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HANDS-ON Practice Problems 1-10

Given: 5 medium rubber bands, 10 dimes, 3 chains, Legos, shoes with Laces
Members form a circle in which alternate members face toward and away from the center. Attach the wrists of the members standing next to one another. Without talking, complete the following tasks.

1. Stack the dimes
2. Untie and retie two individuals' sneakers
3. Unstack three chairs
4. Build a car with the Legos

Given: Marshmallows, toothpicks

Build a structure as high as you can

The team is divided into two groups. One group's members are the leaders, the other group's members are the workers.

The leaders are given two minutes to develop a nonverbal communication method (ex. sign language) in order to direct the workers to perform a task.

The judges then give the leaders a task.

The leaders must non-verbally direct the workers to perform a task (ex. building something out of clay)

Given: 10 marbles, table or other raised surface from which to start, cardboard-flat and tubes, paper plates, construction paper, egg cartons, plastic cups, nails, push pins, masking tape, sponges, tacks, various boards, small boxes, 8 foot and / or shorter pieces of plastic molding for paneling or other supplies as desired and available.

Design and build a marble run with as much variety as possible. At the end of the allotted time(10-30 minutes), run 10 marbles and judge the run on variety, creativity, and engineering. The problem might be altered to give more points for very slow descent of the marbles.

Given: one large plastic gallon bag with the following materials; large paper or plastic plate, 3 toothpicks, 2 plastic straws, balloon, 2 rubber bands, large Styrofoam cup, 6" square of contact paper, sheet of plain paper, business size envelope, small bottle of glue, scissors.

Design and build a device which will store energy that will then be released to transport a raw egg a minimum of 12 inches using only the materials provided and without touching the egg during the test with your hands.

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Given: 15 large marshmallows, 15 licorice sticks, a cup, lifesavers.

Build a structure that will hang from the ceiling. You will have 10 minutes to complete the problem. After you have built the structure it will be hung from the doorway.

Attach a cup at the bottom of the structure and fill it with lifesavers.

After each addition of 5 lifesavers the structure will be rocked.

Each time the structure is rocked (and survives), 2 points will be given.

The length of the structure will earn points as well– 5 points per 1 inch.

Build a bridge type structure. You will be given one minute to discuss the problem. You may talk to your teammates.

You will have 10 minutes to complete the problem.

After you've built the structure, a cup will be placed in the middle of the bridge span. The addition of each lifesaver to the cup counts as two points, and each inch of the structure's horizontal span will equal 5 points.

Given: 6 paper clips, fingernail file, 10 foot piece of string, 3 rubber bands, meter stick.

A pipe is placed on a tabletop, extending over the edge at least 6 inches. Two other pipes are placed on the floor directly below the pipe on the table top and spaced one foot apart. An 8 foot square is taped around the setup such that the pipes are in the center. Team members are not allowed inside the square. The team must find the vertical distance from the bottom of the pipe on the tabletop to the top of the pipes on the floor.

Given: crayons, cardboard.

Recreate as much of the Sistine Chapel Ceiling as possible. The team has three minutes to think and eight minutes to work.

There is to be no talking.

Given: golf balls, swizzle sticks, duct tape, one rubber glove.

Build a structure as high as possible.

Given: cardboard, pasta.

Create an artistic work and then describe what it represents.

Given: 2 Styrofoam cups, 1 sheet of typing paper, 2 popsicle stick, 1 mailing label, 2 Cheerios.

Construct a platform(s) that will cover the 2 Cheerios while supporting a team member off the ground for at least 10 seconds.

Scoring– 10 points for every second the team member is supported (up to 150 points possible), 10 bonus points for each Cheerio that remains uncrushed and unbroken.

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HANDS-ON Practice Problems 11-20

Given: 1 container of play-dough, 1 wash cloth, 2 shoe strings, 10 toothpicks, 10 pennies.

Create a model of a new invention. After the model is complete, the team must explain what it is, what it does, and how it improves the world.

Given: 5 straws, 10 toothpicks, a block of clay, a piece of paper, an egg. Build a structure as tall as you can that will support the egg. You will be judged on the height and creativity of the structure.

Given: 4 pieces of paper, 4 pencils.

The coach will make up a sentence and assign each team member a word to draw (ex. Chicken legs are really skinny.)

Members will have 3 minutes think time, and 5 minutes to respond. After all the words are drawn, they are to be placed on the table in the order in which the team thinks that the sentence reads.

Any team member may guess at a word, as long as it is not the word that they are drawing. Five points will be given for each correct word guessed, and fifty points will be given for the correct sentence.

Given: 3x5 inch piece of aluminum foil, paper clips, bowl of water.

Make a metal boat that will support weight and stay afloat in a bowl of water.

Points will be given for each paper clip placed before the boat sinks.

Given: 1 pack of 50 3 x 5 inch index cards.

Build the tallest structure you can using only index cards.

Scoring: one point per inch in height. Members will have 2 minutes to nonverbally discuss and 5 minutes to build.

The problem may be done a second time with verbal discussion time.

Given: paper cup, 6 straws, 6 inches of tape, 10 toothpicks, 5 marshmallows, 1 piece of typing paper, scissors.

Build a structure that the paper cup can be placed on and will support weight.

Points will be given for height and weight supported.

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Given: 2 foot long ramp 6 inches high, brick 3 inches from the end of the bottom of the ramp, 2 straws, 12 small Marshmallows.

Coach announces that in 2 minutes an egg will be rolled down the ramp.

The team must construct a barrier to protect the egg from the brick and still allow the egg to reach the table top.

Given: 4 small straws, 30 elbow macaroni, 5 pipe cleaners, 4 mailing labels, 10 toothpicks, about 50 mini marshmallows, assorted rainbow rotini, and at least 10 spaghetti noodles.

With 2 minutes to plan and 8 minutes to work, the team will build a free standing structure with the materials provided.

Scoring

1. One point for each inch of height of the structure inside the base. The height will be measured with a yardstick perpendicular to the base of the structure.

The highest point of the structure that is entirely inside the base will count for the height measurement.

Any part of the structure above that point will not count for height.

2. 0 to 15 points for teamwork.

This will be the subjective opinion of the judge and the judge's decision is final

3. 0 to 15 points for creativity of the structural design – that is how you put it together so it stands up.

This is also a subjective opinion of the judge.

4. 0 to 35 points for creativity of the decoration or style of the structure.

Again, this is a subjective opinion of the judge.

Given: 20 Dixie cups, 1 roll of scotch Tape.

Build a creative structure.

With 2 minutes to think and 3 minutes to solve, two team members are blindfolded and the other three team members have to move them around an obstacle course using only sounds (not voices or words). Points given for targets hit that are placed on the floor. The object is to get them to meet at a certain target on the floor.

Given: various items of interest– hats, eggbeaters, etc.

The team will perform a rotating improv using the items laid out on the table.

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Members take turns using one or more articles from the table to create an improvisational play or skit.

HANDS-ON Practice Problems 21-30

Given: a box of craft items.

Team must make something that symbolizes OM and their feelings about OM.

The task is to move all 5 team members from point A to point B (20 feet) as quickly as possible. At no time may more than 3 hands or feet (or combination thereof) be in contact with the floor. All members must be moved at the same time.

If more than 3 hands or feet touch the floor, the entire team must return to the starting line and begin again.

Given: 10 popsicle sticks, 5 toothpicks, 2 straws, 5 mailing labels, 25 marshmallows.

You have 5 minutes to build a structure supporting a Styrofoam cup into which you will put pennies.

Scoring- 3 points for each inch of height, 1 point for each penny held.

Given: a perceptual puzzle of 12 pieces.

Match each edge with the appropriate piece to make a square.

a	b	b	c	a	a
d b	d a	d c	d b	b c	b d
c	c	a	a	d	c

b	c	b	a	d	a
c a	b d	a d	a d	b c	b d
d	a	c	b	a	c

Given: 5 straws, 3 paper clips, rubber band, paper, small plastic container, 25 wine bottle corks.

Build a structure that holds as many corks as possible. The score for each cork is its height in inches above the surface.

Total Score: sum all cork scores.

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Given: 9 whole pencils.
See how many equal triangles you can form.

Given: 20 marshmallows, 50 toothpicks.
Build the tallest structure possible in 5 minutes.

Given: clear lidded container full of pre-counted dry beans, two small paper cups, one plastic cup, one ruler, one piece of paper, one pencil.
The team will have three minutes to solve this problem.
The solution may be discussed with teammates at any time, however, questions to the judge will be answered only in the first minute.
The problem is to count or estimate the beans in the jar.
Up to 10 extra points will be awarded for teamwork and the creativity of the solution

Given: 20 toothpicks, 1 foot long piece of masking tape, 1/4 can of Play-dough, 1 piece of paper, 4 straws, 4 paper clips, 1 roll of pennies.
You must build a structure at least 10 inches tall. You must use a team created container that sits on top of the structure. It must hold weight in pennies.
The more pennies, the more points.

Given: 1 straw, 1 ft. string, 1 mailing label, 1 paper clip, tennis balls, 1 rubber band, 1 toothpick, 1 ballpoint pen, 1 popsicle stick.
You have 2 minutes to build and test something that can catch a tennis ball thrown by a team member from a distance of 15 feet.
At the end of the planning and building time, choose one person to pitch and one person to catch the balls that are not caught by the device constructed.
The team has an additional 2 minutes to successfully catch 3 balls.

HANDS-ON Practice Problems 31-40

Given: 50 straws, 1 block of clay.
With 2 minutes to discuss and 3 minutes to build, construct a structure as high as possible using as much of the materials as possible.

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There is to be no talking. Scoring– one point per complete inch, one point per straw used, negative points for each ounce of clay not used.

Given: 50 straight pins, 50 straws.

Build the tallest structure possible in 5 minutes.

Given: a bath towel, 20 pennies, 20 nickels, 20 dimes, two 8 1/2" x 11" frames Lay a towel on the floor. Tape off an area about 5 feet from the towel. Members are to toss the coins onto the towel. Then, they are to put the two frames over any place on the towel. The coins inside the frame counts double. (Do the kids try to put the dimes in one spot? Do they put both frames over the best spot?)

Given: (per sub– team) newspaper, 5"x7" index card, a roll of masking tape. Divide the team in half and distribute materials. The problem is to build a tower that will be free standing and able to support the card on top when completed. After 5 or 10 minutes, measure to see which tower is the tallest. If it can hold the card, it is the winner.

Given: one taped–off box, 4'x4' , facing a space 6' across delineated by an 8' line (the 6' area between the line and box is the span the beans must cross) , one sheet typing paper, one 12" piece of aluminum foil, one yardstick, 3 small paper cups, one large nail, 5 tubes (Can be copper, cardboard, PVC larger than 1/2 inch in diameter), 2 buckets – one empty and one filled with dried beans, one large spoon. In part one, the team will have three minutes to think, discuss, ask questions of the judge, adjust and divide materials. At the end of the time for part one, team members and materials will move to positions in the square or behind the line. At this time, all verbal communication stops and materials may not be thrown in an airborne manner across from the line to the square. In part two, the team will have 2 minutes to move the beans from the full bucket, which is placed behind the line, to the empty bucket, placed in the square, using only the tools provided. The team may not touch the beans or the floor outside the square or beyond the line with hands or feet. The starting bean bucket may not be used to carry the beans across the space. Scoring– one point for each cup of beans in the finish bucket. Up to 10 extra points at the discretion of the judge for creativity of the solution. Up to 10 extra points at the discretion of the judge for teamwork.

Given: 1 cup of shaving or whipped cream, 3 mailing labels, 2 pieces of paper, 2 safety pins, 30 toothpick, 2 straws, Not to be used in structure container, M&M's, dice, 12" ruler. This is a 2–part problem. In part one you have 6 minutes to design and construct a structure with the materials provided. The structure must be more than 4 inches high. At the end of part one, the judge will give you 10 points if the tallest part of the structure is above 4 inches. For every inch above 4 inches you will receive 5 points. In part two you will place a plastic container on your structure. In sequence you will roll a die. Whatever number comes up is the number of M&M's

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that you put on the container. These must be put in all at once. If a 3 were rolled, 3 candies would be put in the container all at the same time – not one at a time. This process will go on until the structure collapses. Each M&M is worth 3 points. Only those that were supported by the structure count (If a 6 was rolled, 6 candies were put in the container, and the structure collapsed, those last 6 M&M's do not count.) If you fill your container with one or more M&M's, you receive a 10 point bonus. You will also be scored on how well our team works together (1–10 pts.)

Given: a 12" long piece of aluminum foil for each member of the team. Team members are given 5 minutes to create something out of the foil. Creations are scored for creativity on a scale of 1 to 10. (Teams who watch each other and create objects based on a theme should be scored higher.)

