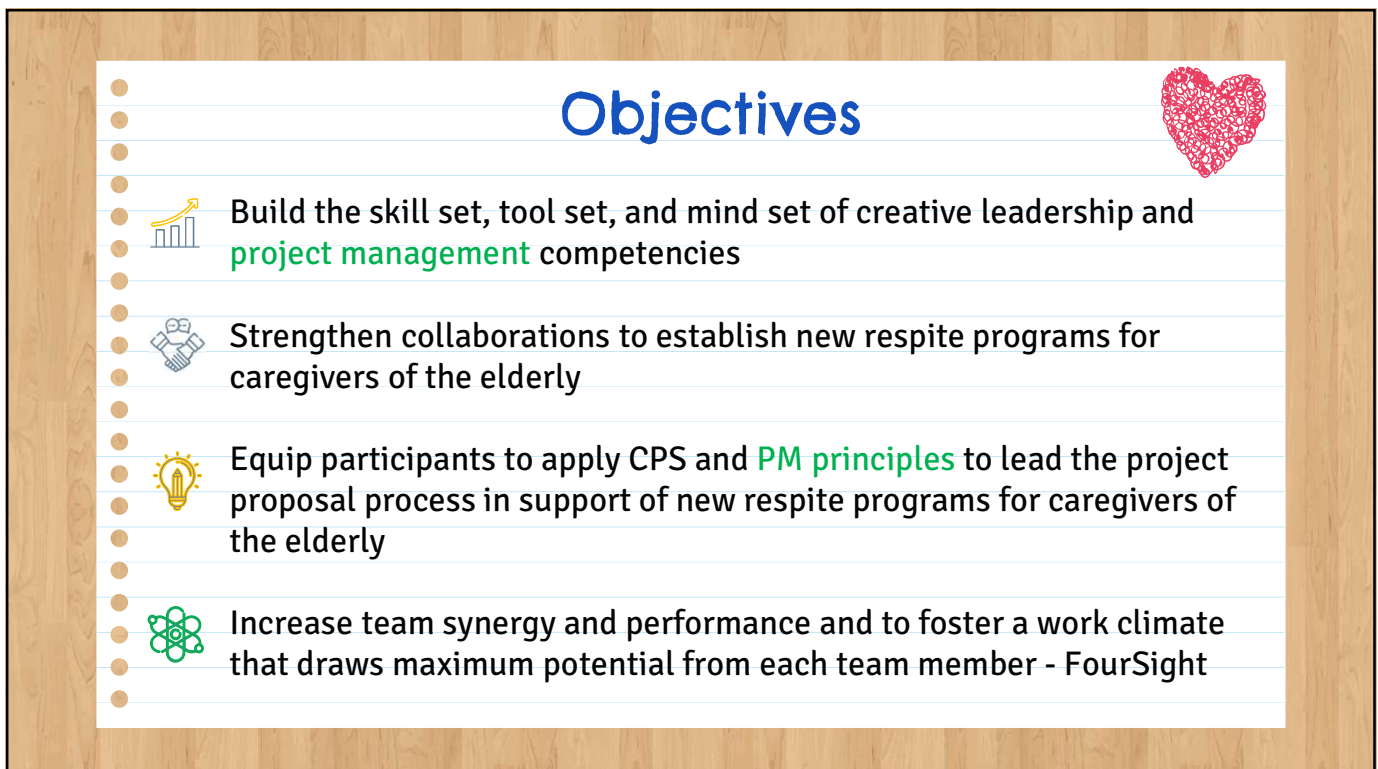


1



2

## Creative Problem Solvers

### Openness to **Novelty**

Being able to entertain ideas that at first seem outlandish and risky

### Tolerance for **Ambiguity**

Being able to deal with uncertainty and to avoid leaping to conclusions

### Tolerance for **Complexity**

Being to stay open and persevere without being overwhelmed by large amounts of information, interrelated and complex issues, and competing issues

3

## Operational Terms

**Creativity**

Novelty that's valuable and useful

**Innovation**

Capturing the value of creativity and bringing it to life

4

Creative Problem Solving (CPS) is a structured process for solving problems or finding opportunities *especially* when you want to go beyond conventional thinking and arrive at creative (novel and useful) solutions.

