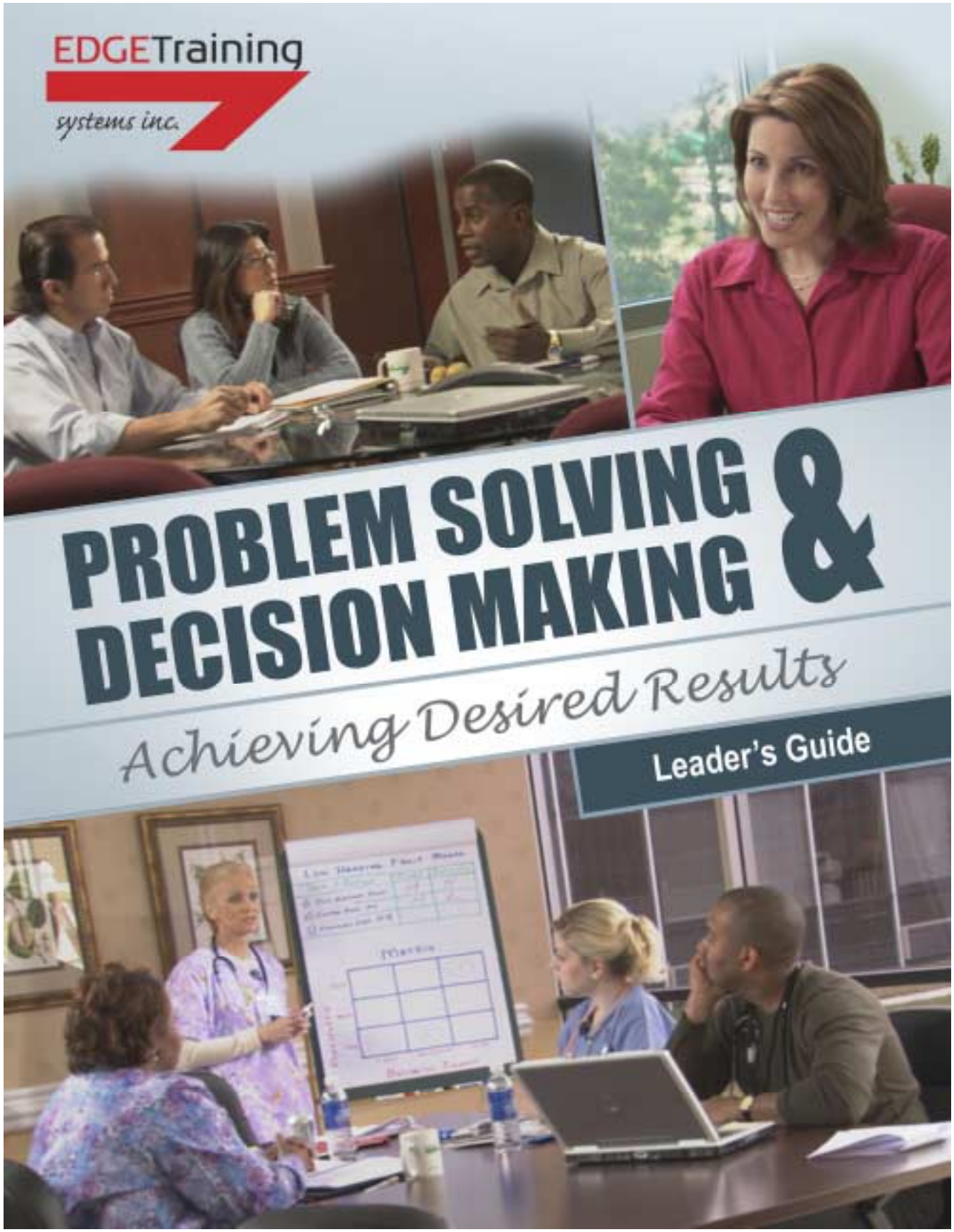

By Tony Iyoob

For Preview Purposes Only

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Problem Solving & Decision Making
Leader's Guide

Purpose: This course is designed to help participants explore the best practices for problem solving & decision making in the midst of complex and chaotic environments.

