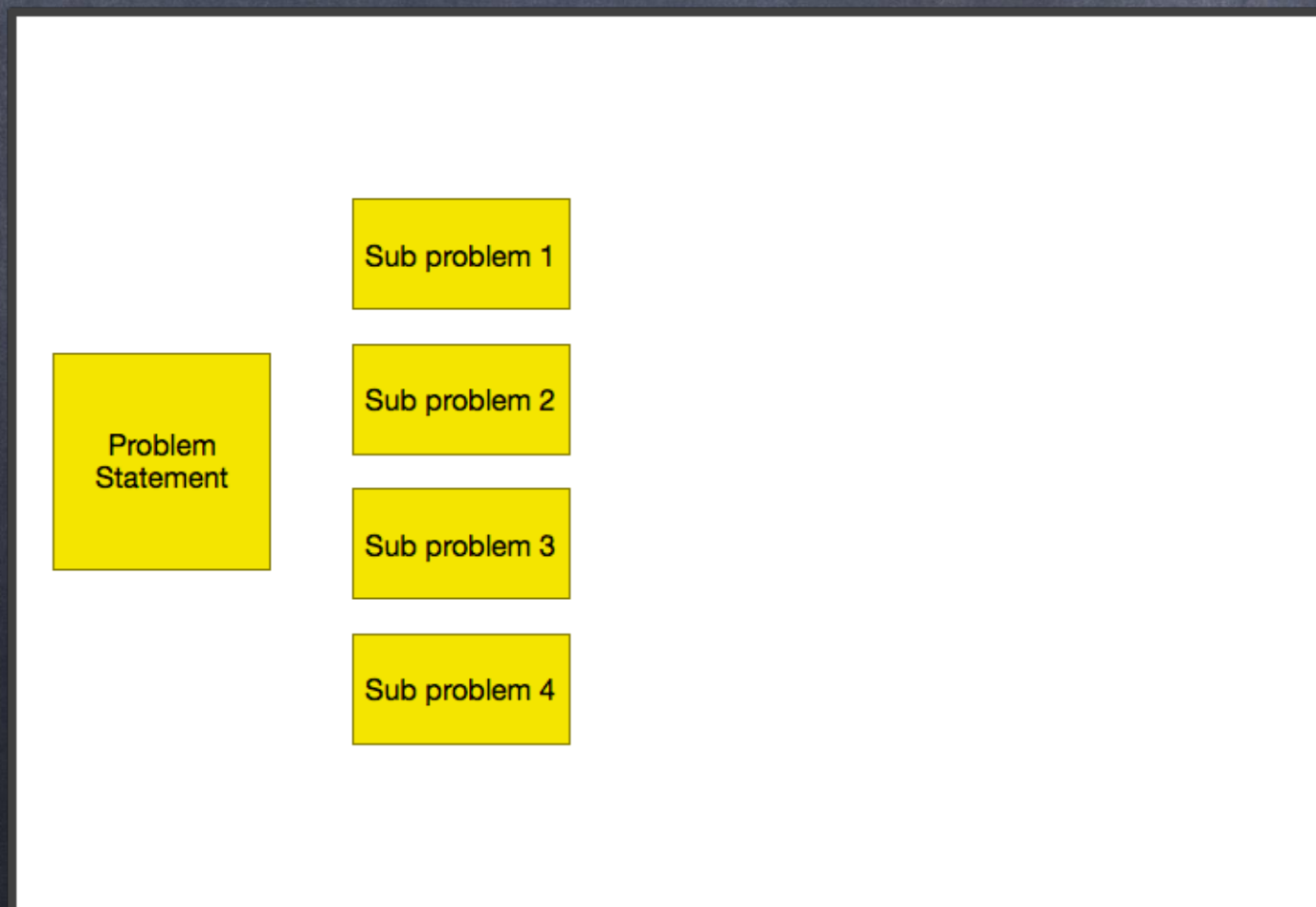
Statement as Root

- Set the statement of the problem as the root of a tree



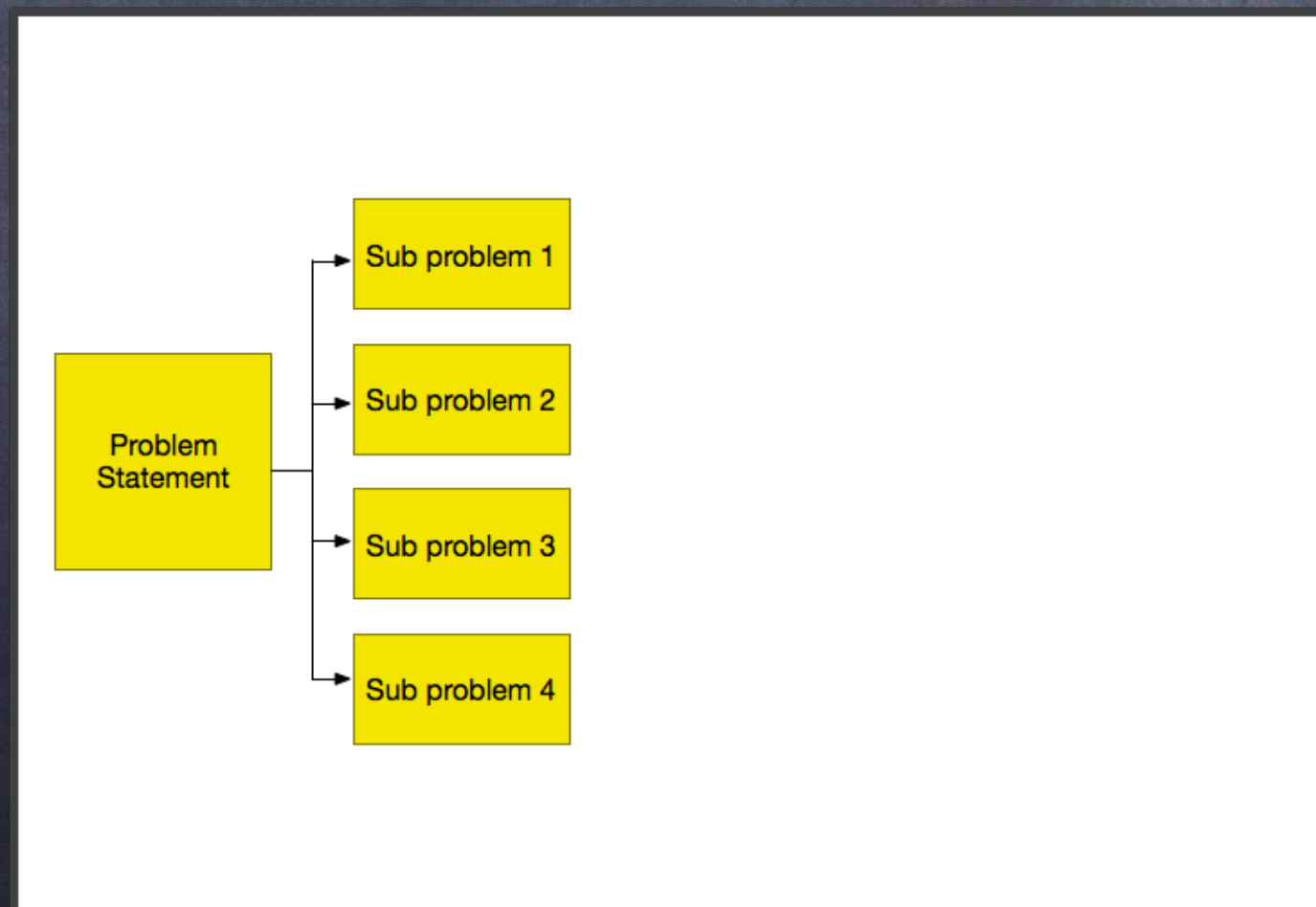
Subproblems

- Break down the problem into sub problems, or aspects or into possible actions against it by asking “What must be done to accomplish this” or “Why does this happen?” repeatedly.