5

## The Dynamic Balance

### Divergent Thinking

A broad search for many diverse and novel alternatives. **NOVEL**

### Convergent Thinking

A focused affirmative evaluation of alternatives. **USEFUL**



6

## Divergent Thinking

**Divergent thinking** is a process of generating multiple ideas, solutions and possibilities on demand. In this process, individuals or groups become deliberately creative and open themselves up to breakthrough thinking.

**Divergent thinking** is a broad search for many diverse and novel alternatives.

7

**Follow  
the  
rules!**

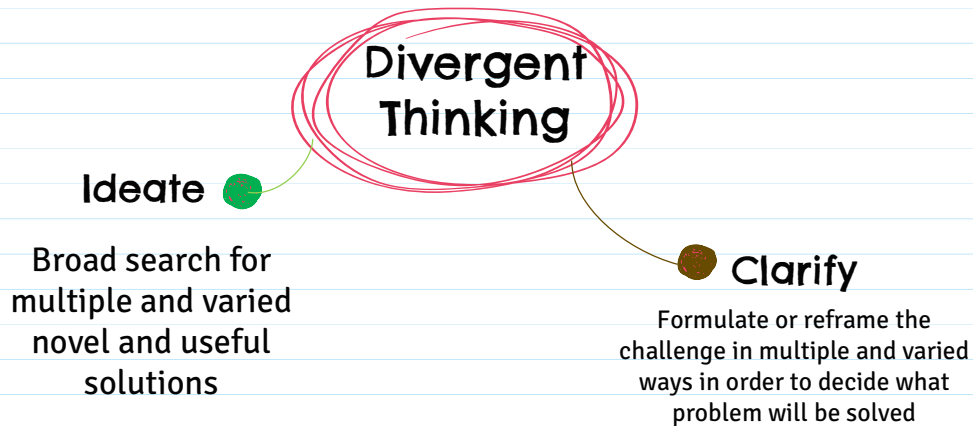
### Groundrules for Divergent Thinking:

- Defer judgment
- Strive for quantity\*
- Build on other ideas
- Seek novelty

\*Wedding pictures!

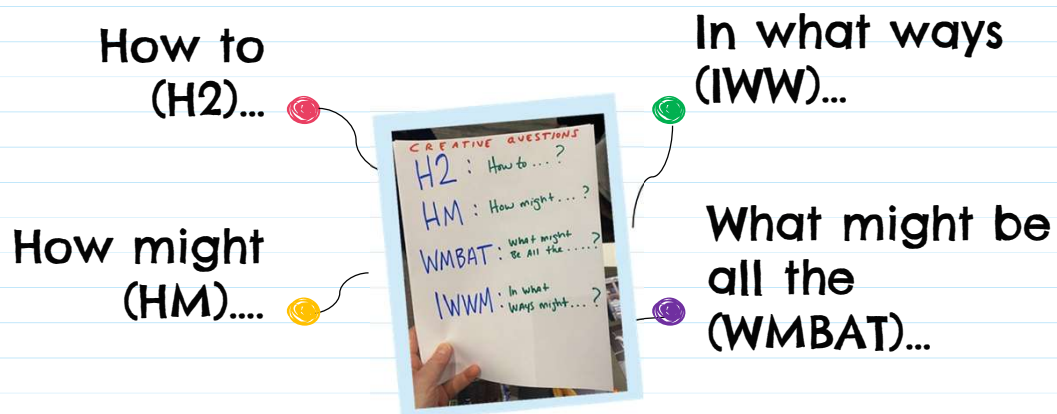
8

## Divergent Thinking



9

## Creative Questions



10

## Formating Creative Questions

I can't access my ticket without Internet access!

Statement starter (How might...)

Owner (I)

Verb (get)

Object (Internet access?)

How might I get Internet access?



11

## Convergent Thinking

**Convergent thinking** involves the delicate task of judging and making decisions. Done right, fledgling and underdeveloped ideas that might otherwise be overlooked or dismissed stand the chance of being developed into robust and brilliant solutions.

