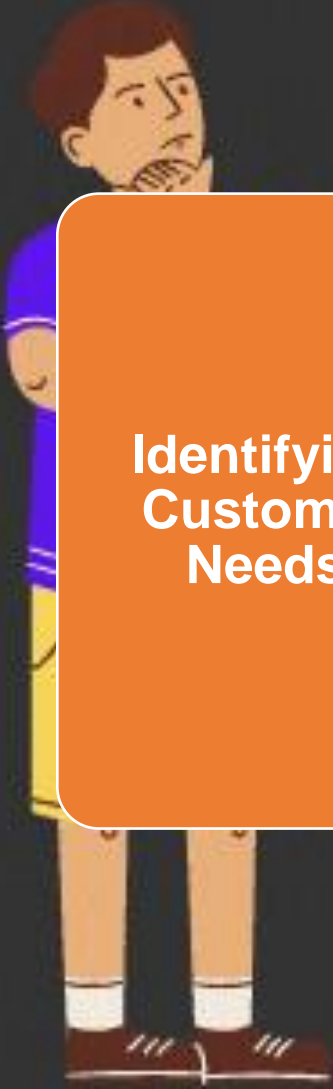
A close-up photograph of a hand holding a pencil, sketching various geometric and organic shapes on a drawing board. The sketches include boxes, cylinders, and abstract forms, some with shading to indicate depth. The background is a light-colored surface with many more sketches scattered across it.

Concept Generation

The difficulty lies not in the new ideas, but in escaping from the old ones.
(John Maynard)



Product Development Process



Identifying
Customer
Needs

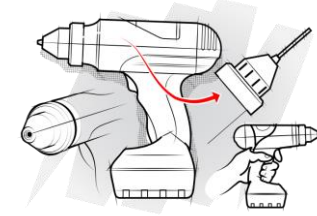
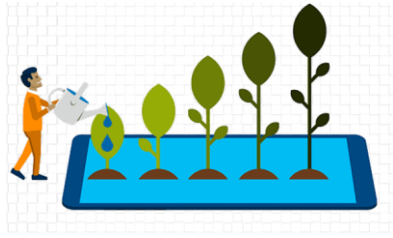
Product
Specifications

**Concept
Generation**

Concept
Selection

Product
Architecture





1st Phase



2nd Phase



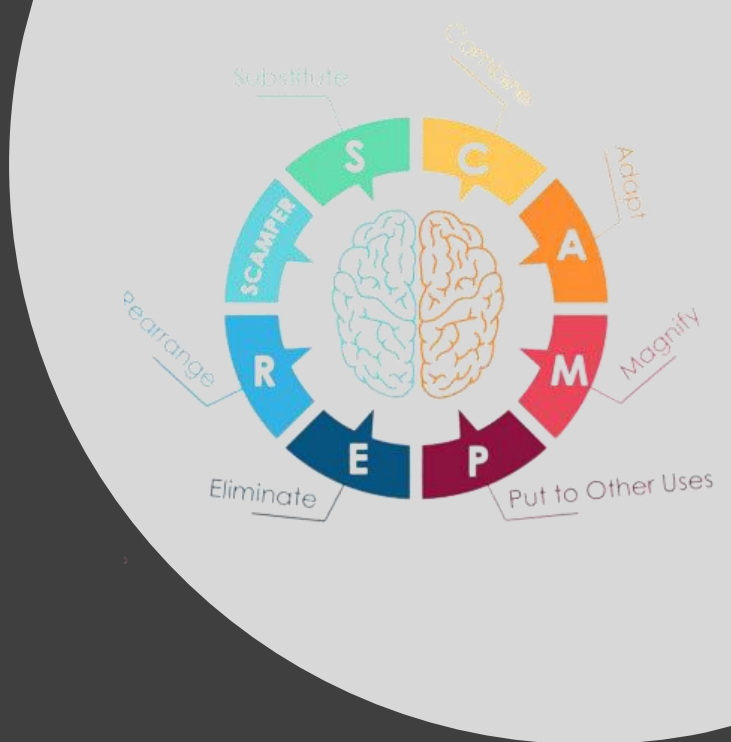
Phases of Concept Generation?