The team is divided into 2 groups, 2 signalers and the rest are builders. The object is to develop a signaling system not using sound, but using other body language. Two lines are placed 6 ft. apart. The signalers must stay behind the lines. There are cards with sentences on them . The cards are about the size of a CD. The signalers will know that the only good cards are those that the first word starts with the letters A – M. Starting at the lines, the builders put down the cards to make a trail connecting the lines. There is a small object midway between the lines that the trail must go around both ways. And to add one more part on each side of the object, the cards must be turned 45 degrees relative to the direction of the trail. Of course, only the signalers know about the trail having to go on both sides of the object and having to turn the cards 45 degrees. Points are given for meeting all 3 criteria and completing the trail in the fastest time.

Given: 2 large books, a balloon, a miniature set of pliers, two pieces of notebook paper. The books are heavy and placed about 2 inches apart. The object is to separate the books, without touching them, at least 5 inches.

Given: 5 pipe cleaners, 4 pieces of masking tape, 1 page newspaper, 2 paper clips and 4 minutes. Build a ranch. In the following 2 minutes, each team member must describe it.

HANDS-ON Practice Problems 41–50

Given: envelope containing: an egg, newspaper, balloon, paper clip, plastic bag, 10 ft. string, name tags, ladle.

An area is marked off 10 ft. x 3 ft. A box is place on the line marked B. No one may stand in the marked off area. With 5 minutes to think and discuss, find a way to deliver each of the items in the envelop and the envelope from line A to the box without each item leaving the boxed in area as it crosses. Points will only be given if each item is at rest in the box.

Scoring– 10 points for the following: egg, newspaper, balloon, paper clip; 5 points for the following: plastic bag, string; 2 points for each nametag; 1 point for the ladle and 1 point for the envelope.

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Given: 50 toothpicks, 4 plastic straws, 1 piece of clay, 1 ping pong ball, scissors– the scissors may not be use as partof your structure. You have 6 minutes to think, plan your strategy, and complete the problem. You may ask questions or talk to eachother at any time. Questions count towards your time.

Your problem is to build a structure using only the given materials.

The structure must have the ping pong ball inside of it andthe ball may not touch the base. The structure will support a plastic container on its top that will be able to hold nails.

Your structure will be scored on its height, ping pong ball presence and the number of nails it supports. You must place the nails in the container one at a time without removing them. Nails must be supported for 3 seconds to count for scoring. You will be finished when your structure breaks or when the time is up. For each 4" height increment your structure reaches, your score will be increased. Your structure will be measured before you put the container on it. Scoring– if your structure stands at least 4" high and successfully supports the container, you will receive 10 points. The total number of nails held will be multiplied by the total number of 4" height increments. If your structure is 4" tall and holds 10 nails then 4" =1 increment and $1 \times 10 = 10$ points. Increments must be a full 4" to be counted.

Given: (to be used by signaler behind screen:) keys, bell, can filled with dry beans, spoon plastic cup (to be used by builders:) construction paper cut outs of triangles, circles and squares. There should be a total of two shapesof each color – red, yellow and blue. With four minutes topractice and develop signals and three minutes to actually complete the problem, reproduce a construction paper pattern
2 signalers– behind a screen telling shape and color using materials given. 1 Signaler– seen telling location with nonverbal signals. 2 builders– only handle shapes.

scoring– 25 points for each area correctly constructed. 1 – 10 for teamwork 1–10 for creative signals. 25 point bonus for getting all 3 areas correct.

Given: a paper bag filled with the following: 1 egg, 1 safety pin, a key, a piece of paper with a phone number on it, a band–aid, a tooth brush, dental floss, nail polish, handcuffs, a jelly bean, a ring, toothpicks, a tissue, a whistle, a spool of thread, a stick man, a peanut.

Your problem is to pass the bag around the table and pull out an item. As you pull the item out, you have to tell a portion of a story concerning the item. The story must be connected from to member to team member. However, the story must be told from the end to beginning. Your problem begins with, "They lived happily ever after."

Given: straw, 12" string, envelope, mailing label, toothpick, hanger, yardstick, ruler, goofballs.

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Set up empty and full pop cans at random within an eight foot square. Surround each one with Styrofoam cups. Two members will knock over the cans without moving the cups using golf balls and standing in two fixed locations. The three other members can walk around and use given items to help the golf ball users, but they may not guide the golf balls. Scoring– knockdowns are worth 3 points each, and standing Styrofoam cups are worth 2 points each.

Build the tallest structure you can using 14 grapes.

Given: a piece of poster board designed as shown below, a piece of large construction paper for every other team member. The number inside each square equals the point value.

With the paper given, see how many squares you can completely cover (without going over the edges) in 2 minutes. You may tear or fold the paper.

Given: bowl of Cheerios, string 18" long, spoon, fork, pieces of masking tape – 1 " x 6" , sheet of typing paper, large paper clip, large-eyed needle, toothpicks.

You will have one minute to think and three minutes to complete the task. There will be no talking at any time, but hand and/or body gestures will be allowed. The problem is to assemble a Cheerio garland by attaching Cheerios to the string. The garland must be able to be picked up and held by the judges after completion without the Cheerios falling off. The Cheerios must not be touched directly by team members hands but may be handled by any of the materials supplied.

Scoring – One point will be scored for each Cheerio remaining on the string after the judge picks up and holds garland vertically. 5 – 25 points could be awarded for a creative approach and/or creative teamwork.

Given: 20 paper clips, 5 chopsticks.

Connect all 20 paper clips together in a chain. Give each team member one chopstick. The team must undo as many paper clips as possible in seven minutes. They may talk, but they may not give each other their chopsticks.

Given: paper, markers, crayons, etc.

In three minutes, create a new state. Name it, design a symbol, a flag, a song (to be sung to the judges) and a tree.

Given: a comb, a package of tissue, a key, a yard of string, a credit card.

Imagine you are stranded on a desert island. Construct an alarm system using the items in your pocket (listed above).

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Given: 10 toothpicks, 1 coffee filter, 1 12" piece of string, 1 12" piece of tape, 1 drinking straw, scissors.

With the materials provided, the team must construct something and explain it. The completed object must fit into a cough drop tin. Scissors are only used to solve the problem, and may not be used as part of the completed solution. The team has one minute to think and discuss, and four minutes to construct the object and place it in the box. There is to be no talking in the last four minutes.

Given: Each team member gets approximately one quarter of a cup of clay.

They have two minutes to make anything about which they may tell a story. The first member starts their story and the second member adds to it using his or her clay creation as a prop. The team has two minutes to tell the story. No talking is allowed during the two minute creation time.

Scoring – overall story 1–25, individual creations 1–10, individual response 1 point for common, 5 points for creative.

Given: an envelope, 6" of masking tape, rubber band, a straw, a label, a piece of typing paper.

Attach a glass Christmas ornament to the wall 6" from the floor. Attach a string to the wall 6' above the bulb. Attach a weight to the string. Place the weight on a 4"x4" post which is 4' from the wall so that when it is released, the weight will hit the ball. Team members must use items to protect the bulb from breaking. Points will be given for teamwork and for achieving the goal.

Given: envelope, ping pong ball, gym shoe, small empty paper bag, 2 straws, tennis ball, roll of masking tape.

In five minutes, the team must construct a sculpture using every item, connected with masking tape. They must then tell the name of the sculpture and what it represents. The score will be based on creativity and teamwork.

Given: paper bag, chair, broom, straws, paper, string, sticky labels, yardstick, 2"x 2" piece of tape, marker, scissors.

Set up a 20" x 10" rectangle as the starting point. Five feet away, set up another rectangle the same size along with the items listed above. The object of the problem is to move an egg from the starting rectangle to the ending rectangle. During the trip, the egg must move up, down and make a change in appearance before entering the ending rectangle. The team must also explain what their system is and why the change has occurred. There will be 7 minutes to build, 2 minutes to execute, and 2 minutes to explain.

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Given: a piece of poster board, markers, a chain, a cotton ball, 2 Kleenex, a pen, a blender blade, a tupperware lid, a glove, a newspaper ad.

Using the materials provided, create a treasure map leading to the most important part of life.

Given: 10 playing cards, 10 paper clips, 4 quarters, 4 dimes, 4 nickels, 4 pennies.
Build a structure that will support the coins using the available materials.
Scoring- monetary value of coins times their height in inches above the building surface.

Given: 6-4"x6" pieces of paper, a penny.
Members are to build the tallest structure possible to support the penny.

Given: gum drops, toothpicks.
Build a structure and describe each others creations.

Shape a piece of Play-dough into a "voodoo" doll, and each team member must predict the future of another member's doll.

Given: a shoe box containing the following: Bic pen with Cap, 3 empty Pepsi cans, tennis ball, 12 inch piece of yarn, 6 inch length of masking tape, empty paper towel tube, 2 Band-Aids still in the wrappers, a blindfold.

The problem is for the team to create and use a nonverbal communication system to complete the following tasks in the sequence listed.

1. A blindfolded team member must remove all the contents of the box and place them on the table.
 2. Take the box to team member located at point X
 3. Return to the table, get Band-Aids and put them on team member located at point Y.
 4. Return to the table, roll the tennis ball to team member located at point Z (this person must stay in position)
 5. Take all remaining objects to point X and place them in the shoe box.
- The team has 3 minutes to plan and 4 minutes to perform their solution.

HANDS-ON Practice Problems 61-70

Given: 2 pencils, 6 oz clay (3-2 Oz. balls), 10 straws, 3-8.2"x11" sheets of tagboard, 20 pieces of dry macaroni, 12 inches of masking tape, 2 Styrofoam cups, 4 large marshmallows, 5 toothpicks, 1 golf ball.

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This is a two part problem. Part one: the team is given 2 minutes to think and 5 minutes to complete the problem. They are to build a structure with the materials given. Each team member will be given a card numbered 1-5. They will roll a die and whatever number comes up, that person will add one piece of material to the structure.

Scoring- 1 point for each material left on the structure at the end of 5 minutes. 10 points if the structure holds the golf ball. 1-10 points for team work. 1-15 points for the creativity of the structure. 25 points if the structure never falls during the 5 minutes.

In part two, the team will be given one minute to respond in turn with a description of what their structure is.

scoring- 1 point for common responses and 5 points for creative responses.

Given: scissors, 1 sheet of typing paper, clay, tape, 2 pencils, rubber band.

You have one minute to think and three minutes to respond. You may talk at any time. With the materials provided, you must build a catapult within a one foot square. At the end of three minutes, you must place a target where you want. You must then launch a ping pong ball by moving only one thing in one direction. The closer you come to the target, the more points you get.

Given: pieces of gingerbread, tubes and cans of icing, sprinkles, etc., M&M's, mint marshmallows, gumdrops, plastic knives, toothpicks.

The team has 30 minutes to create a gingerbread house that stands up. They then have time to tell a story about the house.

Given: 1 bag of coconut, 1 serving tray.

You will have one minute to think and experiment and three minutes to respond.

Your problem is to shape the coconut and say what the shape represents.

Team members may give a different response to the same shape, or reshape it and give a different response, however, a team member may not respond to his or her own shape.

Given: chalk, eraser, paper wad, pencil, scissors, paper clip, Uno deck- numbered 1-6

Number each item. Each person, in turn, draws two cards, then must create an imaginary sentence linking the two selected objects.

Given: yard stick, 2-6 in. pieces of yarn, 4 paper clips, 1 sheet of typing paper, 2 rubber bands.

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Your task is to move a cup of water across a 6 ft. by 10 ft. area without spilling any water.

You have 6 minutes to design and build a structure that will carry the cup across the area. Then you have 2 minutes to carry it across. You may not step in the taped off area.

Given: air filled balloons which fill up a container, 1 inch paper strips, ruler, tape. You must move paper strips to the container holding the balloons. You may not pop any balloons. May not touch balloons.

Scoring– 3 points for each 1 in strip of paper at bottom of the container. Minus 5 points for each popped balloon.

Given: 5 straws, 20 toothpicks, 2 sticky labels, 3 sheets of paper.

Design a tower that is at least a foot tall, and can hold a coffee can plus nails.

Scoring– points given for each inch over one foot. 25 points for the can. 5 points for each nail.

Given: Rummikub tiles– 4 different tiles of each color, pencil, paper.

Using the first letter of the number's name on the tile, make as many words as you can.

The team must decide on three colors they want to use and eliminate one color before they start the word list.

Given: rubber bands, pencil, Easter grass, string, pin, tissues, plastic grocery bag, a raw egg.

Using the materials provided, construct a covering for a raw egg that will prevent the egg from breaking when dropped from a step ladder. Drop the egg!