**Convergent thinking** is a focused affirmative evaluation of alternatives.

12

**Follow  
the  
rules!**

### Groundrules for Convergent Thinking:

- Apply affirmative judgment
- Be open to novelty
- Be deliberate
- Stay on course

13

## The Creative Process (Problem)

**Clarify**



Exploring the  
vision &  
identifying  
the challenge

**Ideate**



Generating  
ideas

**Develop**



Transforming  
solutions &  
bringing  
ideas to life

**Implement**



Exploring  
acceptance &  
formulating a  
plan

14

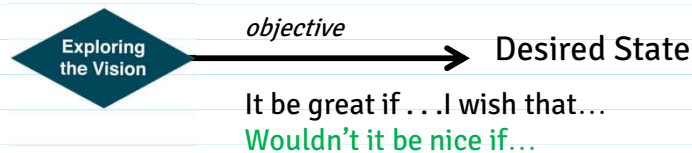
## Clarify: Exploring the Vision



**Purpose:** Develop a vision of a desired outcome.

**Cognitive Thinking Skill:** Visionary and Wishful Thinking  
Articulating a vivid image of what you desire to create.

**Affective Skill:** Dreaming  
Imagining as possible your desires and hopes.



15

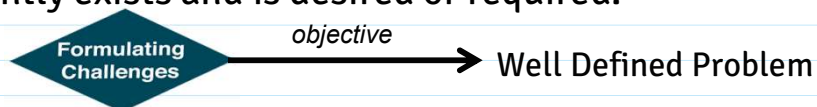
## Clarify: Identify the Challenge



**Purpose:** Identify the gaps that must be closed to achieve desired outcome.

**Cognitive Thinking Skill:** Strategic Thinking  
Identifying the critical issues that must be addressed and pathways needed to move toward desired future.

**Affective Skill:** Sensing Gaps  
Become consciously aware of discrepancies between what currently exists and is desired or required.



How to...? In what ways might...? How might...? What might be all the...?

16

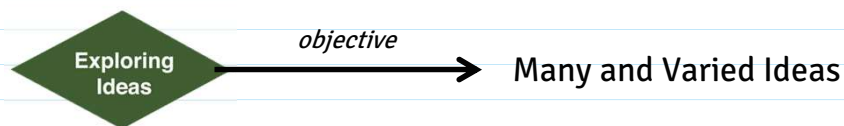
## Ideation: Exploring Ideas



**Purpose:** Generate novel ideas that address important challenges.

**Cognitive Thinking Skill:** Ideational Thinking  
Producing original mental images and thoughts that respond to important challenges.

**Affective Skill:** Playfulness  
Freely toying with ideas.



17

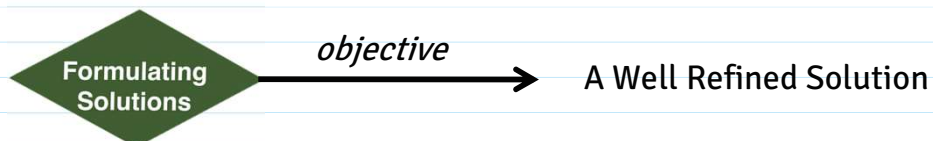
## Develop: Formulating Solutions



**Purpose:** Move from ideas to solutions.

**Cognitive Thinking Skill:** Evaluative Thinking  
Assessing the reasonableness and quality of ideas in order to develop workable solutions.

**Affective Skill:** Avoiding Premature Closure  
Resisting the urge to push for a decision.



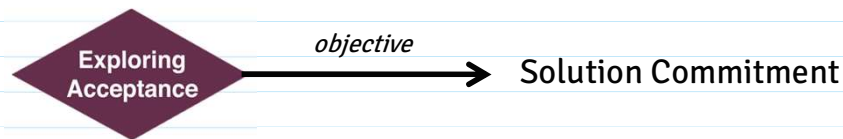
18

## Implementation: Exploring Acceptance

**Purpose:** Increase the likelihood of success and buy-in.

**Cognitive Thinking Skill:** Contextual Thinking  
Understanding the interrelated conditions and circumstances that will support or hinder success or acceptance.

**Affective Skill:** Sensitivity to Environment  
The degree to which people are aware of their physical and psychological surroundings.