Audience: This class is designed for employees at all levels of development.

Class Size: Approximately 12 to 24 participants.

Workshop Timeline: The above Gantt Chart shows a visual of the class timeline. Blue bars represent lecture, Red bars represent group activities or interaction, and Purple Bars represents Video Component.

Materials/ Equipment: The following materials are recommended for this course:

- Video: Problem Solving & Decision Making
- Flipchart stand and paper or dry erase board
- Notepaper
- Tent cards or name tags
- Edge Problem Solving & Decision Making Workbook, PowerPoint & Projector

Organization: The Leader's guide is designed to be used with the supporting Participant Course Book and the video titled *Problem Solving & Decision Making*. Leader's notes are to the right of the corresponding slide

Duration: 2 to 4 hours.

Summary The activities in this Course Book are designed to allow the instructor to tailor the curriculum to fit specific class needs. Some activities may be altered or omitted. Depending on time allotment and participant needs, instructors may wish to omit certain activities. Additionally certain activities can be expanded to include individual, partner, small group or whole class options.

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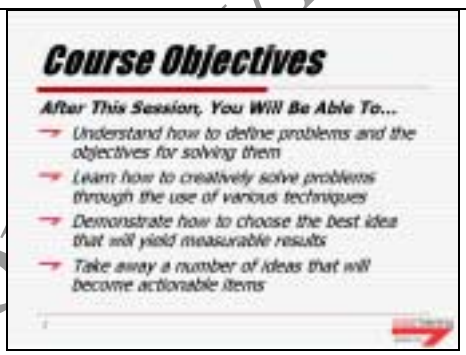
Slide 1		Welcome the group to Problem Solving & Decision Making developed by Edge Training Systems Inc. Have participants sign in using the edge workshop sign in form. 30 Minutes allowed for group introductions depending on the size of the group. ***2 Minutes - 30 Minutes*** ***Opening Slide***
Slide 2		Cover course outline in detail. This outline should be specific to your company needs. You can also add or take away optional activities to narrow down the length of this program. ***2 Minutes*** ***Page #1***
Slide 3		Discuss the course objectives. This would be a good time to ask participants if there are any other objectives they would like to see covered in this class. List those on a flip chart in order to cover later in the class. ***2 Minutes*** ***Page #2***

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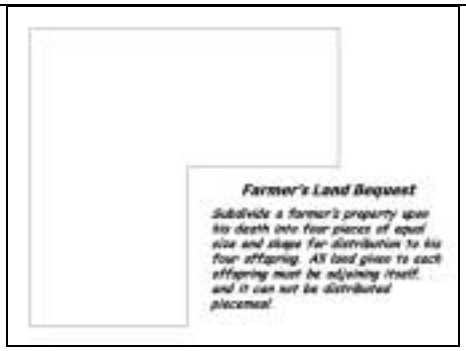
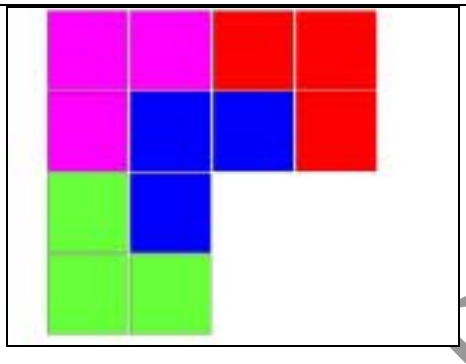
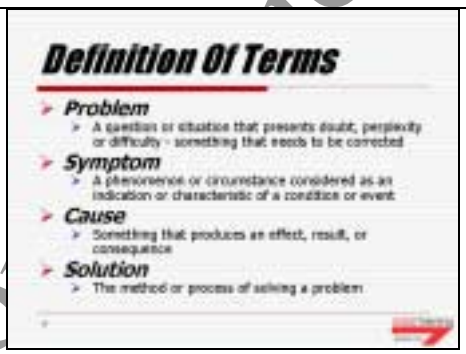
Slide 4		**Activity** The Farmer's Land Bequest, follow directions on screen. When participants finish the activity, draw the correct solution on the board. Explain that the purpose of this exercise was to encourage creative thought and to put them into a frame of mind to solve problems as a team. ***5 Minutes*** ***Page #3***
Slide 5		Answer Key: Explain we are probably stuck in a paradigm of how to solve this. This forced you to think outside the box for the solution. What previous experiences have you had that made it more difficult/easier to solve this problem? What general type of problem is this? What general principles could you invoke to aid you in solving future problems of similar nature?
Slide 6		It is important for participants to understand the terminology before we begin. People think of problems and solutions going hand-in-hand. We are driven to find solutions when we are confronted with problems. We often mistake symptoms for problems. We will talk about how to drill down deeply to find the real problem and the cause so you can begin to try to find solutions. Solutions are possibilities, ideas, strategies, desired results. ***3 Minutes*** ***Page #4***