HANDS-ON Practice Problems 61–70

Given: 2 pencils, 6 oz clay (3–2 oz. balls), 10 straws, 3–8.2"x11" sheets of tagboard, 20 pieces of dry macaroni, 12 inches of masking tape, 2 Styrofoam cups, 4 large marshmallows, 5 toothpicks, 1 golf ball.

This is a two part problem. Part one: the team is given 2 minutes to think and 5 minutes to complete the problem. They are to build a structure with the materials given. Each team member will be given a card numbered 1–5. They will roll a die and whatever number comes up, that person will add one piece of material to the structure.

Scoring– 1 point for each material left on the structure at the end of 5

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minutes. 10 points if the structure holds the golf ball. 1–10 points for team work. 1–15 points for the creativity of the structure. 25 points if the structure never falls during the 5 minutes.

In part two, the team will be given one minute to respond in turn with a description of what their structure is.

scoring– 1 point for common responses and 5 points for creative responses.

Given: scissors, 1 sheet of typing paper, clay, tape, 2 pencils, rubber band.

You have one minute to think and three minutes to respond. You may talk at any time. With the materials provided, you must build a catapult within a one foot square. At the end of three minutes, you must place a target where you want. You must then launch a ping pong ball by moving only one thing in one direction. The closer you come to the target, the more points you get.

Given: pieces of gingerbread, tubes and cans of icing, sprinkles, etc., M&M's, mint marshmallows, gumdrops, plastic knives, toothpicks.

The team has 30 minutes to create a gingerbread house that stands up. They then have time to tell a story about the house.

Given: 1 bag of coconut, 1 serving tray.

You will have one minute to think and experiment and three minutes to respond.

Your problem is to shape the coconut and say what the shape represents.

Team members may give a different response to the same shape, or reshape it and give a different response, however, a team member may not respond to his or her own shape.

Given: chalk, eraser, paper wad, pencil, scissors, paper clip, Uno deck– numbered 1–6

Number each item. Each person, in turn, draws two cards, then must create an imaginary sentence linking the two selected objects.

Given: yard stick, 2–6 in. pieces of yarn, 4 paper clips, 1 sheet of typing paper, 2 rubber bands.

Your task is to move a cup of water across a 6 ft. by 10 ft. area without spilling any water.

You have 6 minutes to design and build a structure that will carry the cup across the area Then you have 2 minutes to carry it across. You may not step in the taped off area

<http://www.geocities.com/nepaootmspon/>

Given: air filled balloons which fill up a container, 1 inch paper strips, ruler, tape
You must move paper strips to the container holding the balloons. You may not pop any balloons. May not touch balloons.

Scoring– 3 points for each 1 in strip of paper at bottom of the container. Minus 5 points for each popped balloon

Given: 5 straws 20 toothpick, 2 sticky labels, 3 sheets of paper.

Design a tower that is at least a foot tall, and can hold a Coffee can plus nails.

Scoring– points given for each inch over one foot. 25 points for the can. 5 points for each nail.

Given: Rummikub tiles– 4 different tiles of each color, pencil, paper.

Using the first letter of the number's name on the tile, make as many words as you can.

The team must decide on three colors they want to use and eliminate one color before they start the word list.

Given: rubber bands, pencil, Easter grass, string, pin, tissues, plastic grocery bag, a raw egg.

Using the materials provided, construct a covering for a raw egg that will prevent the egg from breaking when dropped from a step ladder. Drop the egg!

HANDS-ON Practice Problems 81-90

Given: ping pong ball, 1" PVC pipe 7' long, straw, wheaties, rubber band, envelope, 6" string, paperclip.

Use materials provided to rescue the ping pong ball from the pipe.

Given: one 12"x1 2" piece of aluminum foil.

You have one minute to make something out of the foil. Pass the object to your left one person. You must now respond about the object you now have. This passing and responding shall go on for two minutes.

Given: a glass of water, and empty glass, a straw, a spoon

Now move the water from one glass to the other in as many different ways, in three minutes, as you can think of.

<http://www.geocities.com/nepaootmspon/>

Given: various types of hats, various colors of lipstick, powder, foundation, eye shadow, eye liners and makeup pencils, 2 stick of chewing gum.

Create 3 original characters using 3 team members. Each team member must, in turn, comment on each character.

Given: an envelope, 3" of scotch tape, 5 rubber bands.
Make the longest bridge possible.

Given: (materials) quarters, dimes, nickels, pennies, 6 different colors of construction paper (communication items) pencil, ruler, sheet of typing paper, tin can, 2 marbles, spoon, paper lunch bag.

Devise a nonverbal communication system in which 2 communicators instruct 3 workers how many of each coin is to be placed on a given color paper. You have 5 minutes to think and practice and three minutes to perform. Scoring – score is the value of the coins placed. 100 point bonus if the problem is completed. 2 point bonus for each unused second under the 3 minute limit.

Penalties– twice the coin;s value for coins over the maximum allowed on a given color. 25 point penalty for a coin not completely on a paper. 100 point penalty for each time talking occurs during the 3 minute work period.

Maximum Coins Per Paper

Red Yellow Orange Green Blue White

Quarter 3 5 2 7 3 1

Dime 12 2 3 9 2 1

Nickel 4 13 6 4 6 4

Penny 7 4 8 6 2 2

Given: 25 M & M's

You will have 2 minutes to think, plan and create a shape out of the M & M's. The second part of the problem is verbal; at the end of the 2 minutes of creating, you will take turns identifying, describing, or explaining your shape.

Given: 2 sheets of typing paper, 10 paper clips, a pair of scissors, 2 pieces of 1 " masking tape.

The team will build a structure that portrays the theme of a memorial monument to a person (famous) or their choice.

Given: a paper plate and a pair of scissors for each member of the team. Members have 2 minutes to create something. Then they are to respond to the judges by telling what it is. Score 1–10 points for creativity.

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Each members have 5 cards numbered 1–5. Each is to respond when it is their turn (each has a number in front of them) to someone else's creation, as they cash in that coinciding number (3 minutes)

Create and construct a skit out of notebook paper

Given: 10 white balls, 10 yellow balls, 2 balloons, 3 3" x 5" cards, 3 toothpicks, 2 straws, 2 rubber bands, 2 mailing labels, 6" piece of string.

The team is to get as many balls into the plastic cups without knocking down the foam cups within the three minute completion period as possible. Team members are to roll balls from behind the foul line (set 10 feet away from cups) towards the cups. The six plastic cups are lying on their sides, and their bases are placed against a wall and spaced 12" apart. Seven Styrofoam cups are spaced midway between each plastic cup and on the two ends. Foam cups are placed upright on their bases and set 12" in front of the open end of the plastic cups. The plastic cups are taped in place; the foam cups are not taped in place. Foam cups cannot be reset if knocked over, and plastic cups may not be relocated or moved in any way. While balls are rolling past the foul line, no team member shall be between the wall and the foul line. When no ball is rolling, the team may be in the area between the foul line and the cups to retrieve balls to be rolled again. Materials provided may be in any area and can be moved or adjusted at any time. The team is allowed in the area. The team cannot use the material to push, pick up, or place a ball into the plastic cups. The team will have a 2 minute practice period when the team may place material, practice, and talk. Balls will be counted for score only once at the end of the 3 minute competition period.

During the competition period, the team may not talk.

Scoring– 10 points for each yellow ball in the plastic cups at the end of the time period. 5 points for each white ball in the plastic cups at the end of the time period. Minus 10 points for each time a cup is touched or a ball is directed past the foul line. Minus 5 points for each ball still rolling and a team member is beyond the foul line. Minus 10 points for each time a team member talks during the competition period.

HANDS–ON Practice Problems 91–100

Given: a deck of cards, 10 inches of tape.

Build the highest structure possible which will stand for 30 seconds.

Given: a sheet of typing paper, 5 pieces of 2" square sticky paper, 5 beans, 5 elbow macaroni, 5 toothpicks, 1 small lump of Clay.

In three minutes, build a picture. In the following two minutes, tell a story about the picture one team member at a time.

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Given: 15 foam balls, 5 large paper clips, 5 rubber bands, 3 popsicle sticks, a plastic spoon, a 12" piece of string, a mailing label, 5 straws, a 4'x4" piece of cardboard, a paper towel tube, 1 large box, 1 small box.

Place one large and one small box ten feet from a line marked on the floor. You will have three minutes to think and construct, and three minutes to solve the problem. Construct at least three different devices to shoot the foam balls into the boxes. Each device must be made from at least two items and must shoot at least five balls. Balls may be retrieved and retried, but not while someone is shooting. There will be a 5 point penalty if this occurs. 5 points will be awarded for each ball in the larger box and 10 points for each ball in the smaller box at the end of the 3 minutes.

Given: 4 coffee stirrers, 2 drinking straws, 2 large cups, 1 mailing label, 12 in. masking tape, 6 paper clips, 2 sheets of typing paper, 4 small Dixie cups, 8 ft. string, 6 pennies, 5 nickels, 5 dimes, 1 pair of scissors.

Using the provided materials, your goal is to get as many points as possible by passing coins through the "gate". You have four minutes to discuss and build. After construction time, you will be given two minutes to perform our solution. During performance time, all team members must stay behind the foul line.

Every time any part of a team member breaks the plane of the foul line, the team will be penalized 40 points. The penalty for team members crossing the foul line and moving coins through the gate is disqualification. The coins must pass completely through the gate, one at a time, to earn points. The scissors may not be used during the performance.

(Division II and above...)

No part of your construction may break the side boundaries. The penalty for moving or altering the barrier or the tape that supports the barrier is disqualification. The penalty for touching or attaching anything to the barrier or the tape that supports the barrier is disqualification. Incidental contact during construction time does not count.

Scoring: 1 point for each penny passing through the gate. 5 points for each nickel passing through the gate. 10 points for each dime passing through the gate. Minus 40 points each time a team member crosses the plane of the foul line, once the team begins to perform.

Given: 2 pencils, 2 packages gummy lifesavers, 4 packages regular lifesavers, 2 blindfolds.

You will have 5 minutes to develop and test and 2 minutes to complete task. The problem is to develop a nonverbal communication / system to put lifesavers on a pencil in a preset order. Two people will wear the blindfolds, and they will be putting the lifesavers on the pencil.

Given: 4 boxes, 10 air filled balloons, about 100 straight pins, tape, tweezers, pen. prepare boxes as shown. Put the balloons into the boxes without popping them using tweezers, tape and the pen.

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Place a deck of cards, including the jokers, in the middle of the table. The team has one minute to think and three minutes to respond. Team members, in sequence, will flip the cards over, one at a time, telling a story using whatever card they flipped as a part of the story. The story continues until all the cards are gone. Scoring- one point for common responses and three points for creative responses. One extra point given for each second under the three minute time limit if all the cards were flipped.

Given: table top marked with a start line and a finish line that are one meter apart, 3 sheets of typing paper, 1 pair of scissors, 2 yards of String or yarn, 36 inches of masking tape, 9 tennis balls, 2 unsharpened pencils, 1 wooden ruler, 5 plastic straws, 1 Styrofoam or paper cup.

Within 15 minutes, create a device that will transport one tennis ball at a time from behind the start line across the finish line. The device may not be touched by humans either going to the finish line or returning to the start time for another "load." Allow five minutes to demonstrate solution to problem. Balls may be removed by a team member after they have crossed the line, and a team member is allowed to place a tennis ball into the device for transport

Scoring- 1 point for each piece of equipment used on completed device. 10 points for cleverness of design of device. 10 points for each ball transported across finish line.

Given: 4 ft. of string, 3 paper clips, 1 sheet of typing paper, a Dixie cup.

There are two lines on the floor 3 feet apart. A 10 ounce glass bottle lies on its side, pointing left on the far side of the second line. The problem is to rotate the point of the bottle 3 full times without crossing the first line.

You have 4 minutes to plan and 3 minutes to execute the solution.

Given: 6 straws cut in half, a cup of shaving cream.

Without talking, build the highest structure you can in 3 minutes.

Measure the structure at its highest point.

Given: 3 pieces of typing paper, a paper towel tube, 10 pipe cleaners, a Styrofoam plate, a wad of clay.

Using the above materials, construct a device that can cushion an egg from breaking when dropped from a height of six feet.

Hands On Spontaneous 101-110

Problem: The object of the activity is for all of the team members to get across the taped 20 foot "Toxic Swamp" using only the invisible "Magic Shoes". The following rules apply:

1. There is only one pair of shoes.
2. Both shoes may be worn by only one person at a time.

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3. A person may only wear the shoes for one trip in one direction across the Toxic Swamp.

4. The Magic Shoes may not be "Tossed" across the Toxic Swamp to another team member.

Materials: 12" peice of string, paper punch, 1/2 gallon plastic milk container, 6 index cards, round ballon, scissors, 6" paper plate, 4 pencils, masking tape
Problem: You will have 3 minutes to discuss your solution, and 5 minutes to construct. During the 5 minutes, you may not talk. Construct a musical instrument that will play at least 2 different tones. Additional tones will be worth 15 points each. You will recieve up to 5 points for each item used from the supply list.

