The Basic Principles Of TEAMWORK

We're All In This Together

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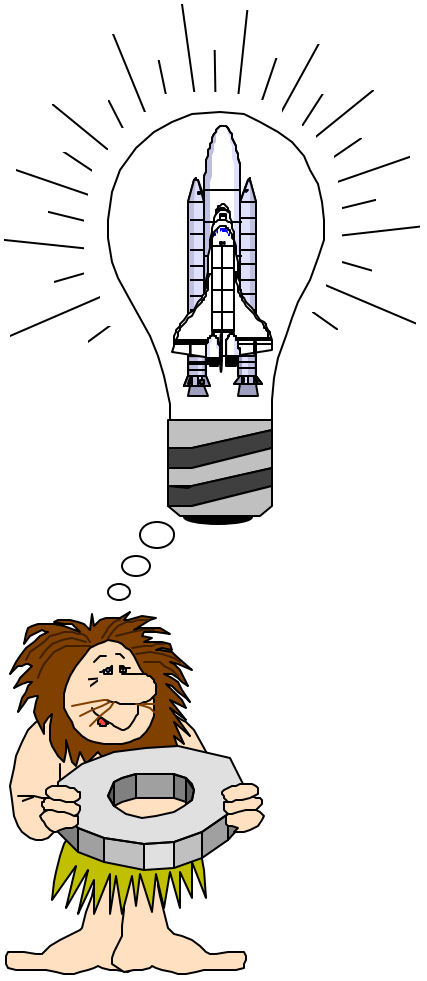
Boosting Engineering, Science & Technology

Team Training

- The Value of Teamwork
- Traits of High-Performance Teams
- Develop Your Team's Success Factors
- Ideas for Team Roles
- SMART Goal Setting
- Successful Meeting Hints
- Brainstorming
- Narrowing Down the List of Ideas
- Picking the "Best" Idea
- The Development Process
- Robust Design Characteristics
- Suggested Timeline



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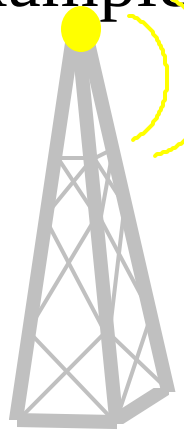
Role Of The Coach

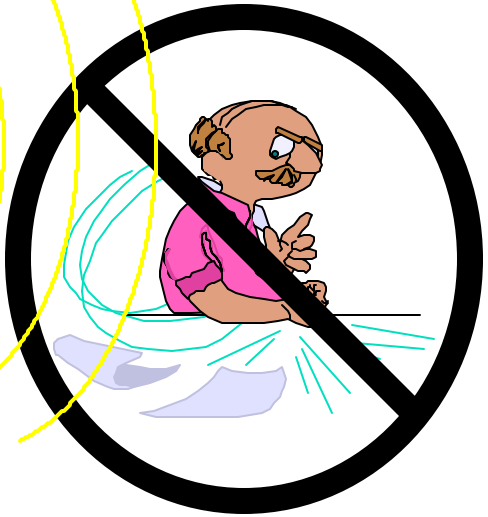
The Coach Is To:

- Mentor
- Guide
- Teach
- Team With
- Be an Example
- Motivate
- Advise

The Coach May NOT:

- Take Over
- Force Ideas
- Design the Vehicle
- Build the Vehicle





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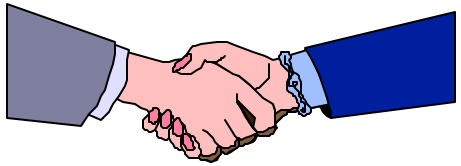
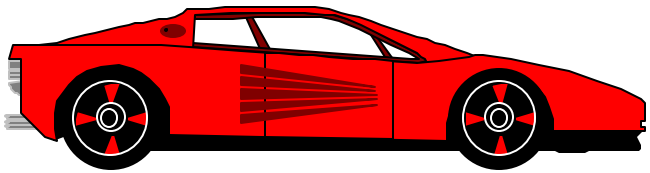
The Value Of Teamwork



- Support & Encouragement of the Team
- Increases Skills & Experience
- More Effective & Efficient
- Goals & Deadlines More Apt to be Met
- Responsibilities & Contributions Shared
- Creativity Surfaces as Individual Ideas are Combined