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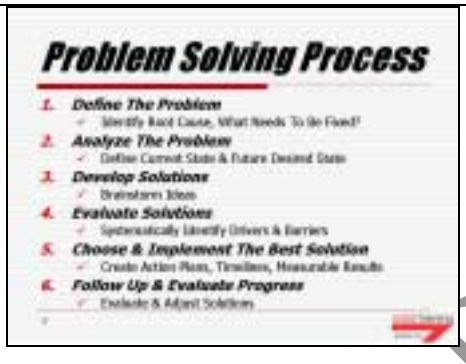
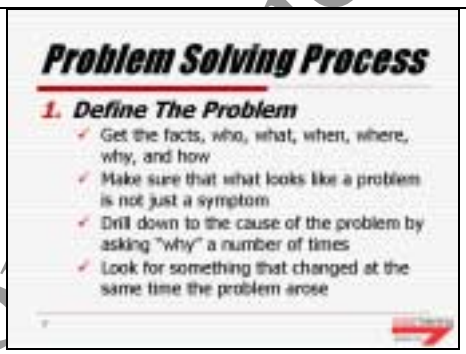
Slide 7		Show the Problem Solving & Decision Making Video. Prep participants to take notes regarding the 6-step process in their workbook on page #5. ***Video*** ***24 Minutes*** ***Page #5***
Slide 8		Review the six step process of solving problems. We will cover steps 1 - 6 in more detail in this class. ***3 Minutes*** ***Page #6***
Slide 9		***Step #1Defining The Problem*** This step allows us to determine the root cause and treat the problem, not the symptom Asking “why?” is the backbone of creative problem solving. You are usually faced with symptoms and we try to solve the symptoms not the root problem. If you don’t ask why and dig deeper, you won’t be solving the real problem or finding the real cause of the problem. ***5 Minutes*** ***Page #7***