BRAINSTORM
creative



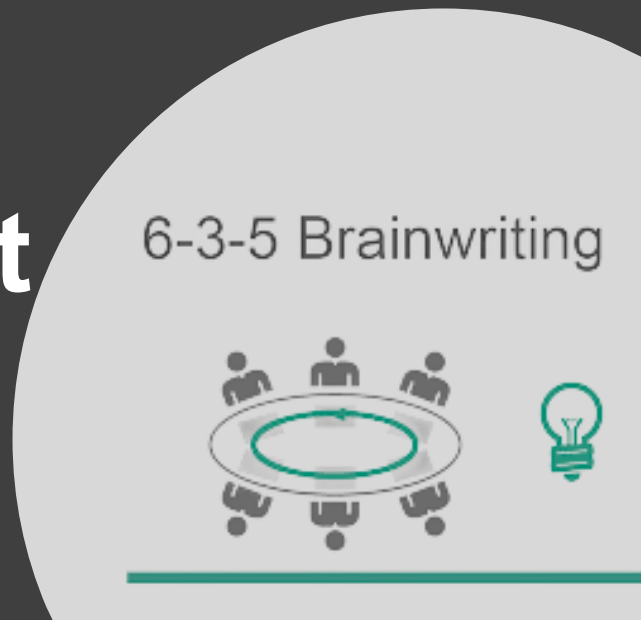
DESIGN THINKING



MIND MAP



Methods of Concept Generation

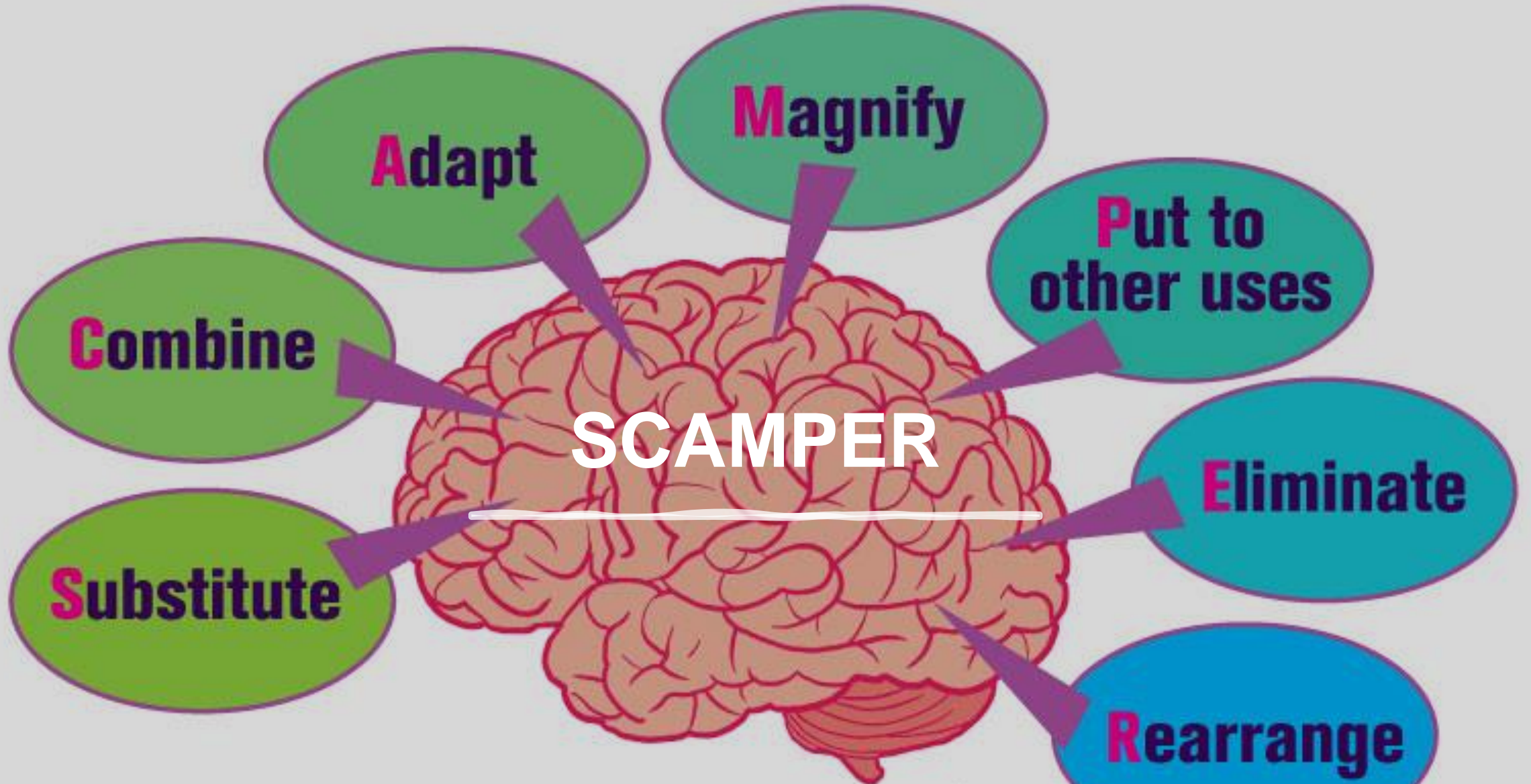


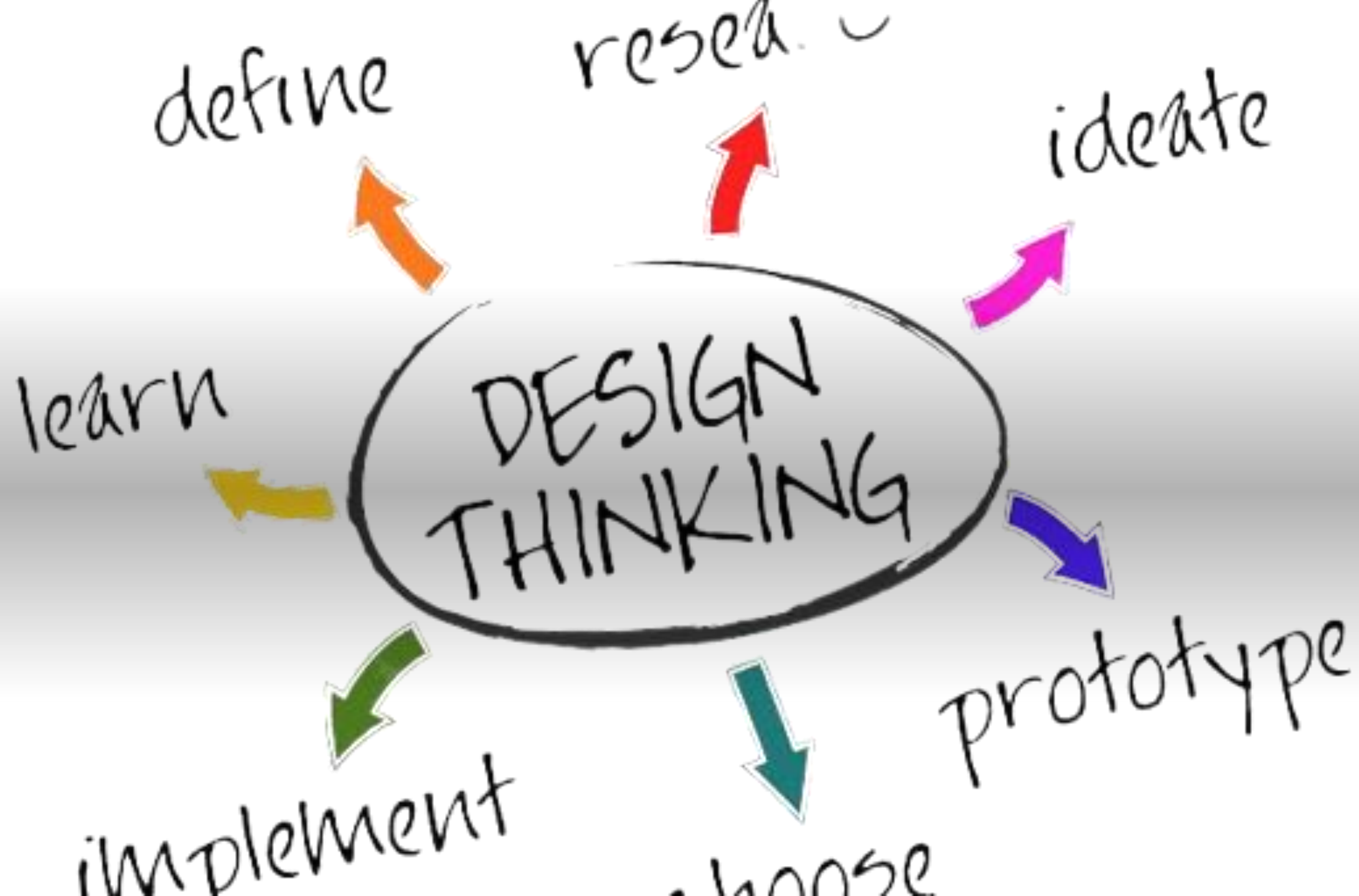
6-3-5 Brainwriting

Brainstorming



- 
1. Quantity produces quality
- 
2. ~~Separate ideation and evaluation~~
- 
3. Encourage wild ideas
- 
