

# Avalanche!!

This is a **hands-on** challenge.

## The Challenge:

You must create a structure that is as tall as you can make it that will withstand the impact of 5 different balls against it.

## The Scene:

You live in deep valley, very remote from civilization. Your only hope for communication is to build a very tall communication tower in the "notch" between mountains. Unfortunately, this area has frequent avalanches that your tower must withstand.

## Materials:

- 10 spaghetti
- One 1" cube of clay
- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- One 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 1 sheet construction paper (8.5 x 11)
- 5 index cards
- 1 paper cup
- 1 paper plate
- 8 mailing labels
- One 12" piece of aluminum foil

## Directions:

You will have 9 minutes to construct your tower within the taped area. At 5 different times during construction, a ball will be rolled at your structure by a judge. You may pick the order in which you want the balls rolled except that the **billiard ball must be rolled last**. After the ball hits the structure, you may reconstruct it, as long as time remains in the challenge. The balls to be rolled are a tennis ball, a baseball, a softball, a billiard ball and a soccer ball.

The first ball will be rolled when 7 minutes remain, the second when 5 minutes remain, the third when 3 minutes remain, the fourth when 1 minute remains and the fifth after time runs out. You must tell the judge which ball will be rolled when it is time to roll the ball and each ball can only be rolled once.

## Scoring:

- 5 points for each inch high that remains after the last ball is rolled at end of challenge
- 20 points teamwork
- 20 points creativity of use of materials
- 2 points for each type of material used

## Set up:

Make an 18" tape square on the floor. Place a taped line 12" from the front edge of the square. The entire ramp must be placed behind the line. The ramp must be made of a piece of 2 x 4, about 6" high and an 8" piece of cove molding wide enough to hold a tennis ball. The balls will be gently placed on the ramp and released.

# Centennial Sculpture

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

Using only the materials provided, you must design and build a "sculpture" that will represent an important event, accomplishment or person in the 20th century (1900-1999).

## The Scene:

You are an art student at a prestigious art institute and for your final exam, you are asked to design and build a "sculpture" that will represent an important event, accomplishment or person in the 20th century (1900-1999) given the materials below.

## Materials:

- 10 spaghetti
- 10 "ziti" (pasta)
- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- One 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 2 sheets construction paper (8.5 x 11)
- 5 index cards
- 1 paper cup
- 1 paper plate
- 8 mailing labels
- One 12" piece of aluminum foil

Directions:

## Directions:

You will have 5 minutes to design and build your sculpture and 2 minutes to present it to the judges.

## Scoring:

- 30 points for the overall creativity of the sculpture
- 15 points for the creative use of materials
- 20 points for the presentation to the judges
- 25 points for originality
- 20 points for teamwork

# Drama Class

This is **hybrid** (verbal/hands-on) challenge.

## Challenge:

Create a humorous skit about a drama class which is about to rehearse, but the script has accidentally been ruined.

## Time:

Your team will have 6 minutes to create the skit.

## Materials:

A series of humorous pictures (about 2 to 3).

## The Scene:

The drama class is about to rehearse a brand new skit. Prospective students for next year's drama class have been invited to watch your rehearsal. The problem is the script has been accidentally ruined by a spilled glass of milk. The only thing that is recognizable is a series of pictures that were inside the script. Since they have an audience, they decide they have to rehearse. So, they develop a story using ideas of what they think the pictures are saying. Remember the show must go on.

## Scoring:

- 1 - 20 points Creativity of the integration of the pictures into the story
- 5 points for each character introduced in the skit
- 1 - 25 points Teamwork

# Happy New Year 3000

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

You must write a list of events and accomplishments for the next millennium and present them in a 5-minute "newscast" that will be broadcast on December 31, 2999.

## The Scene:

It is December 31, 2999 and you are the news director for your station. Your job is to present a newscast that will include brief summary of the past century. You must include at least 3 inventions, 3 prominent people and 3 important events.

## Materials:

- 5 sheets of paper
- 3 sharpened pencils
- 6 index cards
- 4 pieces of construction paper
- 1 box of crayons
- One 12" sheet of aluminum foil
- 5 mailing labels
- 6 paper clips
- 4 rubber bands

## Directions:

You will have 5 minutes to write your newscast and construct any props that you will use. At the end of the 5 minutes, you will have 3 minutes to present it to the judges.

