1. Intentionally enter diffuse mode over ideas
    a. background processing
        i. give yourself a challenge, then go for a walk or take a shower
        ii. review problem before bed
        iii. work on problem first thing in the morning
    b. Diffuse mode thinking, internal and external
    c. Focus on the topic during meditation
    d. Meditation, sit in silence with the target as an object. Let ideas come, without trying. Less stressful idea listing.
2. Idea Lists
    a. Listing approaches to a body of problems (say ML toolbox, or models in how to think)
    b. Write a long list, and prune / pare it down
    c. Generate many ideas, and use the ones that are less frequently used ('creative' ones).
3. Transfer / Abstract over similar solutions
    a. Generalization - if you've solved a problem, extend the solution to its farthest reaches
    b. Metaphor Generation
    c. Creating idea map- figure out how ideas can go in the same canvas
    d. Connecting abstract concepts map! How to merge ideas! System that generate ideas from different field and forge you to combine them
    e. Find a source idea, categorize it, generalize.
        i. Systematization of everything
        ii. Emoting creativity
    f. List solutions to a problem and generalize
    g. Model vs. Technique - see what works in the space, ask why to get a model. Generalize from the model to generate more techniques.
    h. Think about similar areas that might be applicable and make analogies
4. Composition / Recombination
    a. Permutation / remixing
    b. Combining, connecting ideas / Idea Sex
5. Parameterize a space and search the spaces where objects don't yet exist
    a. Multinomial Trees (Ed Boyden)
6. Randomness
    a. Randomize. Generate random ideas by specifying some parameters, and make them work / use them as prompts.
    b. Randomized category pairings
7. Graphs of relationship between ideas (Ex., Optimizer / Model / Loss Function)
    a. Optimizing supervised learning with reinforcement learning (architecture search)
    b. Optimizing reinforcement learning with supervised learning (Policy Network / Value Network)
8. Prompts

    a. Leading questions
        i. Resource constraints (time, attention, money, assumptions, etc.)
        ii. Resource excess (time, attention, money, etc.)
        iii. Eliminating options
        iv. Imagine the future (problem is solved, for ex.). What happened? Work backwards.
    b. question prompts
        i. "so what" questions
        ii. "what if" questions
        iii. "how might we" questions
        iv. "what if the opposite is true"
        v. “does it even matter”
        vi. “What if I need to solve it once and for all”
        vii. “What if I need to solve it for everyone”
        viii. “What would X do”
        ix. books, collections of questions
    c. What is the meta level idea?
    d. What questions do I have about this?
    e. Imagine what other people would think of
9. Constraints
    a. playing with constraints
        i. Widen constraints
        ii. Narrow constraints
            1. Eg What if I needed to solve this once and for all within one hour
    b. What are the upstream constraints in the system?
    c. What is the meaning of the obstacles to search?
    d. What is the meaning of the obstacles to prioritization?
    e. Define boundaries of solution spaces better
        i. Find upstream constraints
    f. Create and remove constraints (time, resource, etc)
    g. Time Constraint
10. Brainstorm [thought dumping]
11. Reframe
    a. List and reject assumptions
    b. Current Knowledge frames ideas. Break out of frame with:
        i. Looking at problem from perspective of another person, another category of thinker
    c. Apply different modes of processing
        i. What would a supervillian do? (Prompt framing) / Supervillian mode
        ii. Emotional
            1. Anger
            2. Gratefulness
            3. Adoration

4. Frustration
5. Excitement

iii. Types of Thinker
1. Mathematician
2. Technologist
3. Computer Scientist
4. Philosopher
5. Psychologist
6. Economist

iv. find inspiration in other areas:
1. math
2. mythology
3. writings about principles
4. Physics
5. Etc

v. Environmental
1. Work in a cluttered environment

vi. Game Lenses, list of generic lenses

vii. Asking what would Hufflepuff / Gryffindor / me would do

viii. Asking what a friend would do

ix. Predicting what someone will say and then asking them

d. Articulate moves that help me break frame
e. Replacing words with nonsensical stand-ins
f. Assumption listing
g. Anti-indoctrination - assume that important things you believe about a domain are false. Note what falls and why.

12. Multiple levels of analysis
    a. Multiple levels of abstraction
    b. Meta-object two space
        i. Simultaneously optimizing the object and the meta level
    c. Multiple frames - think at lower or higher levels of analysis
13. Defend a difficult position, adversarial conversation
14. Think ground up, from first principles
15. Deconstruction (Mapping out the space)
    a. Mutually Exclusive, Collectively Exhaustive
    b. Deconstruction + Optimization
    c. Actually do science ‘to split’
16. Design Thinking
17. Social Solutions
    a. Crowdsourcing ideas
    b. look up what other people have been saying about it
        i. discuss things with others
        ii. check social media

    iii. find differing discussions online
    iv. Mapping ideas generation for other people!
  c. Work with other dissimilar people
18. Automation
  a. Inspirational bot
  b. Continuous conversation with a bot
  c. Related question generating bot
  d. Tracking brain activity for ideas and figure out what sensor make ideas
  e. Generate RL model to increase reward for ideas!
  f. Geometry of ideas! Figure out the patterns of ideas!
  g. Idea bot that tells how much your idea novel
  h. A response bot that listen to your ideas - tell you what to need to make them happen, how many other people have been thinking about it before!
  i. A mental bookshelf for your idea that links your ideas!
  j. A.I. that generate problems and you should come up with new solutions
  k. Stimulating environment that help you generate ideas - through VR
  l. Language of ideas! Create the math for idea-generation - formulate the idea generation
  m. Search Engines
    i. Build automated tools that do lookups over large data (books, websites) for a given query
    ii. Optimized for different parameters
    iii. Different categories of search
      1. Searching email
19. Thought Habits / Mental
  a. Weekly and daily loading programs
  b. Brainstorm often
  c. Create and refine a distinct open mode
  d. Create imminent desire for coming up with relevant ideas
  e. System 1 + Generalization
    i. Take an intuitive response and understand its mechanism. Turn the mechanism into a generator.
20. Invert
  a. Imagine ways of not doing it, or preventing the goal from being reached: adversarial
21. Meta
  a. Why come up with ideas? Figure out the patterns of idea generation - create the meta-level system for idea creation
  b. Separate generation and pruning (open vs closed)
  c. Read books about how other people do effective creativity to gem mine their methods
  d. Checklists of things to try

    e. Implicit prioritization (push techniques actually used to the top, those that you de-facto prioritize), improve query list over time
    f.
22. Write about it!
23. Activities
    a. Drawing
    b. Dance
    c. Giving a speech to the air
    d. Improving a son
    e. Page through pinterest boards to get new inspiration
    f. Thinkpak
    g. Improv Games