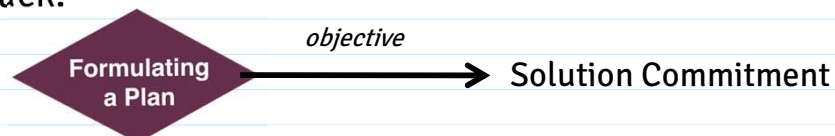
19

## Implementation: Formulating a Plan

**Purpose:** To develop an implementation plan.

**Cognitive Thinking Skill:** Tactical Thinking  
Devising a plan that includes specific and measurable steps for attaining a desired end and methods for monitoring effectiveness.

**Affective Skill:** Tolerance for Risks  
Not allowing yourself to be shaken or unnerved by the possibility of failure or setback.



20

## TOOLS...and TECHNIQUES

<p style="text-align: center;"><b>CLARIFY</b></p> <p style="text-align: center;">Vision Boarding WIBNI Creative Questions</p> <p style="text-align: center;"><b>DEVELOP</b></p> <p style="text-align: center;">PPCO Paired Comparison Card Sort</p>	<p style="text-align: center;"><b>IDEATE</b></p> <p style="text-align: center;">Brainstorming Brainwriting Forced Connections Word Dance Excursion Scamper</p> <p style="text-align: center;"><b>IMPLEMENT</b></p> <p style="text-align: center;">Assisters/Resisters Sequencing</p>
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**Highlighting**

*Dynamic Balance*

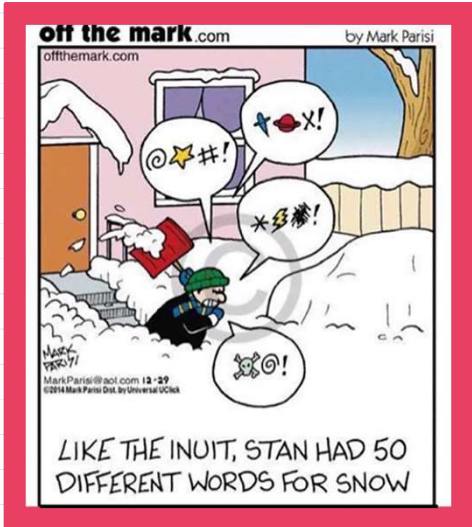
21

The goal is to *force a connection* between two totally unrelated things, **the prop** and **the problem**, to stimulate thinking and create more ideas. These new ideas are often more novel and unusual.

**Forced Connections**

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## Word Dance: Musical Chairs with Words



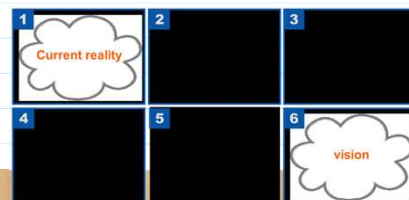
Divergent tool to generate **substitute** phrases, nouns, verbs for alternative meaning-making and representation.

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## Story Boards aka Vision Boards

- Locate a piece of paper and write your idea somewhere as a header starting with...It would be GREAT or I WISH...
- Fold in half length wise and then in thirds
- Label your boxes 1 – 6, starting in the upper left and ending in the lower right
- In box #1, draw the current reality
- In box #6 draw the desired vision
- In boxes 2 - 5, generate (in pictures) actions to get you to the desired outcome

### Exploring the Vision



24

## Stick'em Up Brainstorming


- Grab a marker and Post-it pad
- Write your idea on a Post-it
- Say your idea out loud so that others can hear it
- Hand your Post-it up to Teresa (facilitator)
- One idea per post-it