4. Build on created ideas





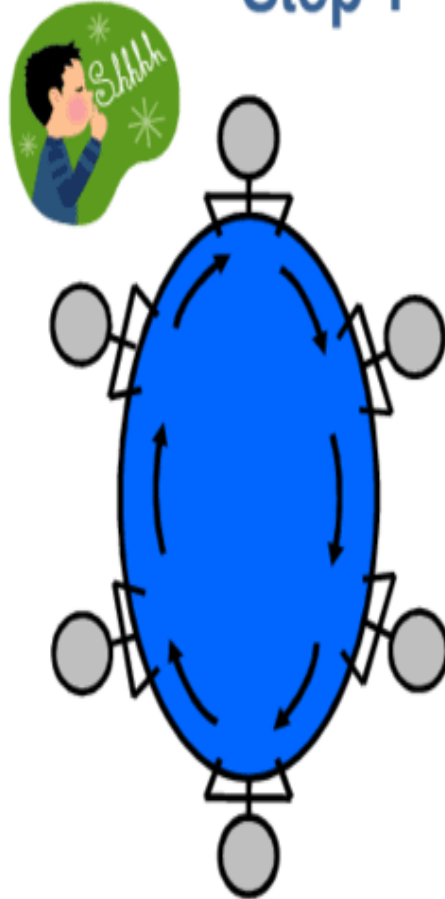


Mind Map



6-3-5 Method

Step 1



Step 2

$$6 + 3 + 5$$

people concepts minutes



Words
+ Drawings



Step 3

Pass to
next
person &
repeat

Need For Concept Generation- A Real Life Example



A Real Example



FIFA requires a soccer ball with real-time data collection, analysis and better strength.

With Customer Needs:

1. Real time data using sensors
2. More durable materials
3. Better imbedded safety

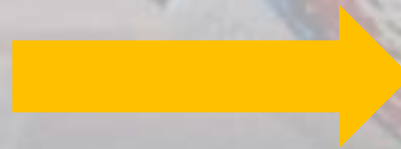
FIFA

FORWARD
DISCOVER THE QUALITY DIFFERENCE

adidas



Concept Generation



slido



**Join at slido.com
#2731371**

ⓘ Start presenting to display the joining instructions on this slide.