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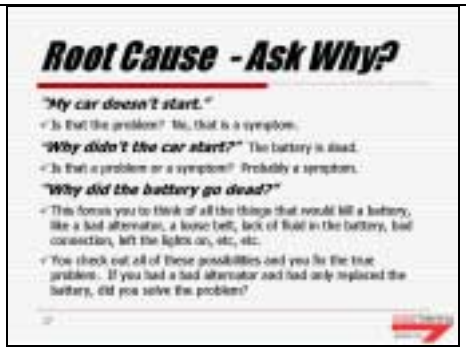
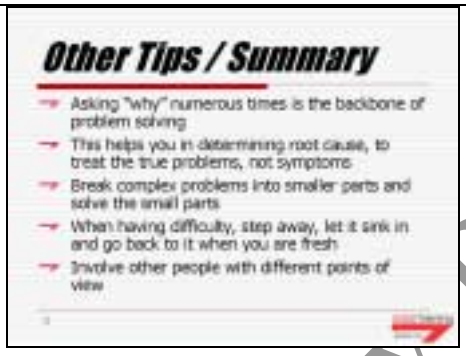
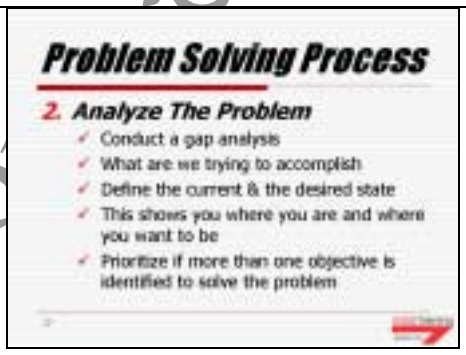
Slide 10		My car doesn't start. Is that the problem? No, that is a symptom. "Why didn't the car start?" The battery is dead. A dead battery is probably a symptom of the true problem. "Why did the battery go dead?" This forces you to think of all the things that would kill a battery, like a bad alternator, a loose belt, lack of fluid in the battery, bad connection, left the lights on, etc, etc. You see the value of asking why? ***2 Minutes*** ***Page #8***
Slide 11		Asking why is the backbone of problem solving. Break complex problems into smaller parts and solve the small parts. When there is disagreement about the problem, get all the data and facts. When you are having difficulty in understanding the problem, leave it for a while, let it sink in, go back to it when you are fresh. Involve other people with different points of view. ***5 Minutes*** ***Page #8***
Slide 12		What are you trying to achieve by solving this problem? Involve the people who have a stake in solving the problem. Get their input. Make sure that everyone fully understands the problem or you may find that you are getting different solution objectives. The objectives should be specific & measurable. Paint a picture of the desired result, so that everyone involved can visualize it. ***2 Minutes*** ***Page #9***

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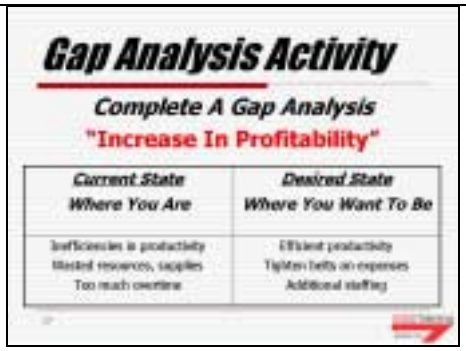
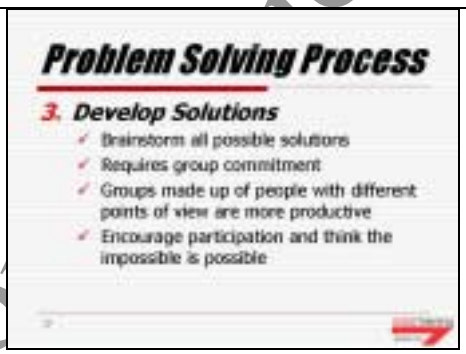
Slide 13		**Activity** ***Gap Analysis, Where we are vs. where we want to be*** You are not trying to solve this problem, you are performing a gap analysis to determine where we are now and where we want to be. We want to move from the current state to the future desired state. ***10 Minutes*** ***Page #10***
Slide 14		**Activity** ***Drivers & Barriers*** In this activity you are thinking of the forces that will support your plan (Drivers) and the forces that will block your plan (Barriers). Driver could be, support people, products, equipment, etc. Barriers could be, non-supportive people, high cost products, etc. ***10 Minutes*** ***Page #10***
Slide 15		Step # 3 Developing Solutions begins with brainstorming all possible ideas. You goal is to go for quantity of ideas. ***3 Minutes*** ***Page #11***