Let's go for 20 ideas in three minutes



25

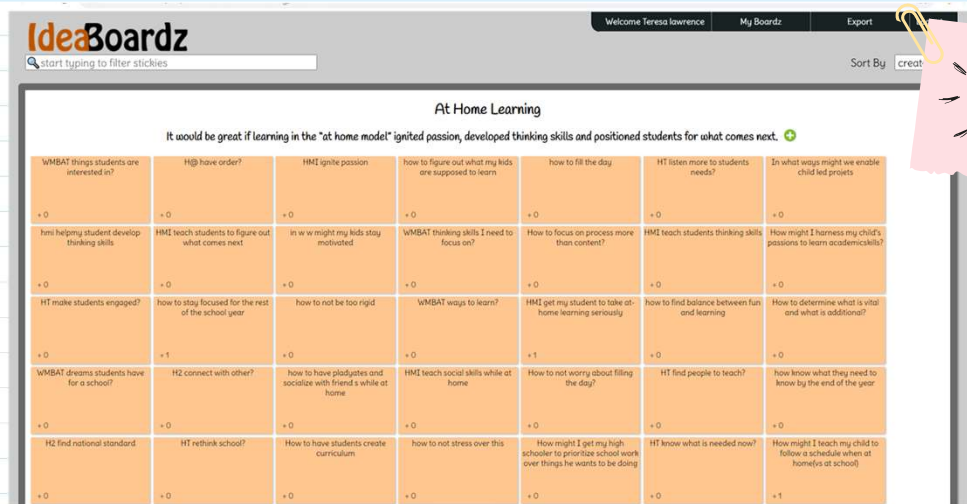
## Stick'em Up Brainstorming...with Ideaboardz

- Open the link
- Read the prompt
- Click on the 
- Write your idea on a Post-it
- Hit enter
- One idea per post-it

Let's go for 20 ideas in three minutes

26

## Let's Practice with IdeaBoardz



At Home Learning

It would be great if learning in the "at home model" ignited passion, developed thinking skills and positioned students for what comes next.

WMBAT things students are interested in?	H2B have order?	H2E ignite passion	how to figure out what my kids are supposed to learn	how to fill the day	HT listen more to students' needs?	In what ways might we enable child led projects
+ 0	+ 0	+ 0	+ 0	+ 0	+ 0	+ 0
hmi helping student develop thinking skills	H2E teach students to figure out what comes next	in w w might my kids stay motivated	WMBAT thinking skills I need to focus on?	How to focus on process more than content?	H2E teach students thinking skills	How might I harness my child's passion to learn academics/skills?
+ 0	+ 0	+ 0	+ 0	+ 0	+ 0	+ 0
HT make students engaged?	how to stay focused for the rest of the school year	how to not be too rigid	WMBAT ways to learn?	H2E get my student to take at-home learning seriously	how to find balance between fun and learning	How to determine what is vital and what is additional?
+ 0	+ 1	+ 0	+ 0	+ 1	+ 0	+ 0
WMBAT dreams students have for a school?	H2 connect with other?	how to have playdates and socialize with friends while at home	H2E teach social skills while at home	How to not worry about filling the day?	HT find people to teach?	how know what they need to know by the end of the year
+ 0	+ 0	+ 0	+ 0	+ 0	+ 0	+ 0
H2 find national standard	HT rethink school?	How to have students create curriculum	how to not stress over this	How might I get my high schooler to prioritize school work over things he wants to be doing	HT know what is needed now?	How might I teach my child to follow a schedule when at home(yes at school)
+ 0	+ 0	+ 0	+ 0	+ 0	+ 0	+ 1

27

## Stick'em Up Brainstorming...with Mural

- Open the link
- Read the prompt
- Click on the Post It
- Write your idea on a Post-it
- Hit enter
- One idea per post-it

**Let's go for 20 ideas in three minutes**

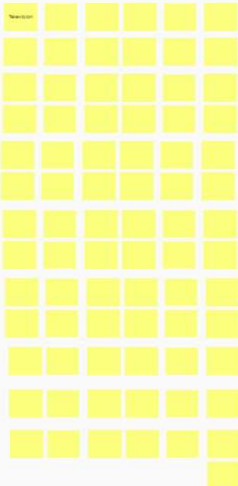
28


Practice

### Diverge

What might be all the improvements to a bathtub?

Order judgement  
Get the quantity  
Build on novelty  
Brainstorming






### Converge

Affirm positive judgment  
Be deliberate  
Check your objectives  
Consider novelty

**Highlight:**  
 Hit  
 Cluster  
 Restate

Restate as an action...start with a verb



29

## Highlighting: Hits, Cluster, Restate

**Highlighting** lets you narrow from many to a few good options.

**Hits** lets you choose ideas that are especially interesting, promising, compelling, intriguing, innovative or on-target.

**Clustering** organizes your hits into groups, categories or themes.

**Restating** captures the essence of the cluster.

30

## RESTATE

32

## RESTATE

## Brainwriting – Write 3 and GO

Who might give a hoot about building a new senior center in town?