Materials: 6 identical cicular objects (EX) buttons, bottle caps, pennies etc,
Problem: Visulization – form a circle by moving only two objects

Starting Position

0 0
0 0
0 0

Materials: Spaghetti (20) pieces, lump of clay, sticker tabs

Problem: Use these materials to create a picture. You will have 5 minutes to do this. After this you will have 2 minutes to respond to picture or tell a story about it.
EX. The team may create a farm.

Materials: Piece of paper (8 1/2" X 11"), 4 playing cards, clothspin, piece of yarn, 2 batteries, small magnet (or any little object such as a button), 5" masking tape
Problem: You have 2 minutes to think and 5 to respond. You have to build a little object that can carry the magnet (small object) with touching the magnet. You get points as to how many feet you can pull it.

Materials: A piece of PVC tubing (about 4' long), 12 balls (golf, tennis, ping pong), 20 wooden blocks, and 3 "targets"(the targets can be circles cut out of construction paper)

Problem: The team will arrange the targets and the blocks on the floor to make a track to guide the balls. The balls will then be rolled through the PVC tube, one at a time...in any order. The objective will be to amass as many balls as possible on the targets. Targets and balls can have various point values. Depending on the team, the tube can be held at any angle.

Materials: Blue poster board (ocean), 50 pom pom balls (boats), box of tooth picks(oars), Box of straws(sails).

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Problem: Get as many ships safely across the ocean as possible. Team members may "row" using toothpicks or "sail" using straws to blow. Any shipwrecked boats must begin again.

Materials: 8 lifesavers, 10 pretzel sticks (butter braids), 10 large marshmallows, ramp, and 4 oreo cookies.

Problem: Construct a vehicle in 3 minutes. Test drive the vehicle down the ramp. Score if vehicle rolled more than 4 inches. Relax and eat your creation.

Materials: Ping-pong balls, 15 straws, 10 toothpicks, Wallpaper trough or some basin filled with water, 12 inches of masking tape, 2 sheets 8-1/2 x 11 paper, scissors (may not be part of objects).

Problem: You must build an object using the provided materials. This object must move across the basin of water propelled by air. The object will receive bonus points for transporting ping-pong balls. You receive 10 points for each lap across the basin. Each ping-pong ball that is on the object at the end of the time earns 7 points. You have 5 minutes to design and build your object and 2 minutes to propel your object

Given: 2 sets of Legos (equal numbers and equal sizes)

The team will divide itself into two groups. you will have 2 minutes to discuss the problems before parts 1 and 2 begin. This is a completely nonverbal problem. You will be penalized 10 points each time you talk.

Part 1- In 3 minutes, build a freestanding structure with the Legos.

All of the Legos do not need to be used. Each layer must be made of all the same color. You will be given 5 points for each correct vertical layer of Legos. Once there is a mistake in the layering, the scoring for layers stop. Scoring starts from bottom to top. There must be a layer separating two identical color layers. There must be one layer of each color before the colors can be layered again. When a color is no longer available, then all the remaining colors must be used in the layering.

Part 2- You will be given 4 minutes. After part 2 begins, the first structure cannot be changed. The group who built the first structure is to instruct the other group how to build an identical structure.

You will receive 2 points for each correct block. Scoring starts from the bottom to the top. The two groups may not look at each others structures.

Given: puzzle pieces

Team members will use them to make abstract objects.

Given: sectioned fruit, raw cut vegetables.

See how many different creative faces, items, etc. can be made in five minutes.

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Given: On a plain piece of paper the coach draws any kind of line or squiggle. Team passes paper around adding one line each to make a complete recognizable picture. No talking allowed. Paper goes around twice. This problem encourages the team to learn to work together on a common theme and to communicate via the drawing and not words.

Hands On Spontaneous #111-#120

Materials: Pair of scissors, 5 paper clips P/team member. Piece of cardboard 22" square marked as diagram.

Problem: Use the card board to build structure. Make the structure as tall as possible. You may cut the cardboard any way you wish, but only on the existing lines.

Materials: Paper cups, string, various selected household items (paper clips, straw corks, etc)

Problem: Create a music group...then perform a tune.

Planning time: Five minutes.

Materials: 1-12' balloon, 2-8 oz. plastic glasses, 5 toothpicks, 10 minimarshmallows, 3 pennies, 2 fingers on one (either right or left) Hand-Ex. Thumb & pointer or pointer & small finger-any combination

Problem: Team has a total of 3 minutes to construct or form an idea of how to hold the 2 glasses in the air. The glasses may not be changed or mutilated in any way.

Scoring: Will be based on how far apart the glasses are held and how long they can be held in the air without touching anything but the materials provided. Bonus points given for creativity of solution and for teamwork.

Materials: 5 magazines

Problem: Each team member will be given a magazine. They will have three minutes to find and tear out pictures or phrases. At the end of the 3 minutes they will have to explain how they are related to OM.

Materials: 2 rubber bands, 3 sheets 8 1/2" x 11 1/2" typing paper, 2 paper clips. 2 popsicle sticks, several postage labels with adhesive.

Problem: Teams get 1 minute to think and 3 minutes to construct a paper airplane that will be thrown or propelled. Points are awarded for creativity and for the distance they traveled. The plane must land within an area shaped like a 40 degrees pie slice.

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MATERIALS: 6 PAPER CUPS, 4 PAPERCLIPS, 1 RUBBERBAND, 1 POP CAN, A SMALL PIECE OF MATERIAL, 2 ENVELOPES

PROBLEM: BUILD A ROOM IN A HOUSE AND DESCRIBE IT

MATERIALS: ENVELOPES WITH- 5 RUBBER BANDS, 8 PAPER REINFORCEMENT RINGS, 8-1/2" X 11" PIECE OF PAPER, 5 DRINKING STRAWS, 4 TOOTHPICKS, 2 PAPER CLIPS, 10 SMALL STICKEY LABELS AND A PAIR OF SCISSORS. THE ENVELOPE CAN BE USED IN THE SOLUTION

PROBLEM: THE AIM IS TO ASSEMBLE ITEMS INTO THE LONGEST CONTINUOUS "ROPE" POSSIBLE, STRECHING FROM PERSON A TO B TO C TO D.

MATERIALS: 3 STRAWS, 10 POPSICLE STICKS, 1 MARBLE, 3 STYROFOAM CUPS, A TURKEY BASTER, 7 MARSHMALLOWS, 10 INCH STRING, 2 PIECES OF CHALK, LARGE ALUMINIUM OR PLASTIC WASH TUB, WATER

SETUP: FILL TUB WITH WATER, FLOAT 3 STYROFOAM CUPS

PROBLEM: CONSTRUCT SOMETHING TO TRANSPORT THE MARBLE ACROSS THE TUB OF WATER. YOUR TEAM WILL SCORE 5 POINTS FOR EVERY 2 INCHES YOUR MARBLE MAKES IS TRANSPORTED. WE WILL DEDUCT 2 POINTS EVERY TIME YOUR VEHICLE HITS A STYROFOAM CUP. YOU MAY USE ANY OF THE MATERIALS TO TRANSPORT THE MARBLE. YOU MAY NOT TOUCH THE VEHICLE WHICH TRANSPORTS THE MARBLE. YOU HAVE THREE MINUTES.

MATERIALS: 1 BALLON, 12 PAPER CLIPS, 1 SHEET CONSTRUCTION PAPER, 4 FOOT OF STRING, 1 STRAW, 1 PACKAGE OF TAPE, 1 EGG.

PROBLEM: THE TEAM WILL BUILD A STRUCTURE TO TRANSPORT THE EGG From POINT A TO POINT B (3 FEET) WITHOUT TOUCHING THE DEVICE AFTER IT LEAVES POINT A.

SCORING: 1-25 PTS - DISTINCE; 25 POINTS - NOT BREAKING EGG;

1-25 POINTS CREATIVITY OF DEVICE

(STRUCTURE AND PROPULSION);

1-25 POINTS - TEAMWORK

PROBLEM: TEAM MEMBERS MUST CREATE A MACHINE (POPCORN POPPER, VACUUM, ETC.) ALL FIVE TEAMMATES MUST FORM THE MACHINE. ONLY MACHINE LIKE SOUNDS MAY BE USED.

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Hands On Spontaneous #121-#130

MATERIALS: A DECK OF CARDS, ROLL OF MASKING TAPE, 2' PIECE OF STRING, TOY TONKA TRUCK

PROBLEM: WITH THE CARDS AND TAPE, MAKE A BRIDGE AT LEAST 1 FOOT IN LENGTH RISING TO AT LEAST 3 INCHES IN HEIGHT, UPON WHICH THE TOY TRUCK CAN BE PULLED WITH THE STRING, CARRYING AS MANY CARDS AS POSSIBLE. **SCORING** WILL BE DETERMINED BY THE NUMBER OF CARDS SUCCESSFULLY CARRIED ACROSS THE BRIDGE WITHOUT COLLAPSING.

PROBLEM: LINE UP THE KIDS. GIVE THEM A SET OF INSTRUCTIONS WHICH ARE AS FOLLOWS:

JOHN IS TALLER THAN MARY

MARY IS SHORTER THAN FRED

FRED IS TALLER THAN JOHN ETC.

THE STUDENTS PUT THEMSELVES IN ORDER WITHOUT TALKING.

MATERIALS: VARIOUS KINDS OF BEANS, TOOTHPICKS, STRAWS, PIECES OF 8 X 10 CARDBOARD, A CUP, SHAVING CREAM, GLUE OR OTHER ADHESIVE

PROBLEM: THIS IS A TWO-PART PROBLEM. IN PART 1 YOU WILL BE GIVEN 5 MINUTES TO INDIVIDUALLY CREATE SOMETHING FROM YOUR MATERIALS, EITHER THREE DIMENSIONAL OR AS A FLAT PICTURE. IN PART 2 YOU WILL BE GIVEN THREE MINUTES TO INDIVIDUALLY TELL A STORY ABOUT YOUR CREATION.

MATERIALS: ROCK, A BOX, STRING, CRAYONS

PROBLEM: DESIGN A PRODUCT AND SELL IT TO THE JUDGES WITHOUT SPEAKING.

MATERIALS: STRAWS, EGGS

PROBLEM: EACH STUDENT HAS 14 STRAWS AND AN EGG. THEY MUST BUILD A STRUCTURE THAT WILL HOLD THE EGG

MATERIALS: 20 TOOTHPICKS, 6" MASKING TAPE, 6 STRAWS AND A PAIR OF SCISSORS THAT ARE NOT PART OF THE SOLUTION

PROBLEM: BUILD A SELF-SUPPORTING STRUCTURE USING ONLY THE MATERIALS GIVEN. YOU WILL BE JUDGED WHEN YOU DECIDE TO STOP OR WHEN TIME EXPIRES. **SCORING:** 5 POINTS WILL BE GIVEN FOR EACH CENTIMETER OFF THE TABLE.

Materials: The Following List Of Movies:

Aliens The Wizard of Oz Batman Jurassic Park Dumbo

Beethoven Adams Family Side Kick Home Alone Gone With the Wind

E.T. Beauty and the Beast Cinderella Mighty Ducks West Side Story

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Jaws Peter Pan Wayne's World Star Trek Friday the 13th

Rocky Hot Shots Superman Pinocchio Karate Kid

Problem: Each team is shown the list of movies and they have 1 minute to look at it before returning it to the judges.

The team has 2 minutes to discuss the problem and choose a giver of clues. The team will then have 3 minutes to guess all the movie titles as the giver acts out the titles with only body language and sounds, not talking. The giver can pass on a title 3 times.

Scoring: -5 to -10 points for giver talking

3 points for each title guessed, 25 points for guessing all 25 titles

Materials: In a shoebox put everyday items such as paper, scissors, glue, tape, plastic ware, paper plates, clothespins, crayons, rubber bands, tissue paper

Problem: Each person creates one musical instrument

Scoring: 15 points for each instrument made. It must stay together while being played or points will be deducted.

1-10 points possible if song can be recognized (not sung with words)

1-10 points possible if a theme is followed

1-10 points possible if instruments are designed to enhance theme/song

1-10 points for team spirit

5 points for each instrument that is designed to be played in a different manner than others

MATERIALS: 2 SETS OF LEGOS (EQUAL NUMBERS) ONE SET IS MADE INTO STRUCTURE, A BIG BOX OR BLIND HIDES THE CREATION

PROBLEM: DEVISE A NONVERBAL COMMUNICATION SYSTEM TO DUPLICATE BEHIND BLIND. THE TEAM IS TO DIVIDE INTO TWO GROUPS: RECEIVER AND COMMUNICATORS. THEY HAVE 3 MINUTES TO THINK AND DISCUSS, 2 MINUTES TO COMMUNICATE AND BUILD

Given: Toilet paper tubes, straws and toothpicks.