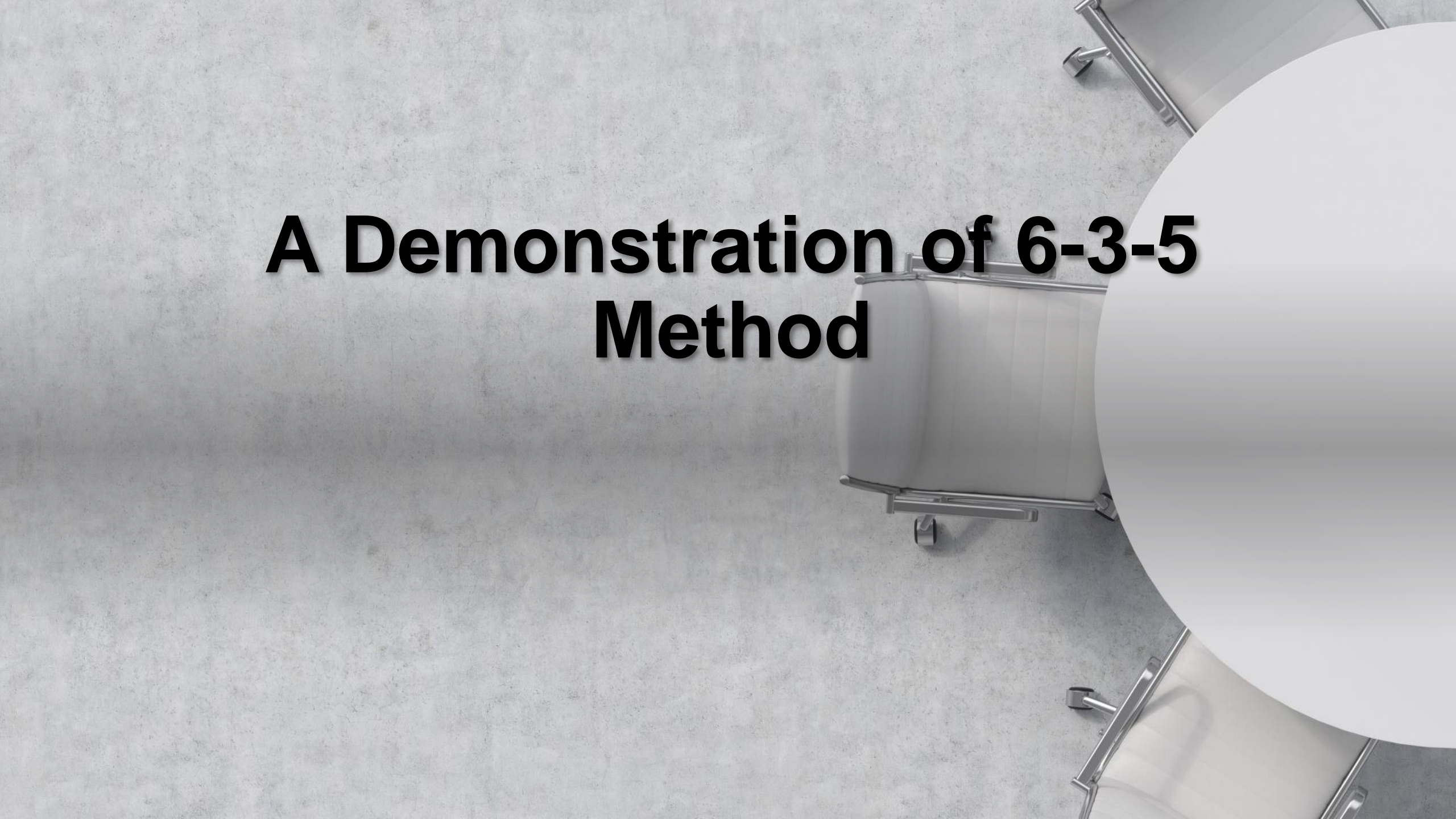
slido



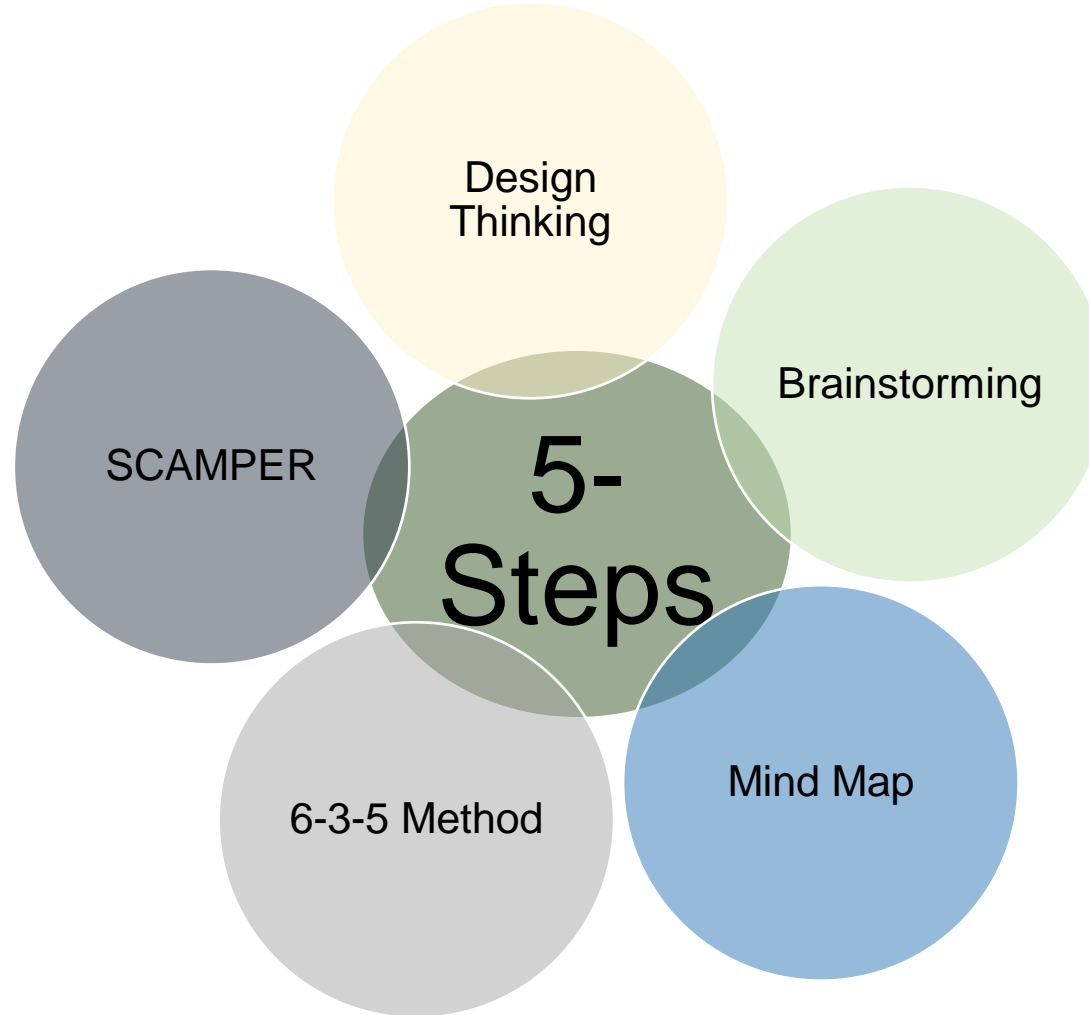
Which specification can be involved in concept generation of the soccer ball?

ⓘ Start presenting to display the poll results on this slide.