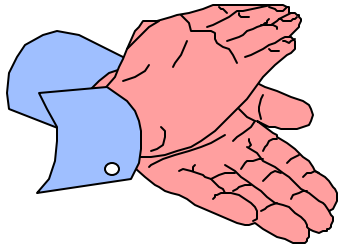
Traits Of High-Performance Teams

- Goals Are Achieved
- Team Members Trust One Another
- Teammates Listen To Each Others' Ideas
- Realistic & Challanging Objectives Are Created
- Positive Feedback Is Given To One Another
- Individual Roles & Goals Clearly Defined
- Conflicts Resolved In A Healthy Manner
- Decisions Are Reached Which Everyone Supports



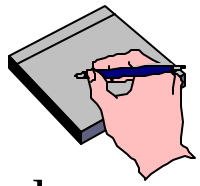
Develop Your Team's Success Factors

- **PURPOSE**: Define The Team's Function & Objective
- **PROCESS**: Determine What Actions, Procedures, & Operations Will Be Used
- **COMMUNICATION**: Share Everyone's Ideas & Respect Their Feelings

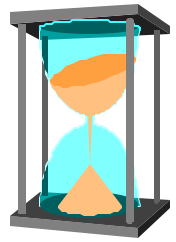


- **INVOLVEMENT**: Encourage Everyone To Participate.
- **COMMITMENT**: Everyone Must Be Willing To Give 100% Effort To The Team Processes & Goals
- **TRUST**: Believe That All Team Members Can Rely On Each Other & Live Up To Their Commitments

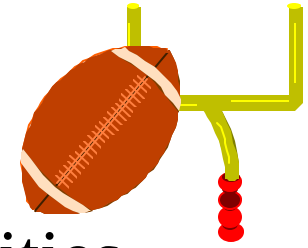
Ideas For Team Roles



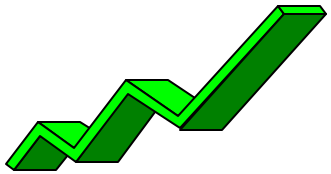
- **Scribe**: Records important information
- **Timekeeper**: Controls the time spent on various topics & makes sure everyone's viewpoint is heard
- **Gatekeeper**: Monitors discussion progress and lets the team know when off the subject
- **Strategy Subteam**: Works out game strategies & actions to take under various game circumstances
- **Game Piece Manipulator Subteam**: Works on the system used to pick-up game pieces & score
- **Drive Train Subteam**: Works on the system that gives the robot the required mobility
- **Kit Team**: Makes sure kit parts are not wasted and that final production only occurs using kit parts



Goal Setting - The SMART Method

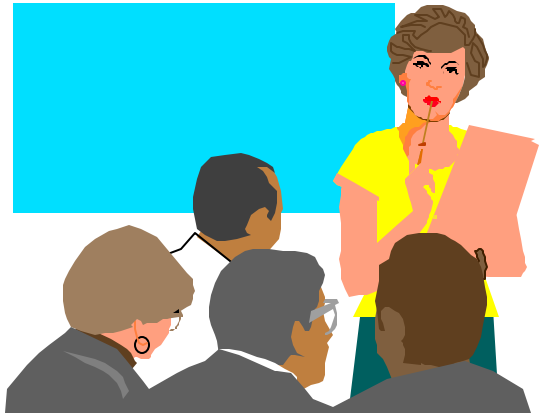


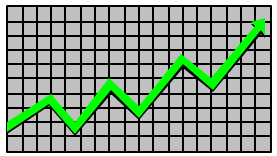
- **Specific**: goals should spell out clearly what should be accomplished
- **Measurable**: goals should have defined quantities
- **Attainable**: goals should be realistic, but challenging
- **Relevant**: goals should be results oriented & lead to progress
- **Trackable**: goals should specify time limits for accomplishment