Create a race track for a match box car.

Suggest using a brick and a couple of pieces of wood as starting ramps.

Given: One sheet of paper and a pencil for each team member.

"Language Invention" Each team member is to make-up 3 words and write the definition for each made-up word. The team will receive points for creativity and originality. 0-1 points for poor words, 3 points for creative words.

ex: a "Donkey" - a person who rides a donkey.

Given: Five large and 5 small marshmallows, 5 small pieces spaghetti, red hot, 10 toothpicks, pipe cleaners and icing (optional).

Build an animal, real or imaginary that will represent your team and your long term solution. Give it a name and describe it in one sentence.

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Given: Elbow macaroni, spaghetti, banana, orange slices and a piece of paper.
Team members must place one item on the paper while telling a story. Each piece may add a new dimension to the story.

Hands On Spontaneous #131-140

Materials: 1 package of 3 X 5 index cards, 1 roll of scotch or masking tape

Problem: The team is to construct a structure using the cards and tape. Team members may not talk and each member may only use one hand. The time limit is 3 minutes. At times end, 1 pre-designated member will announce what the structure is or how it is used.

Materials: 20 pipe cleaners, 20 toothpicks, 20 marshmallows, 10 styrofoam cup.

Problem: To build a bridge using the materials given.

Scoring: 3 points for each inch of width, 3 points for each inch of clearance from the table, measured from the middle of the structure.

1-10 points for team work

1 point for each item used

Materials: straws, toothpicks, masking tape, paper.

Problem: Build a bridge that a ping pong ball will roll on.

Materials: two thick books, one sheet of notebook paper, one small weight such as a salt shaker

Problem: Place the books about 3-4 inches apart. Using the piece of paper only, create a bridge across the books that will hold the weight.

(You cannot place the paper between the pages of the book)

Materials: apple or piece of bread.

Problem: Using your teeth as sculpting tools, create an object, face, scene etc with your piece of food.

Scoring: Go around the group and make a comment on each piece. Then allow each team member to comment on the other members creation.

Materials: 40" x 50" rectangle, 50 popsicle sticks, drawing of an object such as truck using 1" line segments, then cut in half and put into clear document protectors with a backing

Problem: The team is given the popsicle sticks and told they must develop a non-verbal communication system, such that two of their members, chosen in advance, will each use the communication systems to get the remaining three team members

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to duplicate each half of the picture. The two signalers are separated and may not see each others' papers. The three "drawers" may only bring one stick at a time into the drawing area.

Scoring: Points are awarded for teamwork; creativity of the communication system; amount of sticks located approximately in their correct position; coherence between the two halves; and after time expires having one of the three drawers correctly identify the intended figure verbally to the head judge. Generally, allow three minutes to develop their communication system, and allow approximately four minutes or so to solve the problem.

Materials: box of "Tinker Toys"

Problem: You are to build a car with four wheels, two axles, and a frame. Judged on how elaborate it is. After that it is judged when it is dropped from one foot in to the air onto tile. Each point together counts as one point added to how elaborate it was. One minute to discuss and one minute to build.

Materials: an apple, a pair of scissors, a pen, small car wheel, tweezers, paper clip, rubber glove, and a playing card

Problem: Players will each create an animal using a minimum of 2 objects and pass the objects to the next team member upon completion of their own animal.

Materials: Hammer, nails, ruler, paper clips, pencil, box of matches, stopwatch, ring, shoe, small paint brush, pop can, spool of thread, piece of tape, candle, magazine pictures, pen, buttons

Setup: Use some of the items to make a sign on the table.

Problem: Team has 2 minutes to memorize design. They may talk while memorizing. Items are put into a box with those not used. Team must recreate the design within three minutes.

Problem: On the floor there will be a ten foot wide octagon. Placed around the octagon will be containers. Three members will be blindfolded.

The two remaining team members will give non-verbal communication signals in order to place red, green, white, and blue ping-pong balls in the appropriate container.

Team members will have 3 minutes to plan the communication system.

5 minutes to complete the problem.

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Hands On Spontaneous #141-#150

Materials: Taped circle, bucket of 50 golf balls.

Problem: On the floor there is a taped circle. In the middle of the circle is a bucket full of 50 golf balls. You may not touch the bucket, the tape, or step inside the circle. Outside of the circle are two ropes. Your problem is to pick up the bucket and remove it from inside the circle. If the bucket remains inside the circle, you will receive 1 point for every ball left inside the bucket and 1 point for every inch the bucket has been moved, if the bucket is still standing and 0 points if the bucket has been knocked over. If the bucket is still standing outside the circle when time has expired you will receive three points for every ball inside the bucket and 20 points for a standing bucket, and 0 for a non-standing bucket.

You have 1 minute to think and three to respond.

Materials: 10 straws, 4 mailing labels, 3 sheets of 8-1/2" x 11" paper, 10 marbles, 15 beans, clay, scissors and a ruler.

Set up: 2 chairs with backs to each other spaced 14" apart. You may mark floor in case chairs slide during problem.

Problem: You will have 2 minutes to discuss and 8 minutes to solve the problem.

You may not use the ruler or scissors as part of your structure. The problem is to construct a bridge between the two chair backs that will hold 4 marbles for 15 seconds (worth 25 points). Each additional marble up to 10 total will be worth 10 points each. Teamwork will be worth 1-15 points. 100 points is the maximum amount that can be achieved. The marbles must be on the bridge itself, not on the chair(s).

Problem: 5 Team members must build a statue using their bodies. They are given 3 minutes to talk amongst themselves. Then they will have 2 minutes to build the statue. All team members must be used and touching each other. They may not talk during the time.

Problem: The team must, together, make a "human machine". Each member must cause a chain reaction with the next member. This machine must be able to carry out a definite process. The team has 10 minutes to think and present their machine. They must be able to explain their machine to the judges.

Materials: Full sheets of newspaper print, six" strips of masking tape.

Problem: Each team member gets 3 sheets of paper and five strips of tape to create a new object that represents the ideals of OM. The team has one minute to think and three minutes to work.

<http://www.geocities.com/nepaootmspon/>

Materials: 1' masking tape, 6 sheets of paper, 1 paper towel tube, 10 straws, 2' yarn, 5 labels, and 1 marble.

Problem: The team has 5 minutes to build a structure on which a marble can travel down and be dropped into a container with various point values. The object is to make the structure as tall as possible. The marble may not be simply dropped down a tube, it must roll on or touch the structure at all times. The structure must be freestanding.

Scoring: 2 points per inch of height of building, point amount where marble lands, 1-10 points for teamwork.

Materials: 20 marshmallows, 2 paint cans, 1 envelope, 3 name tags, 10 toothpicks, 20 nails, 2' of string.

Problem: Construct a suspension bridge 4" off the ground. The bridge has to hold a butter dish in which nails will be placed after the bridge has stood for one minute. You will receive 2 points for each inch of the bridge's length and 3 points for each nail placed in the dish and held by the bridge. There must be a three second interval between each nail deposited. You will be given one minute to think and 4 minutes to build.

Problem: Three team members will each be assigned a number 1, 2, or 3. The remaining two members will be a conductor/guide and the blindfolded "traveler". The numbered members will be placed on the triangle shaped areas. The blindfolded member is to be guided to these members by non-verbal signals given by the conductor.

A card with numbers in this sequence: 2-1-3-1-3-2-1-2-1 repeat... is given to the conductor. The card designates the order in which the traveler is to visit the numbered members

You will have 2 minutes to plan your solution and 2 minutes to perform.

Scoring: 2 points for each successful visit - 1-15 points for creativity of solution,

Materials: Paper clip, 6" string, 12" ruler, 2 name tags, coat hanger

Problem: To move a paper cup with open side up down a 10 foot long and three foot wide lane made by masking tape. For every foot you move the cup down the lane using only the items given and not using your hands, the judge will place a bean in the cup. Each item can only be used to move the cup 3 feet. If the beans spill out the team must start over. If the team has to start over items can be used again. The team has 1 minute to think and 4 minutes to act. The team can move the cup back one foot to collect more beans and the team is given 5 points if they ask this question.

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Scoring: Each bean is worth 1 point.

When the cup crosses the finish line they get 10 points

Hands On Spontaneous #151-#160

Materials: Envelope containing – 100 toopicks, 1 ounce of clay, a sheet of 8 1/2" x 11" paper, 12" piece of string, paper napkin, 1 peel-off packing label, 2" of masking tape, 4 plastic straws, 1 cup miniature marshmallows, blown out egg, and a pair of scissors that can not be part of the solution.

Problem: You must determine how to drop a blown out egg onto a tile floor from a distance of six feet in the air, without cracking or breaking the egg, using the materials given.

Scoring: Unbroken egg – 20 points

Slight crack – 15 points

Large crack – 5 points

Smashed – 1 point

You will have 5 minutes to construct and 1 minute to test.

Materials: 2 empty pop cans, 2– 8 1/2" x 11" pieces of paper, 2 unsharpened pencils, 8 popsicle sticks, 3 paper clips, 5 assorted rubber bands, 1– 12" piece of string, 2– 6" pieces of masking tape, 2 plastic spoons, 1 pair of scissors.

Problem: Using the materials, create a transportation device that will be used to transport a raw egg a distance of 3 feet. The egg may be touched only when it is being placed in or on the transportation vehicle. Hands or feet may not be used to propel the vehicle while it is transporting the egg.

Materials: Signaling Team – Soda can with pennies in it, 2 spoons, 1 pencil, 4" square bubble packing material

Building Team – 30" string, 1 rubber band, 1 adhesive mailing label, 6" masking tape, 2 thumb tacks, 15 paper clips, 1 business size envelope. Also needed are 2 blindfolds and 2 shoe boxes.

Problem: Part One – The team will have 4 minutes to decide a method of communication to accomplish Part Two.

In Part Two, 2 blindfolded members will have 4 minutes to follow directions from the signaling team members to construct and complete the task. Team members may talk in Part One but not in Part Two.

Task: Given 2 shoe boxes set 2 feet apart and using the materials provided, connect the boxes in as many different ways as possible.

Scoring: 5 points for each different connection. Penalty points for talking (–3 for each offense). A connection will be counted as different when any material in the connection from box to box is different from preceding materials.

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Materials: 10 straws, 20 paper clips, paper cup, 100 pennies

Problem: Build a structure out of straws and paper clips. Cup must be placed on the structure and pennies added to see how much weight structure will hold.

Materials:

Table One Table Two

2 yellow right triangles 3 yellow right triangles

2 red right triangles 3 red right triangles

2 blue right triangles 2 blue right triangles

3 yellow circles 3 yellow squares

3 red circles 3 red squares

3 blue circles 3 blue squares

Problem: Part 1- Your team has 60 seconds to divide into two groups.

Part 2-

1. At the end of 60 seconds announce time. Direct group 1 to assemble behind Table 1 and group 2 behind Table 2.
2. NO verbal communication will be allowed during this part.
3. You will have three minutes to complete your task.
4. Group 1 will try to collect all squares at Table 1.
5. Group 2 will try to collect all circles at Table 2.
6. Each group will designate one carrier.
7. Carriers may only carry a maximum of one piece in a hand during a trip.
8. Carriers may never make a trip between Tables empty- handed.
9. Only carriers may touch the pieces.
10. At the end of time, carriers must return to the table where they started (following the rules above, esp. #7 and #8).
11. Only _____ carriers may carry circles and only _____ carriers may carry squares.
12. Any carrier may carry a triangle.

Fill in the blanks in #11 with descriptive characteristics that would allow for the successful transfer of circles and squares.

Ex. Male, female or over 4' tall, under 4' tall.

Scoring: 10 points for each circle on Table 2

10 points for each original square on Table 1

50 points for each square made from 2 triangles being placed next to each other to form a square on Table 1.

-5 points for each question asked in part 2.

-25 points for verbal communication between teammates.

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MATERIALS: QUARTERS, DIMES, NICKELS, PENNIES, 4 DIFFERENT COLORS OF CONSTRUCTION PAPER – COMMUNICATING ITEMS: PENCIL, RULER, SHEET OF 8 1/2"X11" PAPER, TIN CAN, 2 MARBLES, METAL SPOON

PROBLEM: DEVISE A NON-VERBAL COMMUNICATION SYSTEM IN WHICH 2 COMMUNICATORS INSTRUCT 3 WORKERS HOW MANY OF EACH COIN IS TO BE PLACED ON A GIVEN COLOR PAPER. 5 MINUTES TO THINK / PRACTICE AND 3 MINUTES TO PERFORM.