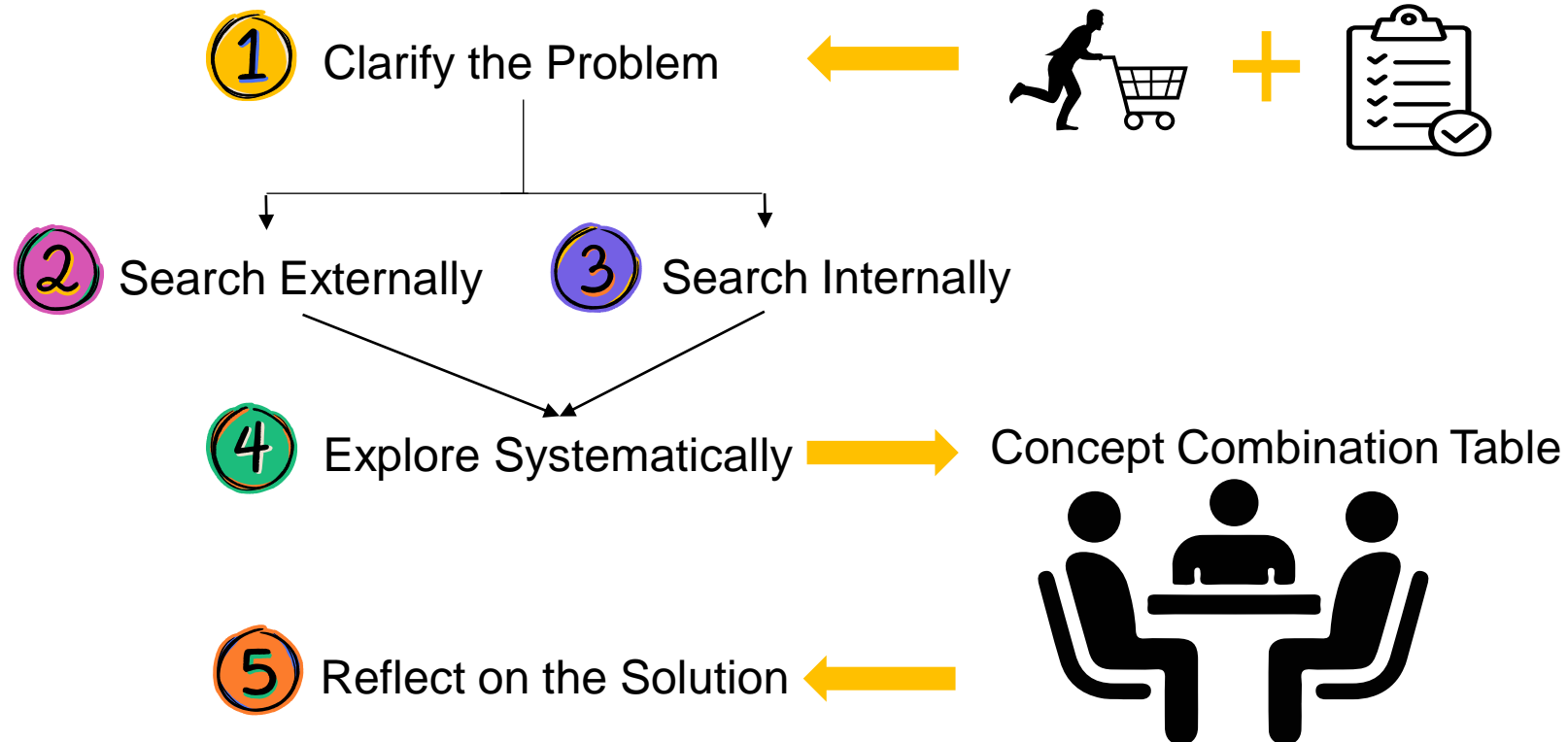
A Demonstration of 6-3-5 Method



Relation of 5-Steps in Concepts Generation and Methods of Concept Generation



Five Steps in Concept Generation

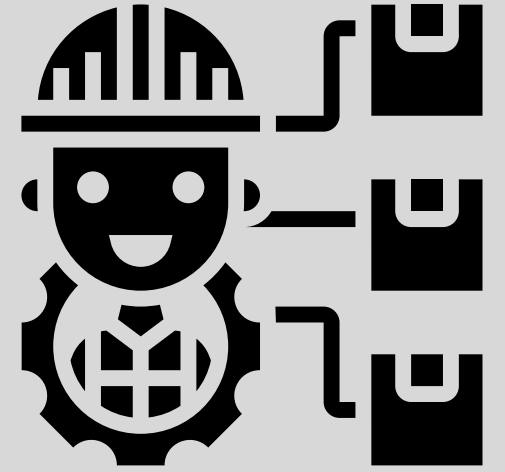
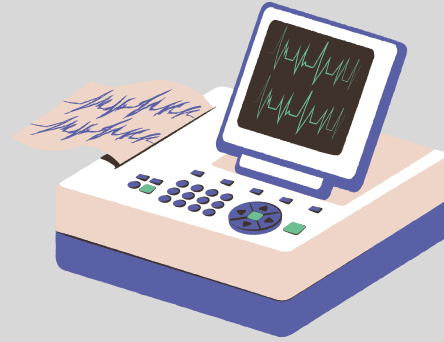


2. Search Externally

- ① Interview Lead Users
- ② Consult with Experts
- ③ Search Patents
- ④ Search Literature
- ⑤ Benchmark Related Products

3. Search Internally

- ① Judgment
- ② Generate Lot of Ideas
- ③ Welcome Ideas that may seem infeasible
- ④ Make plenty of sketches/draft designs