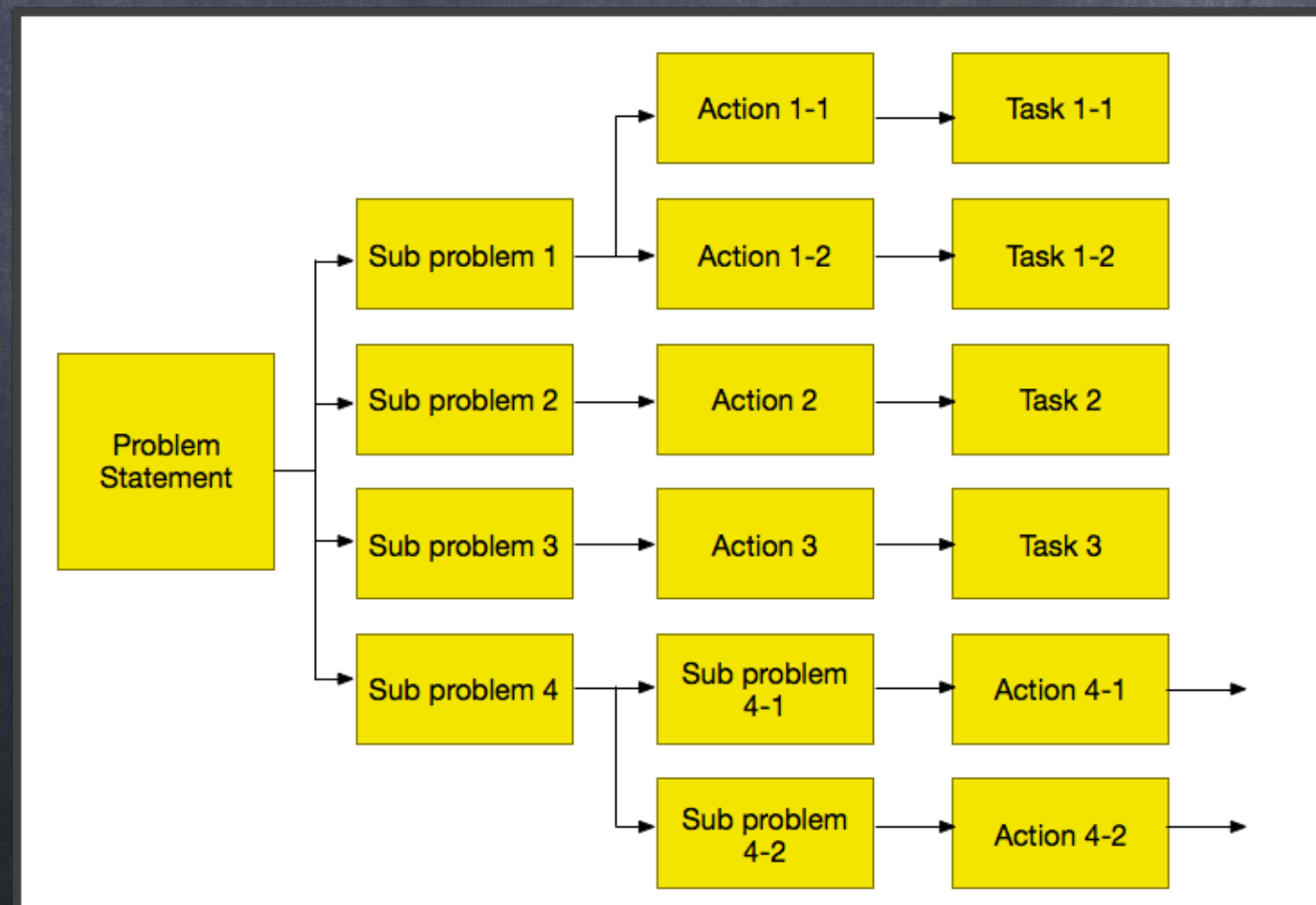
Arrows

- Connect the successive layers with arrows
- Causal relationship, decomposition, and/or digging are possible choices