SCORING: SCORE IS THE VALUE OF THE COINS PLACED PLUS 100 POINT BONUS IF PROBLEM IS COMPLETED PLUS 1 POINT FOR EACH UNUSED SECOND UNDER 3 MINUTE LIMIT.

PENALTIES: TWICE THE VALUE OF EACH COIN OVER THE MAXIMUM ALLOWED FOR A GIVEN COIN ON A GIVEN COLOR. 25 POINT PENALTY FOR A COIN NOT COMPLETELY ON A PAPER 100 POINT PENALTY FOR TALKING ONCE IN THE THREE MINUTE WORK PERIOD BEGINS

	RED	YELLOW	GREEN	ORANGE
PENNY	3	4	8	7
NICKEL	12	1	0	5
DIME	4	13	2	5
QUARTER	7	4	2	10

MATERIALS: ONE PIECE OF 11"X18" WHITE POSTER BOARD, RULER, COLORED MARKERS

PROBLEM: YOUR TEAM IS TO MAKE A GREETING CARD. TAKING TURNS EACH MEMBER ADDS ON TO WHAT THE PREVIOUS TEAM MEMBER HAS DONE.

SCORING: 1 POINT FOR A COMMON ANSWER – 3 POINTS FOR A CREATIVE RESPONSE – 5 TOP DRAWINGS RECEIVE 15 POINTS EACH

SETUP: ARRANGE PLAYING CARDS IN ROWS SIX DOWN AND SIX ACROSS. LEAVE SPACES BETWEEN SOME CARDS.

PROBLEM: THE TEAM HAS TWO MINUTES TO ORGANIZE AND TO MEMEORIZE THE ORDER/SEQUENCE OF NUMBERS. AFTER TWO MINUTES THE CARDS ARE REMOVED FROM THE TABLE. THE TEAM MUST WRITE THE ORDER OF THE CARDS ON A GRID IN TWO MINUTES.

REPRODUCE THE PROPER SEQUENCE.

EX. 4 X 3 X X 2 X-BLANK

7 5 4 8 9 A

4 X X A K Q

5 6 6 7 X 5

2 2 8 8 A 9

X X 7 A K Q

PROBLEM: MAKE A STRING OUT OF ONE PIECE OF 8-1/2 X 11 PAPER

POINTS: 2 POINT FOR EVERY INCH

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5 POINT DEDUCTION FOR EVERY BREAK IN STRING
5 POINTS FOR TEAM WORK
YOU MAY NOT USE ANY CUTTING DEVICE

MATERIALS: 1 BOX OF SPAGHETTI, BEESWAX, NAILS, 1 6" PIECE OF STRING, SMALL MARGARINE TUB (1/2 LB. SIZE), 6 MAILING LABELS
PROBLEM: BUILD A STRUCTURE AS HIGH AS POSSIBLE USING THE ITEMS LISTED. AFTER THE STRUCTURE IS BUILT, SUSPEND THE PLASTIC TUB FROM THE TUB AND PUT AS MANY NAILS AS POSSIBLE IN THE TUB.
SCORING: GIVE 8 MINUTES, NO ADJUSTMENTS WILL BE ALLOWED TO SOLUTION AFTER TIME HAS ELAPSED.
1 POINT FOR EACH INCH OF HEIGHT
2 POINTS FOR EACH NAIL HELD
1-10 POINTS FOR CREATIVITY OF THE DESIGN
1-15 POINTS FOR WORKING AS A TEAM

MATERIALS: 1 6" PIECE OF STRING, 1 PLASTIC STRAW, 1 MAILING LABEL, 1 PIPE CLEANER, 1 CORK, 1 CLOTHESPIN, 1 SPOON
SETUP: 10 BOTTLECAPS, 10 MARBLES, 1 12"X17" CONSTRUCTION PAPER IN A 3'X5' AREA, PLACE 10 BOTTLE CAPS ALONG INSIDE EDGE OF ONE SIDE AND 10 MARBLES ALONG THE OTHER. PLACE 12"X17" PAPER IN THE CENTER.
PROBLEM: EACH TEAM MEMBER CHOOSES 1 ITEM FROM THE MATERIALS LIST. NO ONE ELSE CAN USE THIS ITEM UNLESS IN A COMINATION WITH ANOTHER TEAM MEMEBER AND THEIR ITEM. USING ONLY MATERIALS PROVIDED, MOVE MARBLES AND BOTTLE CAPS ONTO PAPER, SO MARBLES ARE INSIDE CAPS ON THE PAPER. TIME LIMIT 1 MINUTE FOR THINKING AND 4 MINUTES FOR PREFORMING.

MATERIALS: 5 CUPS ON A TABLE, A BAG OF SKITTLES CANDY, 1 BLINDFOLD
PROBLEM: SET THE 5 CUPS ON A TABLE EACH CUP REPRESENTS A COLOR OF THE SKITTLES. THE TEAM MUST BLINDFOLD ONE MEMBER AND GIVE NON-VERBAL SIGNALS TO DIRECT THAT TEAM MATE SO HE/SHE WILL PLACE A PIECE OF CANDY IN THE CORRECT CONTAINER RELYING TOTALLY ON DIRECTIONS FROM TEAM MATES. WINNER IS DETERMINED BY THE TEAM WITH THE MOST CORRECT SKITTLES IN THE CORRESPONDING CUP. COLORS MUST MATCH.

MATERIALS: 12 TOOTHPICKS, PINGPONG BALL
PROBLEM: BUILD A STRUCTURE OUT OF 12 TOOTHPICKS TO HOLD A PING PONG BALL ABOVE A TABLE. THE STRUCTURE HAS TO HOLD THE PING PONG BALL FOR 1&1/2 MINUTES

MATERIAL: 2 rubber bands, 2 paper clips, 2 finishing nails, 2 balloons, 2 Styrofoam cups, 2 toothpicks (tape, scissors, and wire cutters)
PROBLEM: Make a vehicle that moves down a track. The vehicle's movement must be started by the movement of a golf ball and once started it must move without

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assistance. The ball may be rolled, dropped, or bounced to start the vehicle's movement. The ball may not be used as a vehicle or as part of a vehicle. Your score is determined by how far the vehicle travels down the track. You will have 6 minutes to make your solution, practice and discuss the problem. Then you will have 3 minutes to compete for your score.

Hands On Problems – 171–180

Given: 2 yard sticks, a large paper clip, 6" of tape, 8 1/2 X 11 piece of paper, three marbles and a 2" x 2" block of clay.
Team members may not carry the marbles in any way between the tables. You will be given 2 minutes to discuss and 5 minutes to perform the task. You may not talk during the 5 minutes you are performing the task. Your problem is to move 3 marbles from one table to another (both the same height and 2 feet apart) without touching marbles with your hands.

Given: Crayons, markers etc. and paper.
Each team member is given one piece of paper and crayons or markers. Each team member is to come up with an original creature and tell its name, what it eats and where it lives.

Given: Cake pan half filled with water, 6 marshmallows, 16 toothpicks, a 5 X 7 index card, a pencil, a Dixie cup, a comb and pennies.
Make a structure that floats and can hold as many pennies as possible without tipping or sinking.

Given: An "X" on a chalk board.
Without using your hands, erase the "X" from the chalk board with an eraser using a body part. You may pick up the eraser no more than one time. Everyone must take a turn.

Given: 50 toothpicks, 1 package of 5 sticks Wrigley's chewing gum and 1 paper cup.
Using the materials on the table, you have 5 minutes to build the best house that you can that will support the paper cut and the weights. You will receive points for the following: 2 pts. for each inch in height of house, 3pts. for every penny in cup, 10pts. for creativity of house design, 10pts. for team work.

Given: Scissors, 12" tape, 50 straws, clay (2 x 2), ruler, playing cards.

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There is a stack of cards before you. Each member will choose one card. The team will look at all five cards and choose one card to use. The team will then use the clay given to make a model of the card. The model should be the height shown on the card. You will be given a ruler for measuring. You can receive 20 points for how close you are to the model on the card. You can receive 10 points for teamwork.

Given: Big Mac box, 6 straws, tuna fish can and a pack of chewing gum.
Using box & pack of chewing gum, build a structure to support a tuna fish can

Given: 3 pieces of construction paper, 3 mailing labels, 5 paper clips, 3 rubber bands, 10 building blocks and one spoon.
You are going to build a basket that will hold and carry 10 blocks.
You will need to pull with your hands for one minute without touching it.
While you pull it, it must stay together with the blocks in it.
You have 5 minutes to discuss and build, then one minute to pull

Given: 2 mailing labels, 2 clothes pins, 12" of string, 1 marble, 1 ping-pong ball, 1 8 1/2 x 11 piece of paper, 2 paper clips, 1 teaspoon, 1 Styrofoam cup and 1 mouse trap.
Take the materials given and construct a device/mechanism that will produce a chain reaction.
You have 8 minutes to think and to construct your device/mechanism and 2 additional minutes to cause your chain reaction to occur. During the 2 minute period you may not touch your device other than to initiate the first reaction. You will receive 10 points for every different reaction caused. You will also receive an additional score of 1-15 points for the creativity of your device and 1 - 10 points for teamwork.

Given: Table with 6" x 6" square of 1" wide tape, 4 sheets of paper, 1 sheet of gummed labels, golf ball, ruler and scissors.
The tape represents a bottomless pit into which no supports may be placed. Your task is to support a golf ball as high as possible over the middle of the pit. No points awarded if structure touches table outside the square created by the tape.

Hands On Problems 181-190

"A,B,C Nature Scavenger Hunt"

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Send all team members outside. Split them into two groups. Give both teams 30 minutes to collect items, one for each letter of the alphabet. Score 3 points for the creative items and one point for common items.

Given: 3 mailing labels, 4 rubber bands, a 1 " cube of clay, 4 drinking straws, 100 pieces uncooked spaghetti, 2- 3" x 3" pieces of cardboard, 8 penny nails, a ruler and 12" of string. The problem is to build 2 structures at least 6" tall, each one supporting one of the 3" x 3" cardboard pieces. These two towers must then span a distance of at least 10". Eight minutes are allotted to build this bridge. After the 8 minutes expire, 8 penny nails are added to the span until the span or one of the towers collapses.

Scoring: 40 points for 2 towers 6" tall

5 bonus points for every 2" the towers exceed 6"

10 points if the span between the towers is at least 10"

5 bonus points for each additional 2" in the span

1 point for every nail the span supports

1/2 bonus point for every nail if the towers are 8"

1 bonus point for every nail if the towers are 10"

1/2 bonus point for every nail if the span is 12"

1 bonus point for every nail if the span is 14"

Given; 20 Legos and one plastic sandwich bag.

You team has 7 minutes to put all the Legos into the sandwich bag without using your arms or legs.

Given: 4 straws, one sheet of paper, 5 paper clips, a piece of tape, scissors, 5 rubber bands, a stack of books and one small building block. The team is to design a ramp support by a stack of books that a small building block will slide down. You may not use your hands to make the block slide.

Given: One blank sheet of paper and magic markers.

Design a greeting card and write a verse for a new holiday.

Time limit is 10 minutes.

Given: One piece of paper and a crayon, pencil or marker.

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A team member starts a picture in the first 10 seconds of time. Team members will consecutively draw for 10 seconds at a time adding to the previous team members' picture. No thinking time. Time limit is 4 minutes.

Given: 2 straws, masking tape, one ping pong ball, 1 piece paper, 1 paper plate, 1 blow dryer, Styrofoam cup with no bottom, toilet paper tube, paper towel tube, shoe box with no ends and a shoe box with ends.

Tape off a 4 ft. by 10 ft. area. Tape the Styrofoam cup, toilet paper tube, paper towel tube, and both shoe boxes inside the 4 x 10 area. The object is to create a way to move a ping pong ball using the other materials given through a series of tunnels and into the last shoe box placed at a corner without ever touching the ping pong ball or crossing the taped off rectangle. You have 3 minutes think time and two minutes solve time. No talking is allowed during the solve time.

Choose five team members and give them 5 minutes to discuss their favorite foods (breakfast, lunch, dinner, snack or etc.). The team member must then form their favorite food using themselves while sharing what they are with the team

Given: One cork, 100 toothpicks, a 12" piece of duct tape, 4 pieces of 2" x 2" foam board, 6 rubber bands, one piece of construction paper and an egg carton. Use these materials to recreate a famous piece of art work.

Given: One egg carton, a key and a magic marker or labels. Label the 12 holding cups in an egg carton with the marker into 12 categories (holidays, circus, school, movies, cities, animals, songs, etc.) Team members take turns tossing a key from 2 feet away into the egg carton. Whichever holding cup the key lands in determines the category that must be used to answer the question "What does this key open?"
ex: Movies – Key opens popcorn machine; opens entertainment, opens laughter, opens tears, opens surprise.