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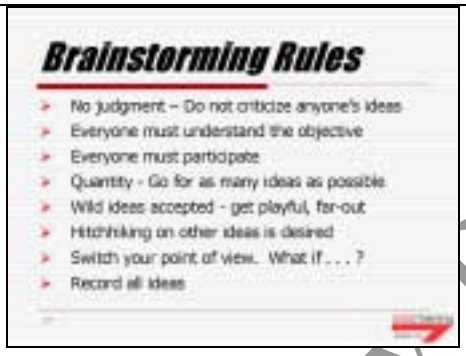
Slide 16		Some people are more comfortable sharing their ideas in smaller groups. Realign groups, people who spend a lot of time together begin to think alike, promote creativity. Encourage people who are hesitant, otherwise, they will just go along with the group to avoid making waves. Incorporate activities. Stimulate the energy in the room by introducing a new train of thought, taking a break, stretch, joke, throw a ball around. ***3 Minutes*** ***Page #11***
Slide 17		Explain the rules of brainstorming. When running a brainstorming session, it is wise to set up ground rules. The main objective is to set rules that encourage free thinking and participation. ***3 Minutes*** ***Page #12***
Slide 18		**Activity** *How do we increase profitability?* Generate as many ideas as possible. Give participants 15 minutes to record all of their ideas. Then, ask participants to share their ideas and compare if the others had anything different. ***15 Minutes*** ***Page #13***

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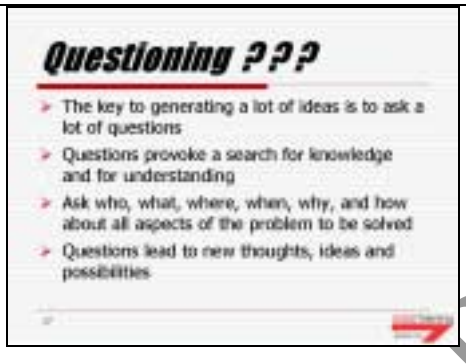
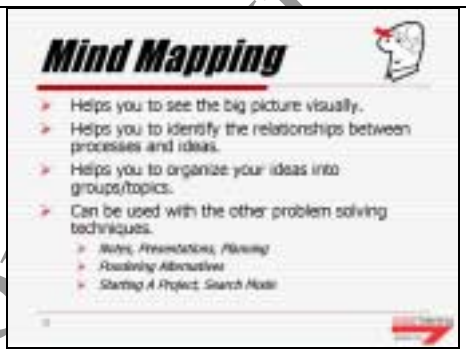
Slide 19		Cover Idea Stimulators, emphasize to participants they sometimes need a fresh outlook in order to change perspectives on problem solving. This helps them step outside the box and look for new, innovative ways of solving problems. ***3 Minutes*** ***Page #14***
Slide 20		Questioning is the quickest and most direct way to stimulate creativity. Try to avoid questions that go into an endless loop, going nowhere, such as Why me? And Why did it have to happen? Rather, ask questions that open the mind, that search for information, alternatives. Questions are empowering because of this. They lead to new thoughts, new ideas, new possibilities, new solutions. ***2 Minutes*** ***Page #14***
Slide 21		There are many ways to use Mind Maps? Mind maps give you a visual picture of flow charts, processes and procedures. Mind maps can be used anytime you are in a search mode, pondering alternatives, or trying to start a project. ***3 Minutes*** ***Page #15***