Successful Meeting Hints

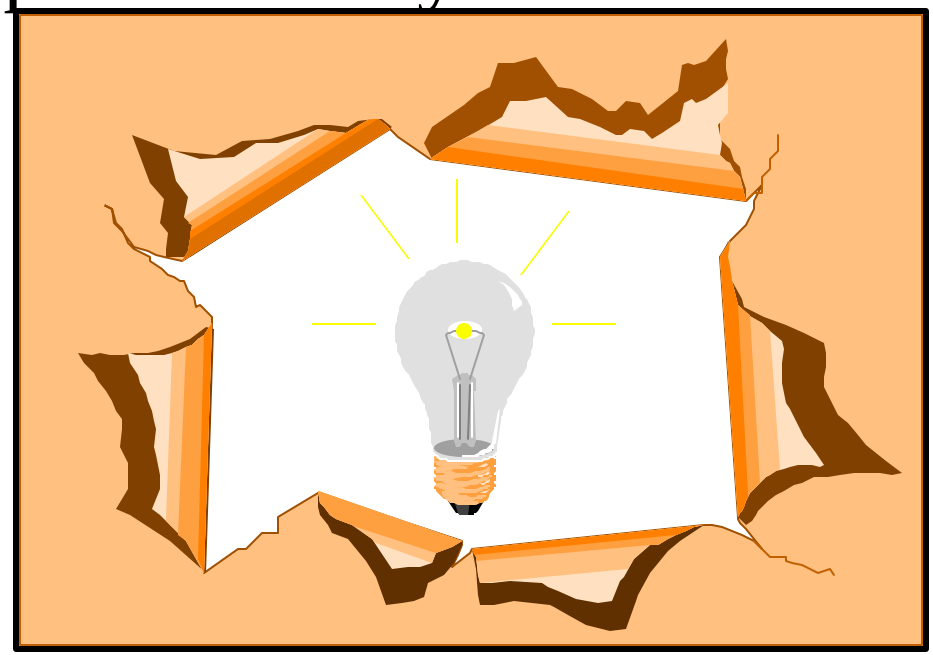
- Prepare the agenda in advance
- Be on time to the meeting
- Bring your information & assignment
- Understand the meeting purpose & objective
- Listen to each other
- Build on one another's ideas
- Stay focused on the subject
- Ask for clarification
- Understand your follow-up assignment
- Complete your assignment before next time
- Give each other positive feedback
- Track the team's progress (update milestone chart)



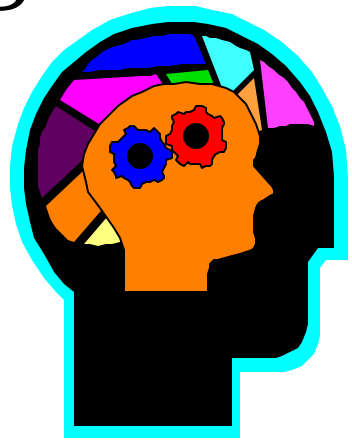


BRAINSTORMING

A method of problem solving or project planning in which all members of a group spontaneously contribute ideas.



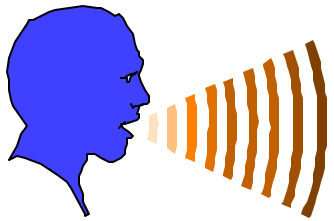
Guidelines For Brainstorming



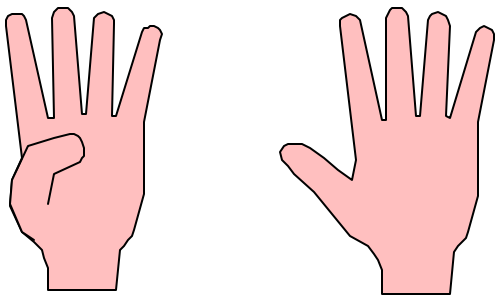
- **Step 1**: Identify the topic(s) to be brainstormed
- **Step 2**: Review the rules before starting the session:
  - Focus on one topic at a time
  - All team members participate in turn
  - Only one idea per person per turn
  - Accept all ideas at face value. Do NOT edit, discuss, evaluate, reinforce, criticize, ridicule, or belittle any idea during the brainstorming session. The more outrageous an idea, the better (Pigs CAN fly)
  - Record all ideas generated
  - A member may elect to "pass"
  - Continue until all members "pass"
- **Step 3:** Begin the brainstorming session.

Narrowing Down The List Of Ideas

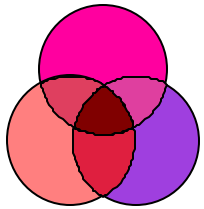
- Open discussion on each idea
- Let the idea's originator explain what they meant
- Ask: "Does everyone understand this idea?"
  - If NO, explain & discuss until they do
  - If YES, move on to the next idea



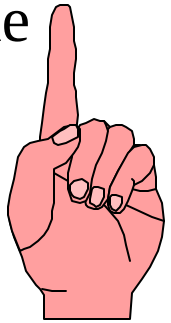
- Vote on each idea. Everyone gets as many votes as they want, so they can vote to keep as many ideas as they like
- Tally up the votes and select the top 4 or 5 ideas to evaluate further