Hands – On Spontaneous 191–200

Given: One empty toilet paper tube, 4 tissues and one rubber band.
Build a ghost.

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Given: A yardstick, a plastic tub, a 4" x 4" block of wood, 10 rubber bands, a 12" piece of tape, a 12" piece of string, a basketball hoop and a basketball.

Using the materials given, create a device to shoot the ball into the hoop without using your hands.

Given: Five paper clips, 5 straws, 20 wooden sticks, 2–10" pieces of tape, 6 rubber bands, a paper cup, pennies and a bowl of water large enough to float your structure.

Build a raft that will float. It then must hold the paper cup while putting pennies in as weights. Each weight is worth 10 points. The problem is finished if the raft falls apart or could not float. You have 2 minutes to think and 3 minutes to build and hold weight on your structure.

Given: Masking tape, 5 cardboard circles each marked with one of these numbers – 1, 3, 5, –2 and 0, and a blindfold.

Inside a 10 x 20 foot area are placed numbered cardboard circles.

Blindfold one team member. The remaining team members will use non-verbal directions to give the blindfolded member directions. The blindfolded member will attempt to pick up cards for their score. The judge will provide the team with 2 blocks of wood, an empty soda can, 2 small rocks and a ruler.

Given: Rolling pin, 12" craft wire, 2 Styrofoam cups, 3 paper plates, 4 mailing labels, 20" string, 1 ball clay, 24" masking tape, 2 pencils, 4 marbles, 4 pieces typing paper, 2 ping pong balls, 2 empty soda cans, 2 full soda cans, 1 metal or wood spoon, 1 brick, 2 – 2 x 4's (3 feet long), bungee cord, 6 paper clips, scissors, 4 rubber bands, one empty thread spool and one egg.

You will have a 9 x 12 foot area covered with a plastic tarp in which to work. A small table will be placed on the tarp within this area. Your problem is to design and build a five-step chain reaction which, after the 5th step, breaks an egg.

Each step in the process must initiate the next step. The table may be used along with the materials provided. Note: the table, tarp and scissors may not be altered.

Scoring: Each step will receive 3 points for a common movement or task and 5 points if it is creative. If the chain reaction succeeds in breaking the egg, 5 points will be scored. If the egg cracks but does not break, 3 points are scored. Once the chain reaction has been set in motion, team members may not touch or adjust it with their hands. Additional points may be earned for each additional step designed into the reaction beyond the 5 required. Team members have 10 minutes to build and test your solution.

Given: Obstacle course and blindfold.

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Set up an course using your choice of obstacles. Blindfold one team member. The other team members must devise a means of communication with the blindfolded team member. The blindfolded team member must navigate the obstacle course without the use of verbal communication.

Given: Newsprint paper, markers, scissors and glue sticks.
"Treasure Pleasure" Create a map to a self-named island where a treasure chest is waiting. This is a nonverbal problem.

Given: One square foot of aluminum foil, one ball of yarn, 2 feet of tape, 2 crayons, 2 sheets of paper.
Create a children's toy out of the materials given. It must have at least one fully functional feature.

Given: A ball of clay, five blindfolds.
"Shape it Up" Blindfold all five team members. A ball of clay will be passed from one team member to another. Each team member must contribute some shaping to the clay to result in a finished product. Points are awarded on how well the clay resembles something. You have 2 minutes to discuss and test your solution. You have 4 minutes to solve the problem while blindfolded. You may not speak to each other during the 4 minutes.

"Statues" Team members stand in a circle and one at a time take turns posing. The team member to the right must describe who or what the posed member is.

Hands On Spontaneous 201-210

Given: One soda can, 5 dried beans, a belt, one piece tin foil, a ruler, one piece paper and a pencil.
Blindfold 2 team members. The remaining team members must direct the 2 blindfolded team members to place colored ping-pong balls into numbered cans. You may use only the materials given to direct the team members and you may not talk. You will be given instructions as to which color balls go into which cans after your 3 minutes practice time.

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You will have 5 minutes to perform your problem. You win receive 10 points for every ball in the correct can, and 5 points taken off for every ball in the incorrect can.

Practice

White balls- can #1

Black balls - can #2

Blue balls - can #3

Red balls - can #4

Purple balls - can #5

Real

Red balls - can #1

Blue balls - can #2

White balls - can #3

Purple balls -can #4

Black balls - can #5

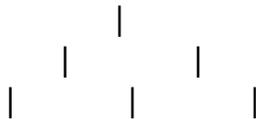
Coach/Judge's note: Use about 10 balls of each color. Place the balls in piles according to color, and cans in numerical order. Give team practice instructions for the first 3 minutes and the real instructions for the 5 minute time period.

Given: Five straws, one sheet paper, one plastic fork, one soda can and 2 mailing labels

Make a device to propel a rubber band to a target 3 feet away.

Given: An eraser, juice box, paper plate, 3 straws, 1 oz. of Playdough, one pencil

Line up 6 empty pop cans in this formation:



From 4 feet away, knock over the cans using only the materials provided. No body parts may be used.

Given: Two pans, 2 small paper plates, a few sheets of paper, 2 straws, a rubber band, scissors and tape.

Your mission is to build a catapult that will throw 3" x 3" pieces of paper that are crumpled up. You have 10 minutes to plan, (you may talk and look through the materials given) and five minutes to build and test.

Scoring: -25 points if catapult fails, 2 points per every inch the paper moves.

Maximum 15 points for creativity and aesthetics.

Given: Two paper plates, 20 toothpicks, 5 drinking straws, 2 plastic forks, 10 paper clips, marbles, 1 foot masking tape and poster clay.

"Flying Saucer" - nonverbal. The problem is to suspend or elevate a paper plate above a table and put marbles on the plate without having them fall off.

You will have 3 minutes think time when the team is allowed to talk, 5 minutes to construct and 2 minutes to put marbles on - no talking during part 2 & 3 but other

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communication is allowed. Scoring: 2 points for each inch the plate is above the table, 5 points for each marble on the plate.

Five team members are outside a room. Four members go inside and one waits outside, blindfolded. The four members inside the room remove one shoe and place it in a pile of other miscellaneous shoes in the center of the room. The judge(s) will mix up the pile of shoes. The fifth team member is then led into the room. The four team members line up in a row, sitting with their feet out in front of them, approximately 7 ft. from the pile of shoes. You are then given 3 minutes for the blindfolded member to match up the right shoe to the right person. The blindfolded member may not touch the shoes that are still on the other four members. You are not allowed to talk during the 3 minutes, and the four seated members cannot get up and physically guide the blindfolded member. You have 2 minutes to devise a communication system and 3 minutes to carry out the task. You will be given 5 points for every shoe that is pulled out of the pile that belongs to a team member, and 5 points for every correctly matched shoe. Maximum – 40 points.

Given: Ten popsicle sticks, 3 pipe cleaners, a ball of clay, 3 clothespins and a 12" piece of tape.
Build a bridge that will extend over a 9" x 12" piece of blue paper. Using match box cars, you will receive 20 points for each car supported by the bridge. You can receive 1–10 points for team work and 1–20 points for the creativity of the bridge structure.

Given: A full set of dominos.
Create a three dimensional figure using a full set of Dominos. All Dominos must be used and like numbered sides must touch.

Given: One 1/8" x 1/8" x 10" stick of balsa wood, 2 band-aids, one paper clip and 6 glass marbles .
Using only the given materials and without touching the marbles, get the marbles across a 2 foot square without going inside the square. You have one minute to think and 2 minutes to solve the problem.

Given: Aluminum foil, mouse trap, 4 ft. of string, play dough, birthday candle, 8 x 12 piece of paper, 2 paper cups, 2 pie tins and a stick.
Using the materials given you must extinguish the birthday candle (you cannot blow it out). You must use the mouse trap and candle in the solution. The candle must be 3 feet away from the mouse trap. A judge will light the candle. You have 3 minute to build and test and one minute to demonstrate.

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Hands – On Spontaneous 211–220

Given: 20 tootsie rolls, 6" of tape, 5 toothpicks and 20 mini marshmallows. With these items given make a bridge that connects 2 tables about one foot apart. Think time is 2 minutes and building time is 5 minutes. While building, make up a song or original song and sing it during the building time using the works of materials. After time ends, judges will place tootsie rolls on the bridge, one at a time. You cannot lose points, you will get an additional 3 points for every tootsie roll held without falling. Scoring: 1 to 5 on Creativity of the song, 1 to 10 for the theme of the problem and 1 to 10 for teamwork.

Given: One bag miniature marshmallows, 1 box toothpicks, 6" masking tape, one sheet 8 1/2 x 11 paper, and an object to be used as a weight. You will have 3 minutes to plan and 5 minutes to build. You may talk only during the planning time. Your problem is to construct a structure as tall as possible using only the materials provided. The structure must be freestanding and support the weight for one minute. Scoring: 5 points for each cm. of height, 25 points for holding the weight for one minute.

Given: Newspapers, a brick and a roll of masking tape. Build a free standing structure as high as possible, able to support a brick and also able to have the brick pass under it.

Given: A small empty jewelry box, a stone, a piece of string, scissors and crayons. (The scissors may not be part of the solution.) The team has 2 minutes to create a theme and skit and one minute to present a solution. Talking is not allowed during the presentation.

Given: 10 pieces spaghetti, 1 " square of clay, 1 paper cup, 1 – 6" x 6" piece of cardboard and a box of nails. The team has 2 minutes to plan and 6 minutes to build a structure as tall as possible to support the cardboard and the cup. The team then has 2 minute to load nails one at a time into the cup. Score will be one point for each inch per nail and 10 points for teamwork. ex: 4" tall structure holding 5 nails = 20 points.

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Given: Model Magic modeling compound, florists wire (either 15" lengths or on ball), 3/8" x 12" dowel rod, 4" square wooden base, lollipop sticks and scissors. Using only the items given, create an artist's figurine. The figurine must be in human form when completed and the joints must be moveable so that the form can be poseable when completed.

Restrictions: Each team member must contribute to some aspect of the solution. Scissors are to be used for construction purposes only. Non-verbal once constructiontime begins.

Judging points:

Teamwork – how strong was the team's planning session; were the task divided evenly and amicably; were all aspects of the problem considered.

Judging Points:

Appearance of the finished figurine: How closely does it resemble the human form; are the limbs in proper proportion to each other; how finely detailed it is, i.e. hands, feet, facial features?

Does it function? Are the joints in fact movable? Does the figurine move in natural human motion? Does it hold a pose? Is the entire structure solid?

NOTE: The team's final product was not particularly functional. However, they learned valuable lessons toward teamwork – watching each other in order to maintain the proportion of the figurine, the style and techniques each one used. I found that those with little or no artistic background quickly developed new techniques, and those with strong artistic backgrounds held back their creative urges for the sake of continuity of the project. The final product was used as a prop for their "Great Impressions" solution.

Given: Four 3" nails with heads, 5 labels and 100 straws.

Build a structure to hold straws. If a straw touches the table, deduct 5 points. Score one point for each straw not touching the table.

Given: One very large rubber band (suggest industrial size).

Team members are numbered one through five. When time begins, team members "flip" the rubber band onto the floor, and say something about the shape (pictured image) the rubber band makes when it hits the floor. The team member closest to the rubber band picks it up, flips it and responds. All team member must have a turn before responding during the next round. Creative responses are valued. Should team members forget who has not participated in a given round, they are penalized five points.

With a lump of clay, create a bust of a famous composer (without words).

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Your team must devise a way for each team member to sit on another team member's lap, at the same time. You may not touch anything in the room, besides the floor, with your feet. You may not touch your fellow team members with your ends during your solution of the problem. This is a nonlinguistic problem. (Team members may talk during a 3 minute discussion time, but not during the execution of their solution.)

Scoring: 1–10 points should be awarded for excessive creativity and teamwork. A successful solution may be given a bonus of 25 points.

Hands – On Spontaneous 221–230

Given: A 4" x 5" piece of aluminum foil, a tub of water and a pile of pennies. Use the aluminum foil to build a boat to hold as many pennies as possible. You have 5 minutes to build and test the boat and to see how many pennies the boat will hold before it sinks.

Given: Different color markers and a large sheet of paper. Each team member is given a different color of marker. On the large piece of paper, team members, in a circle, take turns adding onto the drawing of the person before them. After time stops, team members that participated can make creative comments about the teams' masterpiece.

Given: One container of Playdoh, 3 toothpicks, 1/2 straw, 2 marbles, 2 pipe cleaners, 12 mini marshmallows and 1– 4"square of cardboard. Build a unique animal. It must fit on the 4" card. Each team member will build onto the story of why this animal is unique. 0–10 points are awarded for the animals movement and how it relates. Give one point for a common answer and 3 points for a creative answer. You have 4 minutes to discuss and build and 2 minutes to respond.