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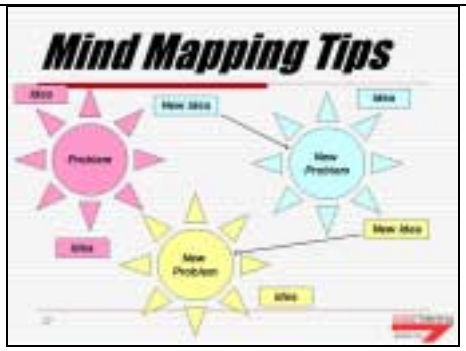
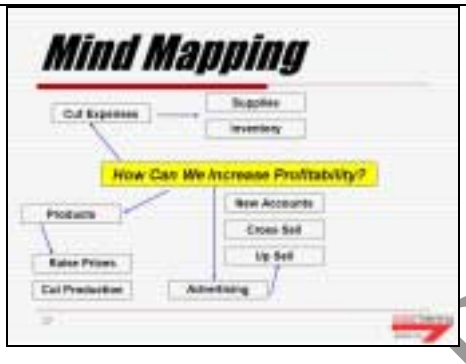
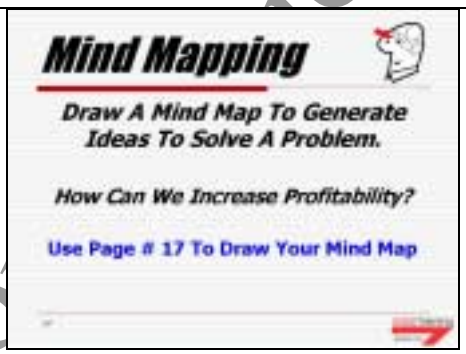
Slide 22		Explain the mind mapping procedures, cartwheel method, start with problem, then generate ideas. This creates a visual and separates ideas into categories. As you click through this slide, illustrate how visually mapping the problem, we can sometimes see the problem leads us to an alternative solution. ***3 Minutes*** ***Page #16***
Slide 23		Explain the process and show this example of mind mapping, emphasize the different categories or causes that might be affecting our problem. You can alter this slide to the specific needs of your organization. As you click through this slide, the various categories will appear on the screen. ***5 Minutes***
Slide 24		**<u>Activity</u>** Draw a mind map to generate ideas for this problem. **How can we increase profitability? Or any other problem you would like to solve.** Move people around again to form new groups. Allow 10 minutes to draw a mind map of ideas. Have each group present their mind maps. ***10 – 20 Minutes (Optional)*** ***Page #17***

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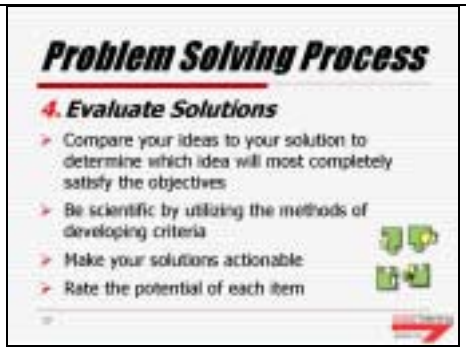
Slide 25		***Step #4 Evaluate Solutions*** Choosing the best solution is usually easy if the previous steps are done well. It will probably be obvious. But, sometimes the problem is more complex and requires more consideration. Then, you would probably want to take more time and give more thought to choosing. Be scientific by utilizing the method of developing criteria. ***3 Minutes*** ***Page #18***
Slide 26		Explain the methods we will cover today. You can practice a few of these, or all of them, depending on the time allotted for your workshop. Examples are provided in this workshop, however, feel free to add your own evaluation methods, or use the examples provided. ***3 Minutes*** ***Page #18***
Slide 27		**<u>Activity</u>** Choose the best solution to the original problem: or chose an idea of your own. **How do we increase profitability?** List your top 5 ideas in order of preference using your current knowledge base. ***10 Minutes*** ***Page #19***

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Slide 28		Instruct participants to list the advantages & disadvantages of their selected problem. This method should help them see the drivers & barriers to their problem. ***10 Minutes*** ***Page #20***
Slide 29		Choosing the best solution is usually easy if the previous steps are done well. It will probably be obvious. After evaluating the criteria, this will help you in your decision making process. Criteria will change based on the organization, resources, and problem. Now the work of planning, delegating, setting time lines will be critical in the implementation plan. ***3 Minutes*** ***Page #21***
Slide 30		Explain the Impact/Implementation Difficulty Analysis. This method allows you to list your ideas, and using your current knowledge base, helps determine the level of business impact and the level of implementation difficulty. The ideal solution will have a high level of business impact and a low level of implementation difficulty. ***8 Minutes (Optional Activity)*** ***Page #22***