	Idea #1	Idea #2	Idea #3
Person A	Person A writes an idea here...	...and another idea here	...and another here.
Person B	Person B writes their idea here, perhaps a new idea...	...or one which builds from an earlier idea	...or a combination of both ideas
Person C	Person C contributes here, adding their ideas in this row...	...which build on any ideas on this page...	...or may be entirely new

1. Write down the creative challenge
2. Write three ideas
3. Get a new sheet
4. Read the creative challenge
5. Read the ideas
6. Add/build on ideas
7. Get a new sheet
8. Repeat

33

## Brainwriting – Write 3 and GO

**Brainwriting**

Problem statement: How to generate content for online performance

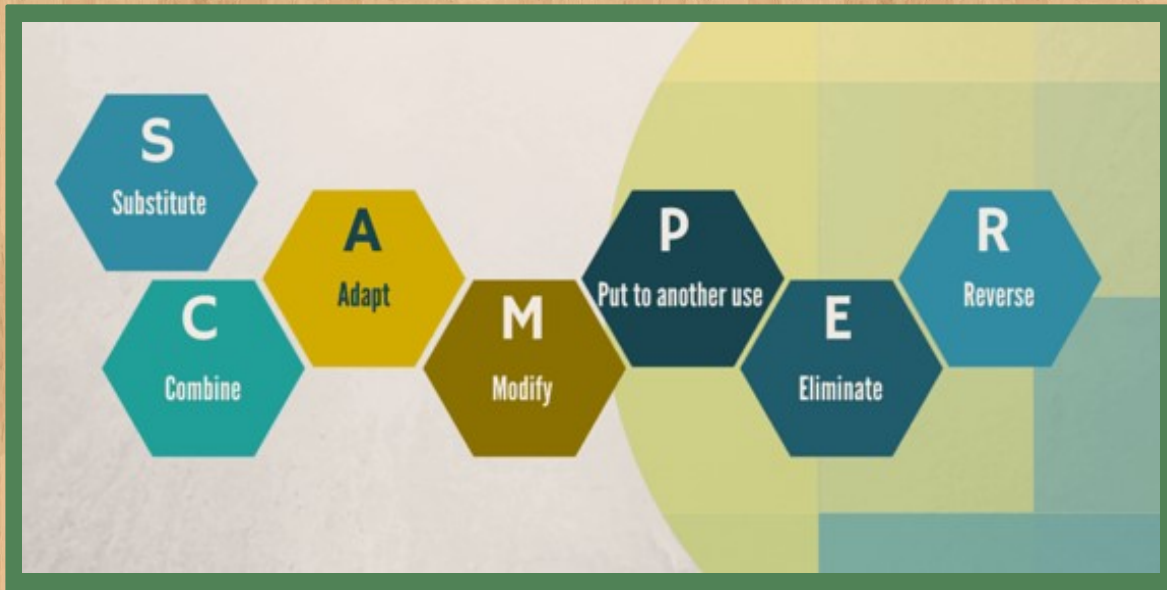
Vocabulary words of the day.	Post Google Equity Reminders	Inspirational Quotations
Do "do" questions but just - only three questions each round's questions	Incorporate both short + long content	Emotionally/mentally reaping different activities
Give Away!! for Low Fee	Photo Shoot - stay the setting	consistent, catchy hashtag

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## SCAMPER A mnemonic (tool) that helps generate ideas



35

## Pluses, Potentials, Concerns, Overcoming Concerns (PPCO)

01



### Pluses

Find value in the idea – express what you like about it.

02



### Potentials

What opportunities might be possible if the idea worked? (It might...)

03



### Concerns

Present issues as creative questions to invite new thinking. (H2, HM, IWW, WMBAT)

04



### Overcoming Concerns

Brainstorm ways to overcome stated challenges.

36

## Assisters and Resisters

### Assisters

Who might help make this work?

HM we enlist their help?

### Resisters

Who might this rub against?

HM we overcome their resistance?

37

## Paired Comparison




Paired Comparison is a **convergent** tool for narrowing choices that are quite different from one another, if decision criteria are subjective, or if you don't have objective data to use for your decision.

The tool allows for full membership participation and helps builds consensus.