Given: Poster board, 5 pieces typing paper, 3 mailing labels and scissors. Build a single structure which stretches from edge of the poster board to the other edge. You have 5 minutes to discuss and build. The structure will be measured at the end of the 5 minutes. The team will receive 2 points for every inch of length. You will be penalized 5 points for every inch of structure off the poster board.

Given: Ten pieces spaghetti, 2 straws, one mailing label, 1 – 8 1/ 2 x 1 1 sheet of paper, 2 – 3" x 5" cards, 4 toothpicks, 1 – 12" piece of string, 2 cotton balls, 20 saltine crackers and 20 rigatoni pasta.

"Bridging the Gap" Make a long span structure on a table with the materials given that will support the crackers and pasta for extra points.

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You have 5 minutes to build a structure having only two vertical supports. The structure will be measured at the end of the 5 minutes. The structure length will be measured between the furthest unsupported span of the structure as measured parallel to the table top. For each one inch of structure length between the two supports, the team will earn 3 points. For each cracker and each rigatoni supported off the table the team earns one point. Any crackers or rigatoni supported more than 2 inches off the table will each earn 2 points.

A penalty of 5 points per word will be given if you talk during the problem.

Given: 25 tennis balls, 1 – 8 1/2" x 11" sheet paper, 4 rubber bands, 2 mailing labels, 1– 36" piece of string, 2 paper clips, 2 toothpicks, one balloon and one cotton ball.

Make a structure or structures out of the 25 tennis balls and the materials given. The team has 5 minutes to discuss and make a free standing structure. The structure must stand for at least 15 seconds after the 5 minutes. Points will be scored after the 5 seconds of stand time. Each tennis ball supported 2" above the table is worth 5 points. Bonus points: 1–10 points for creativity and 1–10 points for team work.

Given: Four student desks, 1–12" pieces of string, 25 blown up balloons, and 4 self stick labels.

Your team has 3 minutes to stick all the balloons to the desks. They may not touch the floor at any time.

Given: Five small lumps of clay and 15 toothpicks.

Give each team member a small lump of clay and 3 toothpicks. Make something using some/all of the items. Be creative!

Given: 25" of string, 4 paper clips, 4 straws, 50 cotton swabs and a bucket with a handle.

How many cotton swabs can you get into the bucket from 10 feet away?

Given: A spoon, wood ruler, paper cup, keys, pencil, 2 marbles and a sheet of paper.

In front of you are 6 different colors of construction paper. A bowl of M&M's are on the table. Using the items listed above, the team is to develop a non-verbal communication scheme by which one or more team members will direct the others to put various color M&M's on the same color papers.

Coaches: Dream up any color/M&M patterns you wish.

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Scoring: One point for each correct M&M, 10 points for each paper that is totally correct and 100 point bonus if all are correct. Feel free to eat the evidence!

Hands – On Spontaneous 231–240

Given: A deck of cards and a box of Cheerios.

Build a structure with the cards that will support as many Cheerios as possible.

Points will be awarded for height, creativity of structure and number of cereals held

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Given: One little square sponge, 4 nails, 2 paper clips, one round magnet, and one 3" x 4" piece of cardboard.

Build the tallest structure using all the items given.

You have one minute to think without playing with the objects. After the one minute you will have 5 minutes to build your structure. When you are finished, if time is not up, you can say stop and get 15 points for every minute of time left. You get 10 points for every inch you have built.

Given: Two "twisties" for garbage bags, 12 miniature marshmallows, 8 toothpicks, 3 straws, one regular size envelope, one paper plate, one paper towel tube, one ping pong ball and one can shaving cream.

Cover the table surface. The team has 5 minutes to discuss building the best possible structure that will support a ping pong ball on top of the envelope at the top of the structure, and 2 minutes to assemble it.

Coach hint: If they ask, they may tear apart or break any of the items, and the envelope flap can be torn off and licked.

Given: One 5"x 5" piece of cardboard, 5 straws, 12' of tape and a pair of scissors. Build a structure that must be at least 6" tall.

Points are awarded for each inch over 6 inches. All materials must be use.

Given: Two paper towel rolls, 8" square of cardboard, 6 sheets tissue paper or construction paper, 3 – 1 foot strips of tape and scissors.

Create an animal, give it a name, habitat and traits.

Given: One ball of clay and 2 straws.

Construct as many items as you can from the materials given.

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Given: Roll of toilet paper, straws, glass of water and marshmallow creme.
Build a structure high as possible.

Given: Two pictures from magazines of desolate, barren or industrial areas. For example, an unclaimed strip mine.
Act as travel agents and describe these locations as "vacation paradise" detailing attractions and amenities.

Given: One ping pong ball, 6 rubberbands, 4 alka seltzer tablets, one pair scissors, 2 straws, one roll of masking tape, one balloon and 6 styrofoam cups.
Move a ping pong ball across a kiddie pool full of water, around a five gallon bucket and back to the starting point without getting wet or coming in direct contact with the ping pong ball.

Given: Two straws, one tennis ball, a snorkel mask, one foot of masking tape, 20 toothpicks, 2 envelopes and one square foot of hot pink poster board.
Use the items given to create your own original invention to help society. You will be given points for creativity, how much the invention will help society and teamwork. You must be able to explain the invention, how it helps and how it works. Up to 10 bonus points will be given for a creative title for the invention. All the materials do not have to be used, but you are limited only to the items given. Destroying the materials is legal. You have 2 minutes to discuss and 4 minutes to build.

Hands – On Spontaneous 241–250

Given: 140 different varieties of wrapped candy or candy bars and a dark bag to put the "Sweets for the Sweet" There will be no thinking time. You have five–minutes to respond. Each team member takes a turn pulling out one piece of candy at a time. That team member will start a story and then pass the bag to the next team member who will continue the story by pulling out another piece of candy. Using the candy for what it is will be judged as common. Creative would be using the name, wrapper and any other writing in an unusual or creative way. Time is stopped after 5 minutes. It is OK to empty the entire bag before time is up.

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Ex: Team member pulls out a Hershey Milk Chocolate bar – "I lived in Hershey, Pennsylvania" or a Payday is pulled out – "Where I got paid today" or a Bar None is pulled out – "I went to spend it all at the bar".

Given: A 12" piece of string for each team member

Take turns creating something with the string and tell what it is.

Ex: Shape a light bulb – Say 'A bright idea!'

Given: One good light bulb, one business envelope, one rubber band, one 8 1/2 x 11 sheet paper, one paper clip, 1 – 6" piece of tape and 1 – 12" piece of string.

The team is given 4 minutes to think and devise a method, using all or some of the materials given, to protect the light bulb from breaking when it is dropped from a height of 6 feet onto a brick. Note: the materials may be altered. The team receives five extra points if the light bulb still "lights" afterwards.

Set ten different objects in front of the team. Give them 4 minutes to discuss and organize a story or skit using as many of the objects as possible. At the end of the 4 minutes, they are then given another 4 minutes to perform or present their story or skit.

Given: A deck of cards and 10" of masking tape.

Build as tall a structure as possible with the materials given.

It must stand for a designated amount of time.

Given: A KitKat candy bar.

The team has three minutes to equally divide a KitKat candy bar, one section for each spontaneous team member. You are not allowed to unwrap the wrap. After time has stopped, each piece must be weighed for accuracy.

Given: Two napkins, two straws, and 12 pop cans to be used as obstacles, tape, Popsicle sticks and crayons.

Design and build a vehicle to go through an obstacle course of pop cans.

Given: A ball of string, marshmallows, coat hanger, 1 foot x 1 foot piece of aluminum foil, 2 pieces of masking tape and a sponge.

Using some or all of the given materials, design and build an instrument that will prevent or clean up pollution and explain how it works.

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Given: Two identical sets of Lego's.

"Recreate a Structure" With one set of Lego's create a structure. The team then needs to create a verbal method of communication before splitting into two groups of two and three members. Place a wall between the two groups. A group on one side of the wall will have the original structure. The other group needs to recreate that original structure with the second set of Lego's using only verbal communication from the team members with the original structure.

Scoring: 10 points for each correctly placed Lego and 10 points for teamwork.

Given: 1 tennis ball, 4 toothpicks, 2 paper clips, 2 straws, one sheet 8 1/2 x 11 paper and 2 rubber bands.

You have 4 minutes to discuss and build a device to hang a tennis ball. You may not pierce the tennis ball. At the end of your 4 minutes, the judge will hang your device from a door jamb or some other suitable place using a piece of masking tape. You receive five points for every inch from the top of the device to the top of the tennis ball .

Hands – On Spontaneous 251–260

Given: Bag of M&M's and colored construction paper.

Blindfold one team member. The object of the team is to get the blindfolded team member to put the M&M's on the corresponding colored construction paper without using verbal clues. A method of communication must be worked out before blindfolding the one team member. The best part is – you can eat the M&M's when you're done and you have to use a whole bag!

Given: One package bendable straws, 3 adhesive labels, 2 rubber bands and 7 paper clips.

Build a catapult out of the materials given. The device will then be used to catapult 3 objects (a penny, a paper clip, an eraser) toward a designated target 5 feet away from the presentation area. Score will be based on teamwork, creativity of device and marked scores on the target area. You have 10 minutes to build the catapult. No time limit for execution.

Given: One bag marshmallows and one box toothpicks.

Build a structure as high and as wide as possible with the materials given. Structure will be measured by the height times half the width. You have 5 minutes to build the structure.

Given: 1 " x 1 " piece of clay, 50 toothpicks, one deck playing cards,

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100 pennies and one plastic cup.

Part One: Build a structure using the clay, toothpicks and cards. It must be as high as possible and hold the cup and pennies.

Part Two: Place the cup on the structure and place in the cup one penny at a time. You have one minute to think, 3 minutes to build and 2 minutes to put pennies in the cup.

Scoring: 2 points for every inch of height (not including the cup), 10 points if structure holds the cup, 1 point every inch in height for each penny the cup holds (minimum of 3 seconds) and 1–15 points for teamwork.

Given: Blindfold, masking tape, a basket, various objects (pencils, ping pong balls, ruler, etc.)

Team members must design a non-verbal direction system to be used to guide one teammate, who is blindfolded, through a maze. The blindfolded team member must also pick up various objects and carry them to the finish area. You may use the basket for easier carrying. One team member must be chosen as the guide and may not pull or push the person in any direction or turn their body to face in any direction. You have 5 minutes to design the communication system and 5 minutes to go through the maze.

Judges only: Map out a course on the floor using masking tape, include several turns. Place objects on the course to be retrieved by the blindfolded team member.

Scoring: 20 points for creativity – deduct one point for each object left behind, 10 points for quickness in completing the maze in 1–2 minutes, 7 points for 3–4 minutes and 5 points for 5 minutes. Point level and time may be adjusted for a larger course or more objects.

Given: Two strings or heavy yarn, 8 feet each, two plastic or styrofoam cups, 4 paper clips, one fly swatter, one gallon container and 12 golf balls.

Mark two lines on the floor about 7 feet apart with the gallon container placed at the center point between them. The team has 7 minutes to discuss and practice their solution. The problem is to transport as many balls as possible to be emptied into the gallon container. Team members must work from behind the marked lines. They may not step over the lines or touch the floor beyond the lines, however, they may reach across the lines. Two members must be on one side, three members on the other side.

Allow 2 minutes for the problem solution. You receive 5 points for each ball in the bucket.

Given: Three unopened tissue boxes of the same size, 6 – 8 1/2 x 11 pieces paper, 4 plastic drinking straws, eight paper clips, 12" masking tape and a pair of scissors.

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Using all or some of the materials given, build a structure as high as possible. The tissue boxes may not be cut or punctured. The time limit is 8 minutes. The final structure must stand for at least 5 seconds.

Given: Seven sheets of typing paper. Make a free standing structure as tall as possible You receive 2 points for every inch in height.

Given: One action figure, one can – any kind, one ball string, 3 straws, one foot of tape, 2 index cards and one spoon.
You (the action figure) are trapped inside a deep hole. You find the given materials, build a vehicle and escape.

Given: Two pieces paper, 6 pieces thin spaghetti, 2" masking tape, one coffee canister, one billiard ball and an unlimited supply of nails.
Your task is to create a structure using the paper, spaghetti and tape. This structure must be able to support the coffee can and must be far enough off the ground that a billiard ball can be rolled underneath the coffee canister. The billiard ball is to be used for measuring purposes only. The team can gain points by putting nails into the canister. The more nails that are put into the canister, the more points the team gains. This structure must be free standing and must be raised high enough to roll the billiard ball under it the entire time. The team has five minutes to plan their structure and two minutes to build it.