- ⑤ Build a basic model Sketch



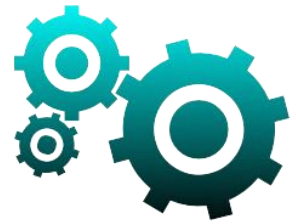
4. Explore Systematically



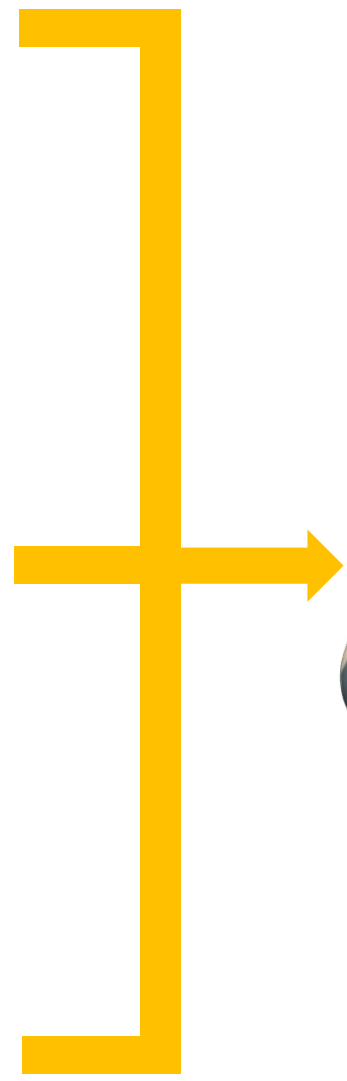
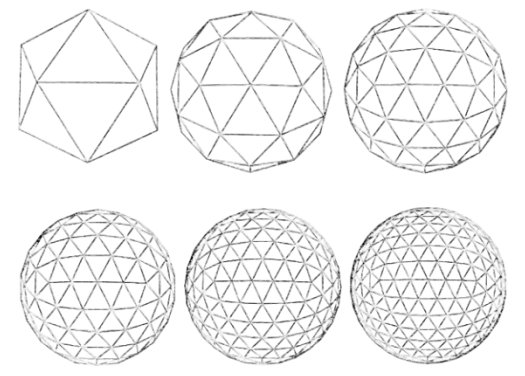
**Concept
Combination
Table- Results**



Technology



How Does it Work





Reflect on the Solutions and the process



Things to Consider For Perfect Concept Generation

- Time Management
- Nature of task
- Team Composition
- Purpose/motivation behind concept
- Available Resources
- Technique
- Stakeholders Involvement
- Risk Analysis and Mitigation

**Thank
You!**