38






## Paired Comparison

REASON/OPTION/CHOICE	Total
A Squiggle Breadstick	
B Corn Chex	
C Round Pretzel	
D Wheat Chex	
E Square Pretzel	
F Rye Chip	

A/B	A/C	A/D	A/E	A/F
	B/C	B/D	B/E	B/F
		C/D	C/E	C/F
			D/E	D/F
				E/F

Member: \_\_\_\_\_

Rating Scale:


1 Slightly better

3 Moderately better

5 Significantly way better

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## Card Sort



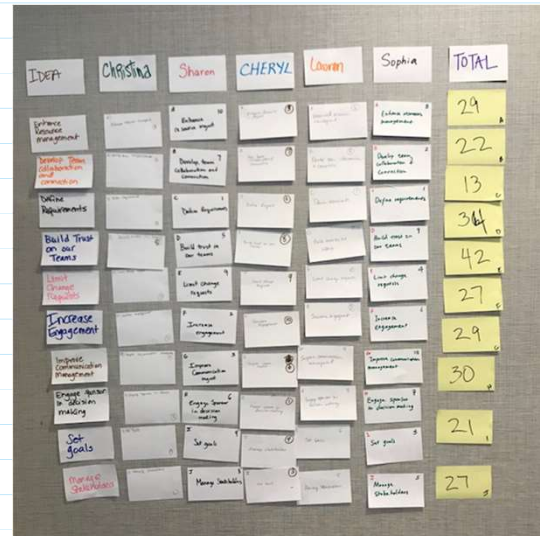
Card sort is a **convergent** tool that helps you **compare, rank and prioritize**. It can be used to rank requirements, ideas, solutions, creative questions or criteria. Card sort also helps you to generate group consensus. This tool is best suited for prioritizing up to 15 options.

40

## CARDSORT

Card sort is a **convergent** tool that helps you **compare, rank and prioritize**. It can be used to rank requirements, ideas, solutions, creative questions or criteria.

Card sort also helps you to generate group consensus.



41

Get it done!

## Sequencing



What's being done?	Who will do it?	By when?	Support/ Report?
--------------------	-----------------	----------	------------------

Short Term Actions

•  
•

•  
•

•  
•

Intermediate Actions

•  
•

•  
•

•  
•

Long Term Actions

•  
•

•  
•

•  
•

42

## New Tool: Evaluation Matrix

A tool to generate criteria in order analyze promising ideas, options or solutions. Accommodates objective and subjective criteria. Provides direction. Another systematic way for building consensus while making choices.



43

Project: A temporary endeavor undertaken to create a unique product, service or result

– PMI

44

## Processes & Knowledge Area

Initiating	Integration	Resources
Planning	Scope	Communications
Executing	Schedule	Risk
Monitor & Controlling	Cost	Procurement
Closing	Quality	Stakeholder

I saw Scott's car quickly ram Carl's rear passenger side.

45

## Estimate Resources

Highly accurate...time consuming and labor intensive.

### Analogous (Top Down)

Using actual information from a similar activity on this or another project.

### Parametric

Using historical information on linear or scalable activities.

### T-Shirt Sizing

### Three-Point Estimates (PERT: Program Evaluation & Review Technique)

Estimating averages of worst-case (P), best-case (O) and most realistic (R) estimates.

### Bottom Up

Using a separate estimate for each activity and aggregating up.

46

## Organizational Process Assets (OPAs)

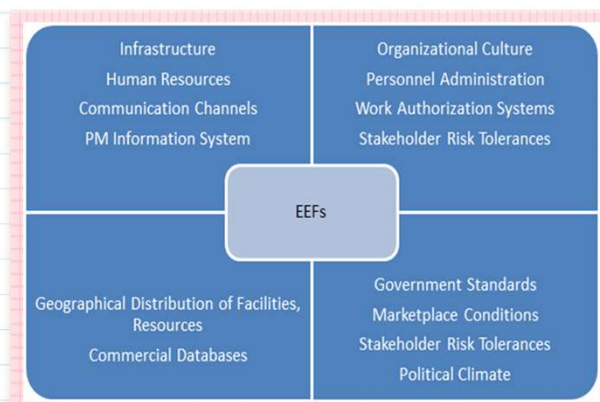


The plans, templates, processes, policies, procedures, lessons learned and knowledge base specific to, developed and adopted by, and used by, the organization.