## Scoring:

- 30 points for the overall creativity of the newscast
- 5 points for each separate person, event, or accomplishment presented
- 10 points for the creativity of each separate person, event or accomplishment presented
- 20 points for use of props
- 10 point for each full minute of the presentation
- 20 points for teamwork

# Launching Pad

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

To build 3 rockets and 3 launching devices, using the materials provided.

## The Scene:

You are a graduate student studying aeronautic engineering and your final exam is to build 3 rocket and launching devices that will "fly" as far as possible. Materials:

### Materials that can be altered:

10 spaghetti  
6 straws  
12" piece of wax paper  
2 rubber bands  
1 sheet notebook paper  
3 different colored sticky dots  
1 plastic spoon  
1 paper cup  
1 sheet construction paper (8.5 x 11)  
2 index cards  
12" piece of string  
4 mailing labels

Scissors (may NOT be part of solution)

### Materials that can't be altered:

One marble  
Large button  
Empty coffee can  
1 unsharpened pencil

## Directions:

You will have 6 minutes to design, build and practice with your 3 launchers and rockets. One dot must be put on each rocket. At the end of the 6 minutes, the team will designate 3 team members to be "launchers" and will launch each rocket only once in a 1-minute period. The rockets may be touched while being loaded on to the launcher but not during the launch. The launching device must stay in the starting area after the launch.

## Scoring:

5 points for every foot that the rocket travels past the starting line, up to 20 feet  
10 points for the creativity of the design of each rocket  
20 points for the creative use of materials  
5 points for each type of materials used  
25 point for teamwork

# Magically Musical

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

Your team will build as many instruments as they would like out of the materials provided and present them in a three-minute skit.

## The Scene:

The band at your high school thinks that they are going to a band competition, so they load all their instruments into a truck and head to the competition. When they arrive, they find out that they must present their music as part of a 3-minute play. Later they find out that the truck carrying the instruments broke down and they will have to perform with instruments they build with only the materials they can find get at a neighboring mall.

## Materials:

### Materials that CAN be altered

10 spaghetti  
10 "ziti" (pasta)  
6 straws  
2 rubber bands  
1 sheet notebook paper  
5 washers  
4 2-inch bolts  
4 matching "nuts"  
One 12" piece of wax paper  
1 sheet construction paper (8.5 x 11)  
5 index cards  
1 paper cup  
1 paper plate  
4 mailing labels  
One 12" piece of string

### Materials that CANNOT be altered

4 marbles  
comb  
an empty coffee can  
1 unsharpened pencil

## Directions:

You will have 5 minutes to design your instruments and plan and practice your skit. You must "feature"(must be an important part of the skit) 1 instrument in the skit. At the end of the 5-minutes, or when your team is ready, you will have 3 minutes to perform the skit. Prior to performing for the judges, you must tell them which instrument you are "featuring" and the judges will give you an object that you must incorporate into skit without any additional discussion.

## Scoring:

5 points for each instrument that is used in the skit  
5 points for each full minute of the presentation  
20 points for the originality of the featured instrument  
20 points for the incorporation of the "mystery object" into the skit  
20 points for the creativity of the use of materials in the featured instrument  
25 points for the overall quality of the skit  
25 points for teamwork

# Millennium Animals

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

To construct animals, based on the information on the slips of paper you receive and make a zoo in which they would live.

## Situation:

You are the curator of a zoo in the 26<sup>th</sup> century, in an age when animals are constructed by genetic changes. You are given the description of 3 animals that will arrive in your zoo in 3 months and must plan where they will live.

## Materials:

You will randomly select 3 cards from each pile and decide which "parts" to put together to make your animals. You must use 3 cards per animal.

### Cards:

Stack 1: beak, claws, webbed toes, hooves, fins, wings, horns, scales, fur, hair, arms, legs, spines, hump

Stack 2: very strong, very tall, very agile, very flexible, very fast, very smart, lives a long time, very small, very big

Stack 3: lives in the water, lives on land, lives in the air, lives underground, lives on the moon, lives in the center of the earth, lives in volcanoes, lives at the bottom of the ocean, lives in an underground lake, lives on the sun, lives anywhere

### To construct the animals:

3 sheets of white paper

3 sheets of colored construction paper (randomly selected)

1 black sheet of paper

3 scissors

3 glue sticks

10 spaghetti

One 1" cube of clay

6 straws

2 rubber bands

2 sheets notebook paper

One 12" piece of string

5 paper clips

3 cotton balls

One 12" piece of wax paper

1 sheets construction paper (8.5 x 11)

5 index cards

1 paper cup

1 paper plate

8 mailing labels

One 12" piece of aluminum foil

## Directions:

You will have a 8 minutes to construct the animals and the zoo and 2 minutes to present the animals and the zoo to the judges. You must include a description of the animal, what the animal eats, and its natural habitat (home).