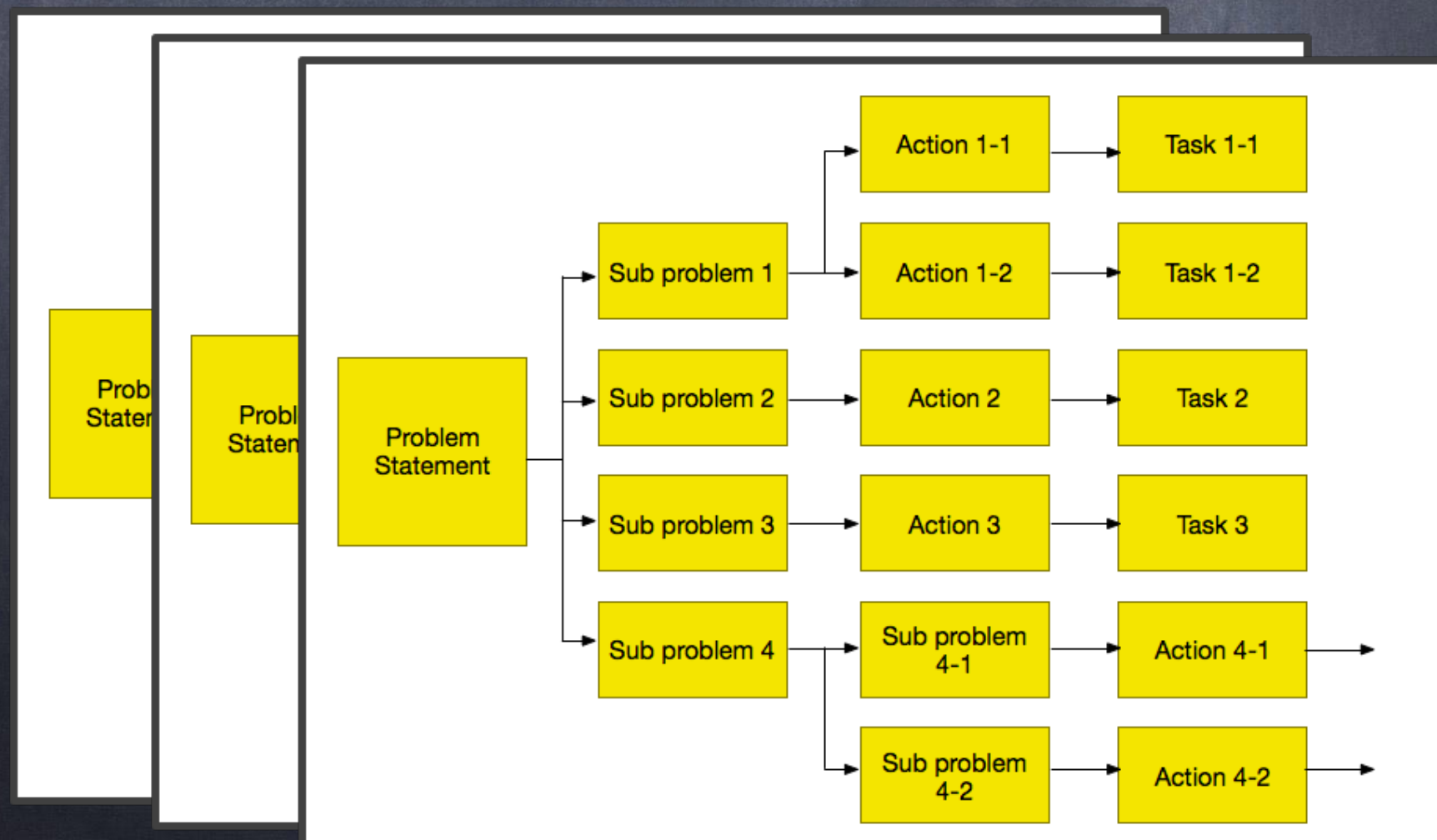
Further Breakdowns

- Repeat this to have a set possible tasks.
- “Mutually Exclusive, Collectively Exhaustive” check or “Necessary and Sufficient” check is recommended for all successive relationships between layers.