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## Enterprise Environmental Factors (EEFs)

The internal, external, tangible, intangible factors influencing the project...conditions outside the control of the project team.



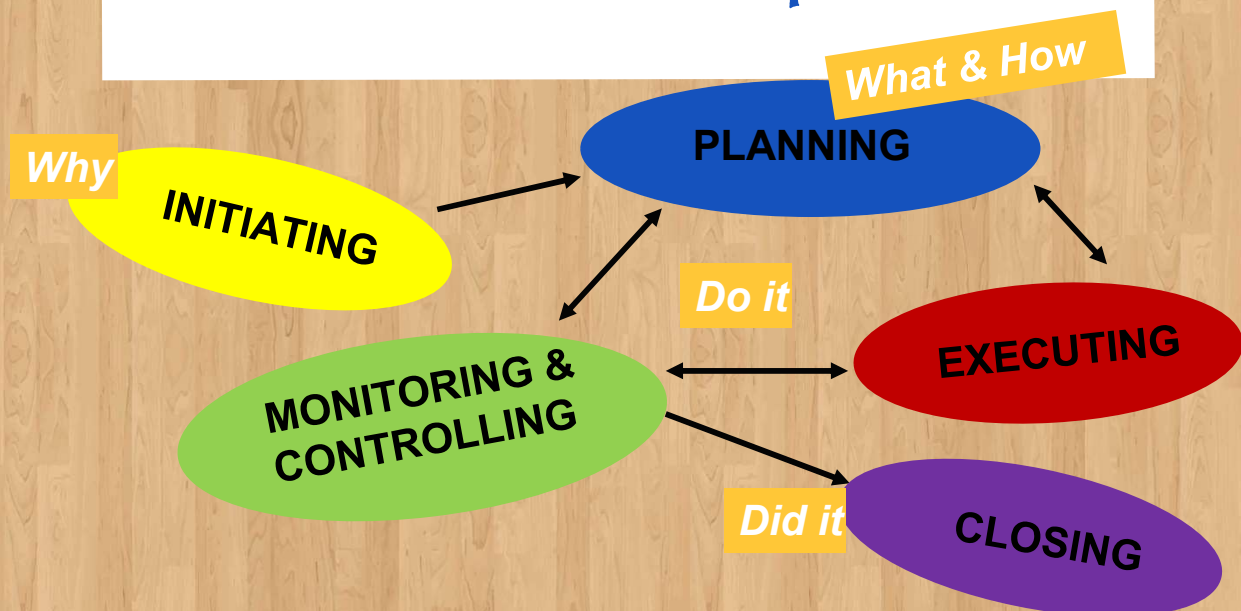
48

## Input Tools & Techniques Output (ITTOs)



49

## Process Groups



50

## Process Groups



- **Initiating:** Authorizing the project
- **Planning:** Defining and refining project objectives
- **Executing:** Coordinating people and resources to carry out the project
- **Controlling:** Ensuring objectives are met and adjusting when needed
- **Closing:** Formulating the acceptance and closure of the project

51

## Knowledge Areas

- **Integration Management** is the coordination of all elements of a project - tasks, resources, stakeholders, managing conflicts between different aspects of a project and making trade-offs between competing requests and evaluating resources.
- **Scope Management** ensures a project's scope is accurately defined and mapped. Did we build the right thing?
- **Schedule Management** is the listing of activities, deliverables, and milestones within a project.
- **Cost Management** is the process of estimating, allocating, and controlling project costs.

52

## Knowledge Areas

- **Quality Management** is the degree to which the project fulfills requirements and satisfies the needs for which it was undertaken...Did we build the thing right?
- **Resource Management** identifies, acquires, and manages the resources needed for the successful completion of a project.
- **Communication Management** is a collection of processes that help make sure the right messages are sent, received, and understood by the right people.

53

## Knowledge Areas

- **Risk Management** works to increase the probability and/or impact of positive risks and to decrease the probability/impact of negative risks in a project.
- **Procurement Management** supports the purchase and acquisition of products, services or results needed from outside the project team.
- **Stakeholder Management** is the process by which systematically identify stakeholders; analyze their needs and expectations; and plan and implement various tasks to engage with them.

54



55