## Scoring:

20 points for the overall creativity of each animal

20 points for the overall creativity of the zoo

25 points for the creative use of materials

15 points for the presentation to the judges

20 points for teamwork

# Millennium Circus

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

You must design, build and present a circus that might be held in the year 3000. You must include an explanation of each attraction.

## Situation:

You are the Vice President of the largest entertainment company on the planet and are bored with the entertainment of your time so you decide to bring back the "circus" as a type of entertainment.

## Time:

You will have 6 minutes to design, build and present a circus that might be held in the year 3000 and 2 minutes to give a presentation to the judges.

## Materials:

- 10 spaghetti
- 10 "ziti" (pasta)
- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- One 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 2 index cards
- 1 paper cup
- 1 paper plate
- 4 mailing labels
- One 12" piece of aluminum foil

## Directions:

You will have 6 minutes to design, build and present a circus that might be held in the year 3000 and 2 minutes to give a presentation to the judges.

## Scoring:

- 25 points for the creativity of the circus
- 5 points for each separate attraction presented to the judges in the presentation
- 20 points for overall quality of the presentation to judges
- 20 points for teamwork

# Millennium Cityscape

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

You must build a 3 dimensional map of a city in the year 3000. You must also give a 3-minute presentation to the judges explaining your model.

## Situation:

You are the chief architect for your firm that has been invited to bid on building a new city in the year 3000.

## Time:

You will have 6 minutes to design and build the 3 dimensional map of the city and 2 minutes to present the map to the judges.

## Materials:

- 10 spaghetti
- 10 "ziti" (pasta)
- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 2 index cards
- 1 paper cup
- 1 paper plate
- 4 mailing labels
- One 12" piece of aluminum foil

## Directions:

You will have 6 minutes to design and build the city map and 2 minutes to present it to the judges.

## Scoring:

- 25 points for overall quality of the map (including completeness)
- 20 points for the creativity of the layout
- 15 points for creative use of materials
- 20 points for presentation to judges
- 20 points for teamwork

# Millennium Housing

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

You must design and build a structure in which people will live in the year 3000. You must include an explanation of why each of the features will be important in the year 3000.

## Situation:

You are the chief engineer for your firm that has been invited to bid on designing the housing units to be used in the year 3000.

## Time:

You will have 6 minutes to design and build the structure and 2 minutes to present the structure and explain it to the judges.

## Materials:

- 10 spaghetti
- 10 "ziti" (pasta)
- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- One 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 2 index cards
- 1 paper cup
- 1 paper plate
- 4 mailing labels
- One 12" piece of aluminum foil

## Directions:

You will have 6 minutes to design and build the structure and 2 minutes to present and explain it to the judges.

## Scoring:

- 5 points for overall quality of the structure
- 20 points for the creativity of the layout (including design)
- 15 points for creative use of materials
- 20 points for presentation to judges
- 20 points for demonstration to judges
- 20 points for teamwork

# Millennium Toy

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

You must construct a toy that will entertain a 5 year-old.

## The Scene:

You are 1 of the children of the owner of a large toy manufacturer and your father has told you that he wants to be the producer of the "toy of the year" next year. Whichever 1 of you designs the most original, creative toy that will appeal to 5 year-olds and their parents will inherit the business.

## Materials:

- 10 spaghetti
- 10 "ziti" (pasta)
- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- One 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 2 sheets construction paper (8.5 x 11)
- 5 index cards
- 1 paper cup
- 1 paper plate
- 8 mailing labels
- One 12" piece of aluminum foil

## Directions:

You will have 5 minutes to design and construct the toy and 3 minutes to demonstrate and "sell" it to the judges.

## Scoring:

- 20 points for the originality of the toy
- 20 points for the creativity of the use of materials
- 5 points for each of the types of materials used in the toy
- 20 point for the "sell"
- 20 points for teamwork
- 20 points of the demonstration of the toy

# Millennium Vehicle

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

You must design and build a vehicle to be in the year 3000. You must include also include a demonstration and explanation of why each of the features will be important in the year 3000.