Picking The “Best” Idea To Pursue

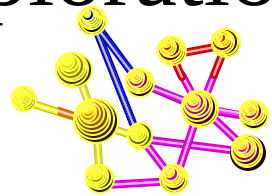


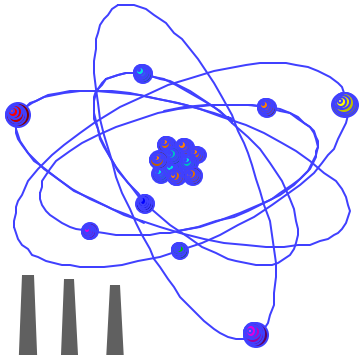
- Evaluate & discuss each idea on the reduced list
- List the pros & cons of each idea
- Compare & contrast each idea against the others
- Are some pros or cons more important than others?
- Vote again, but this time each team member only gets one vote to use on one idea
- Tally the votes & pick the winner
- Keep a record of the secondary ideas. You may have to go “back to the drawing board”

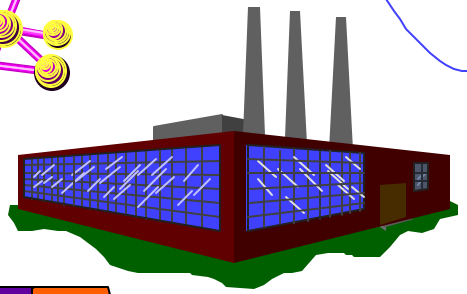


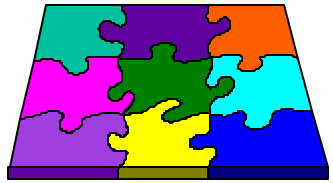
The Development Process

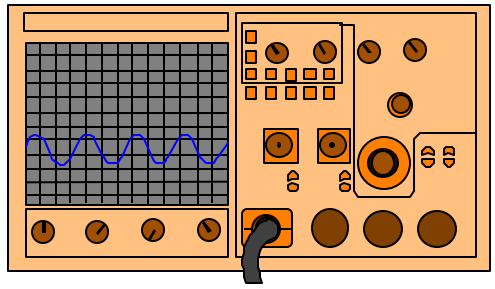
- Concept Exploration
- Design
- Production
- Integration
- Testing





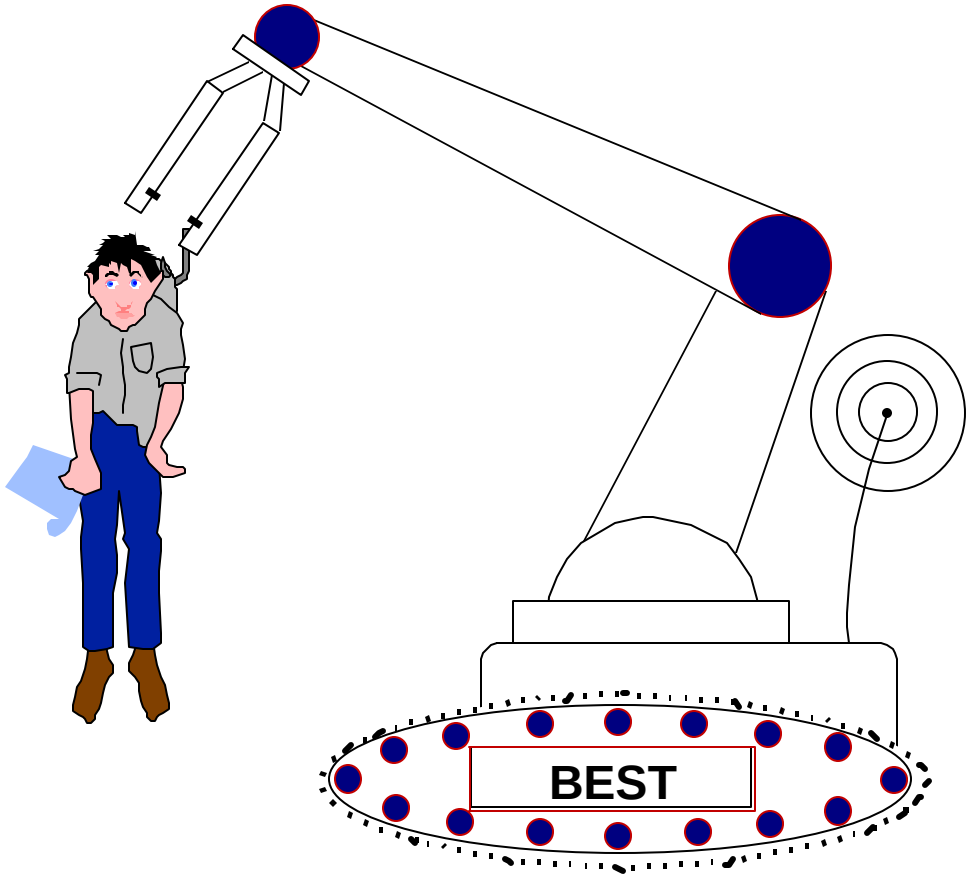






Robust Design Characteristics

- Understandable
- Simple
- Reliable
- Changeable
- Producible
- Maintainable
- Strategic
- Fool-proof