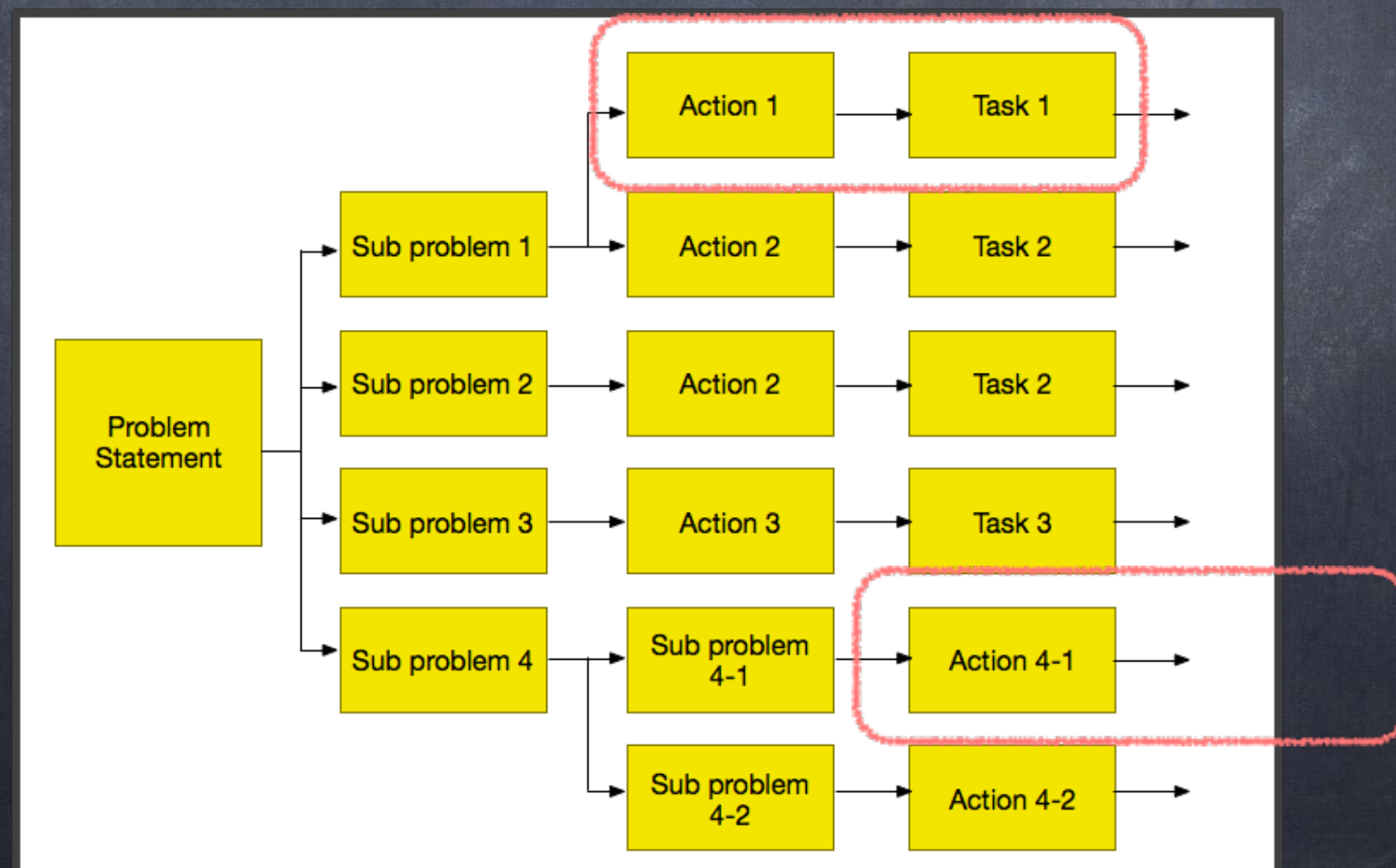
Additional Trees

- Another Tree Diagram
If a sub-problem, an action, or a task is complicated, you could have another tree diagram with that item as the root.



Choice of Actions and Tasks

- Choose what you do against this problem based on feasibility, effect, and influence studies



Scale of Measurement

- Please do not forget to choose and show the scale of measurement of a problem (with reasonable grounds).
- Please do not forget to try to measure the effect of your proposal with that scale.

Examples of PPDAC

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Yuka Yamamoto

For Tsukuba SGH
2015/07/01

Measurement of facts

- Quantitative measurement
 - How many passengers in a train.
- Qualitative measurement
 - How much is it crowded.
- Improve these numbers by doing something

Tired before class

- Short sleep
 - How long did you sleep
- Lack of nutrition
 - How much did you eat
- Crowded commuter
 - How many passengers
 - How much crowded

Unreliable weather forecast

- change of weather
- rainy? cloudy? sunny? what??
- the probability of rain
- can the numbers really be trusted?

