

Course Syllabus for Creative Problem Solving
Greg Adams

Course Description: Students will be divided into groups and work on several different problems during the trimester. The class will provide a hands-on experience that will allow students to use their creative problem solving skills and learn to work in a group.

Required Materials: Most materials will be provided by the school. Students periodically purchase items on their own.

Graduation Standard (s): Resource Management; Group Resources; Write and Speak: Interpersonal Communications

To meet requirements for class: Students will be required to complete assigned projects, attempt to make progress on projects each day, and successfully work in a group. A minimum of 85% class attendance is also required to fulfill requirements for the course.

Homework: as assigned by instructor

Assessment: Students are assessed by class attendance, completion of assigned projects, and visual observation by teacher on work completed within the group. To attain Level I of the graduation standard, students will be required to give a short presentation to the class on how the solutions to their problem was achieved from start to the finish.

Students in grades 7-12 must complete the following three levels during their school career in order to fulfill the graduation requirements in the Creative Problem Solving area.

Graduation Standard(s): Resource Management; Group Resources; Write and Speak: Interpersonal Communications

Overview: Level I: Students will begin to develop different problem solving skills.

Level II: Students will demonstrate that they can work effectively in a group to solve a problem.

Level III: Students will compete as a problem-solving team in a state-sponsored competition.

Level I:

___ Identify a problem, or issue

___ Demonstrate usage of at least three different problem-solving skills, for example: brainstorming, using graphic organizers, working backwards, trying different solutions, etc.

___ Solve the problem

Level II:

___ With a group, define a problem or an issue

___ Demonstrate the ability to be an effective member of the group using at least three different problem-solving skills.

___ Demonstrate the ability to effectively negotiate solutions to the problem with others.

___ Complete work within necessary time constraints.

___ Solve the problem

Level III (optional):

___ Participate as a member of a team or group that participates in a state-sponsored competition or demonstration of group problem-solving skills, for example: Destination Imagination, History Day, National Engineering Design Competition, etc.

___ Complete a project for one of the above.

Due: May 15, 2002

Team: _____

Problem: "The Un-ordinary Reaction"

You are to design and build a chain reaction device that will incorporate the following:

1. An airplane must be shot
2. Some sort of teeter totter
3. Some sort of ramp with a ball rolling
4. A mouse trap reaction
5. Bow and arrow shot to break a balloon
6. One of your choice

Competition

You must start the reaction by pushing or pulling some sort of switch. It must then function on it's own.

You must have a minimum of 6 reactions, but you can have more. You may add 2 or more reactions of which 2 will be scored and added as a bonus. Each team will be allowed two attempts. You must take at least 5 seconds from start to finish or there will be a penalty imposed.

Scoring:

Creativity of the reactions	1 to 10 pts each	60 pts
Engineering of the device	0 to 30 pts	
Reaction starts with a switch		10 pts
Airplane flies		10 pts
Balloon breaks		10 pts
Bow and arrow fires		10 pts
Mouse trap reaction		10 pts
Ball roll		10 pts
Required choice		10 pts
Bonus 1		10 pts
Bonus 2		

Total Score

(For more information, contact Greg Adams: 651/293-8670.)