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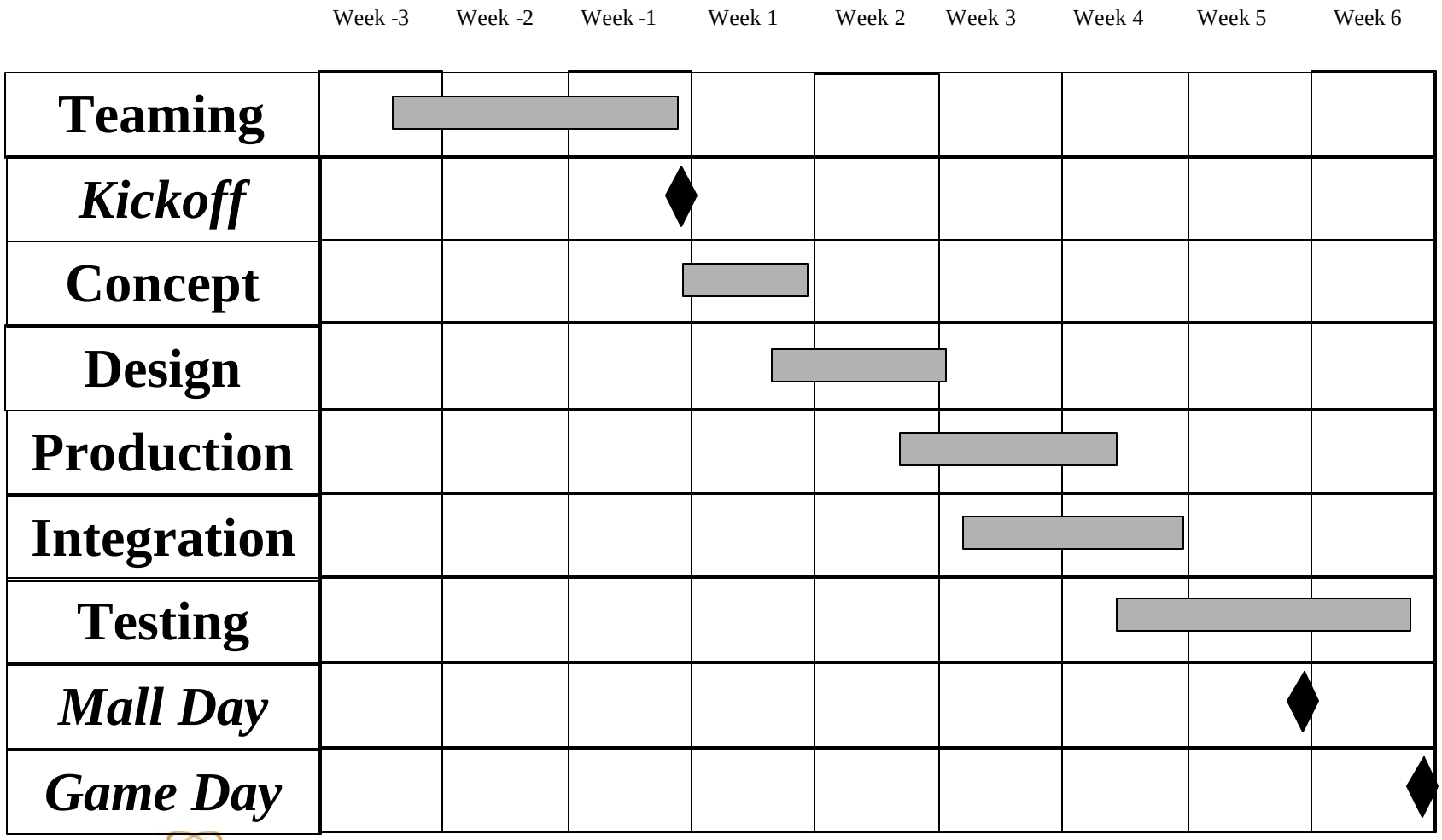
BEST Suggested Timeline



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