how to
calculate

probability of
rain

weather
forecast

trust

raincoat

foldable
umbrella

no umbrella

small, light,
carriable

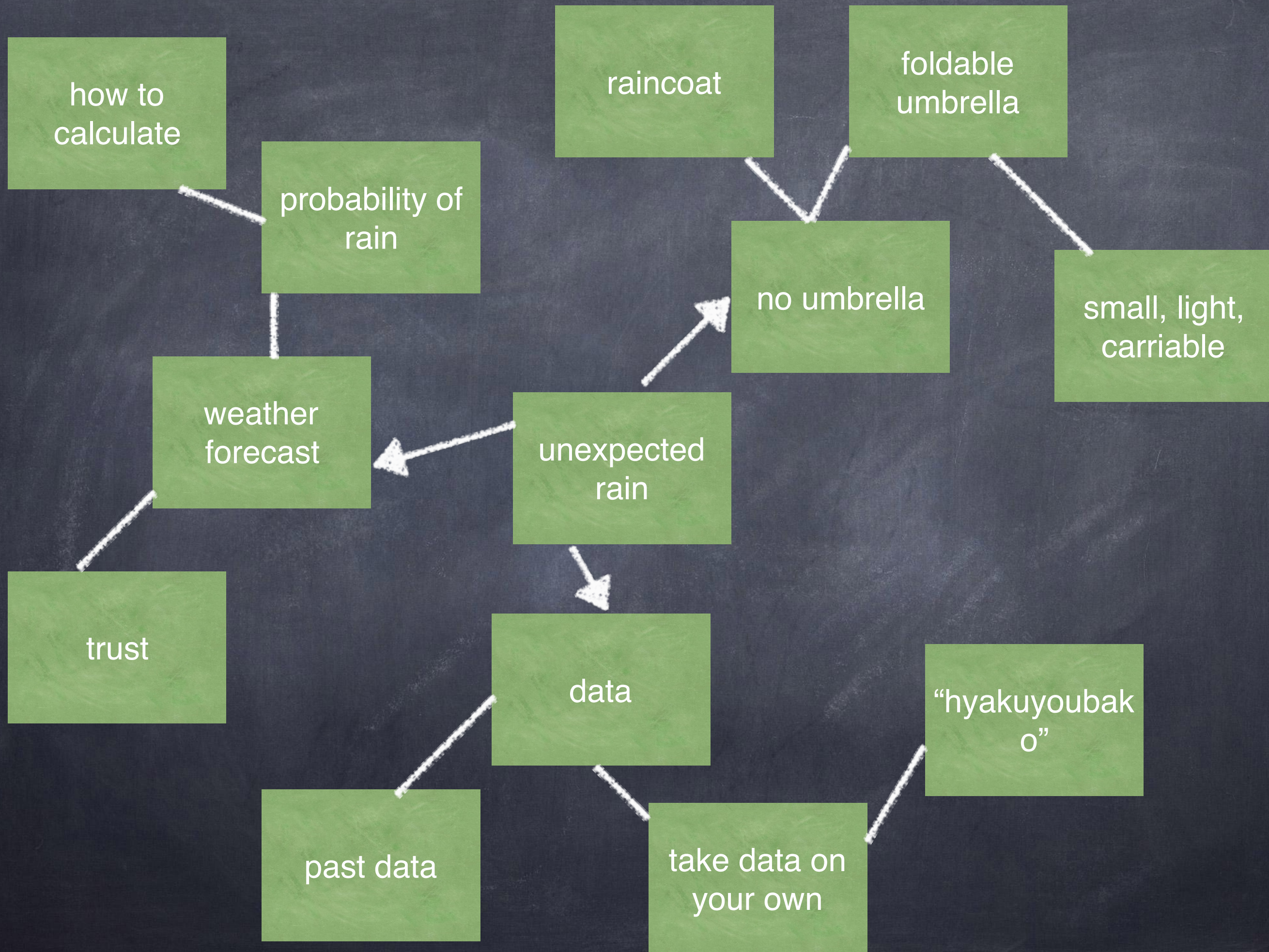
unexpected
rain

past data

data

take data on
your own

“hyakuyoubak
o”



weather
forecast

trust

probability of
rain

how to
calculate

unexpected
rain

data

past data

take data on
your own

“hyakuyoubak
o”

no umbrella

foldable
umbrella

small, light,
carriable

raincoat

Research Plan

- take data: probability of rain and whether it rained on you or not(ex. during commutes, club activity, out with friend...)

10%	50%	25%	60%
sunny	cloudy/rainy	rainy	cloudy
0%	100%	45%	50%
sunny	rainy	rainy	sunny

Measurement

- when the percentage is under 20, don't need rain goods
- when the percentage is over 45, might need to carry an foldable umbrella/raincoat

Success in the olympics

- rise of economy
- how long does it last?
- what happens?

Take data again

- collect data with the measurement this time
- result?

Money used on drinks

- drink a lot, pay a lot
- how much bottles do you drink a day?
- what do you drink?
- starbucks? convenience store? super market?
- where do you buy your drinks

Morning Commute

- tiring
- take a different train/route?
- change the time?