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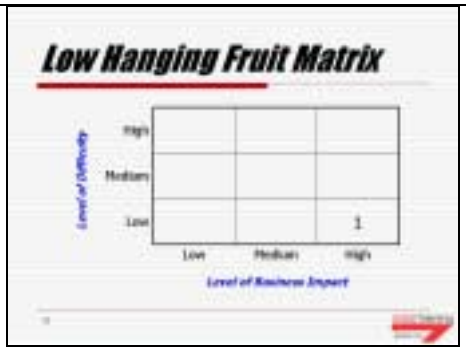
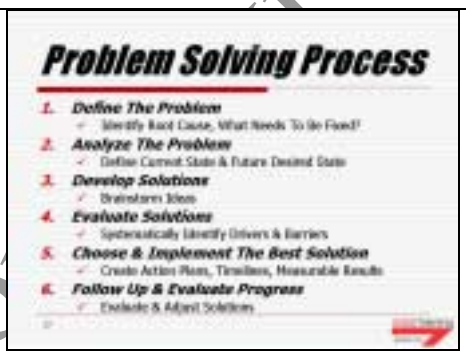
Slide 31		The Low Hanging Fruit Matrix allows you to take your Business Impact and Implementation Difficulty and plot in on the matrix to catch the "Low Hanging Fruit". Plot your ideas in the matrix as it relates to difficulty & impact. The example here shows idea #1 has a low level of difficulty with a high level of impact. Again you are looking for the lowest level of difficulty with the highest business impact. ***10 Minutes (Optional Activity)*** ***Page #23***
Slide 32		The final step is to follow up and evaluate progress. This is key to the successful implementation of your solution and probably the area we most often forget. Follow up by explaining the importance of evaluating your ideas and tracking progress. If our solution does not work, we may be forced to fall back on our contingency plan to achieve the desired results. ***3 Minutes*** ***Page #24***
Slide 33		Final review the six step process of solving problems. Explain the importance of following each step and not taking any shortcuts in this process. This also might be a good time to check for understanding or answer any questions the participants may have on the six-step process. ***3 – 10 Minutes (Depending on questions)*** ***Page #25***

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Slide 34		This is a fun activity to test your participants' ability to solve a problem as a group. Depending on group size, break the participants into teams of 5-8 each. Read the scenario as it is on the screen. ***3 Minutes*** ***Page #26***
Slide 35		Explain the rules, you want people to first complete the activity individually. This forces them to make a decision. Then as a group, they can discuss and rank the items of importance. ***3 Minutes*** ***Page #26***
Slide 36		On page #27 you will see the scoring sheets. Have participants rank their individual answers in Column "B", Have them list the group rank in Column "D" It's OK for them to disagree as a group, conflict is good and this forces them to listen and think through their decisions. ***15 Minutes*** ***Page #27***

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Slide 37		***Answer Key: Provided by NASA*** To complete the scoring, ask participant to list the NASA answers in Column "A", then take the difference and list it in Column "C" for individual results, and again in Column "E" for group results. Example, if you listed 1 in column "A", and 3 in column "B", the difference is 2, no need to use = or – Then total down column "C" and column "E" using the rating guide on the bottom of Page #27. The lower the scores the better. Usually you will find lower scores as a group as compared to individual results. This emphasizes the usefulness of group consensus when making decisions. ***10 Minutes*** ***Page #27***
Slide 38		

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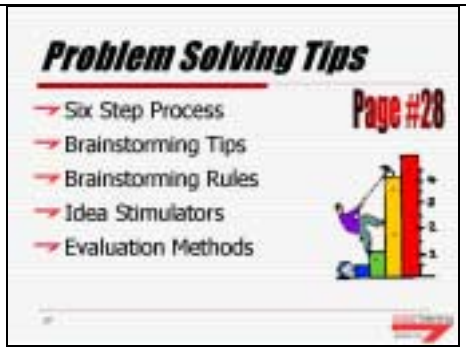
Slide 39		Have participants go to page #28 and explain the quick reference sheets on Problem Solving & Decision Making. ***5 Minutes*** ***Page #28***
Slide 40		
Slide 41		Solicit and respond to any questions the group may have. If you do not have an answer, list question with name of person and email or call them with the answer when you have the answer. Have participants complete course evaluations, stand in the back of the room while participants complete course evaluations and thank them for their participation as they exit the room. ***Course Evaluation (Last 2 Pages In Workbook)***

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