## Situation:

You are the chief engineer for your firm that has been invited to bid on designing the "Vehicle of the Year 3000".

## Time:

You will have 6 minutes to design and build the vehicle and 2 minutes to present the vehicle and demonstrate it for the judges.

## Materials:

- 10 spaghetti
- 10 "ziti" (pasta)
- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- One 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 2 index cards
- 1 paper cup
- 1 paper plate
- 4 mailing labels
- One 12" piece of aluminum foil

## Directions:

You will have 6 minutes to design and build the vehicle and 2 minutes to present and demonstrate it for the judges.

## Scoring:

- 25 pts for overall quality of the vehicle
- 20 points for the creativity of the layout (including design)
- 15 points for creative use of materials
- 20 points for presentation to judges
- 20 points for demonstration to judges
- 20 points for teamwork

# Mirror, Mirror on the Wall

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

Your team will tell a story, involving pictures of the owner of an old mirror and three "reflections" in the old mirror.

## The Scene:

You are reading story from an old fairy tale book. The story is about a "magic" mirror through which the owner can see the future. The book contains a picture of the owner of the mirror but ends abruptly, with only three pictures of reflections in the mirror. Your job is to tell the story, using these 3 pictures.

## Materials:

- 3 pictures
- 1 sheet white notebook paper (maybe used to gather ideas but may not be used in the final presentation)
- 3 sharpened pencils

## Directions:

Your team will have 5 minutes to write your story and practice presentation. Your team will then have 3 minutes to present the story in any way you choose.

## Scoring:

- 5 points for each full minute of the presentation
- 15 points for the overall originality of the story
- 15 points for the creativity of the interpretation of the pictures
- 10 points for the integration of each picture into the story
- 25 points for the overall quality of the story (characters, theme, structure)
- 25 points for teamwork

# Mouse Party

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

You are a tiny mouse. You are planning a party. It will be a “Mouse Party!”

## Materials:

- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 2 sheets construction paper (8.5 x 11)
- 5 index cards
- 1 paper cup
- 1 paper plate

Scissors (may not be part of the solution)

## Directions:

In part 1 (5 minutes): Your team has 4 minutes use any of the materials provided to create party favors.

In part 2 (3 minutes): Your team will have 3 minutes to stage the party with your favors.

## Scoring:

- 25 points for the creativity of your skit.
- 20 points for the use of your favors.
- 15 points for how well you work together as a team.

# **New Holidays**

This is a **verbal** challenge.

## **The Challenge:**

You must 3 new holidays to be celebrated in the new millennium and present them to the judges. Your presentation must include what each holiday will commemorate, who will celebrate it (USA or worldwide), how it will be celebrated, when it will celebrated and present a verbal “greeting” card.

## **The Scene:**

You are the president of a greeting card company and you want to boost sales by adding some additional holidays.

## **Directions:**

You will have a total of 6 minutes to complete this challenge (including your presentation to the judges).

## **Scoring:**

- 20 points per holiday for the overall creativity
- 15 points for the creativity of each greeting card Creativity
- 20 points for the overall quality of presentation to judges
- 20 points for teamwork

# **New Millennium First Aid Kit**

This is a **hybrid** (verbal/hands-on) challenge.

## **The Challenge:**

You must create a first aid kit using only the materials listed below. The first aid kit must include the container plus the contents and what it will be used for.

## **The Scene:**

You are an emergency response coordinator and you must design a first aid kit to be distributed to all inhabitants of your town on December 31, 2099.

## **Materials:**

- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- One 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 2 sheets construction paper (8.5 x 11)
- 5 index cards
- 1 paper cup
- 1 paper plate

Scissors (may not be part of first aid kit)

## **Directions:**

You will have 6 minutes to design the container and the contents of a first aid kit to be used in the 21st century. At the end of the 6 minutes, you will have 2 minutes to present and explain the first aid kit to the judges. Your presentation should include an explanation of the design and contents as well as what each of the contents will be used for.

## **Scoring:**

- 20 points for the overall creativity of the first aid kit design (container)
- 5 points for the creativity of each item in the first aid kit
- 10 points for the creative use of materials
- 15 points for the presentation to the judges
- 20 points for teamwork

# Next Centennial Sculpture

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

Using only the materials provided, you must design and build a "sculpture" that will represent an important event, accomplishment or person in the next century (2000-2099). Any aspect of the presentation may be fictional.

## The Scene:

You are an art student at a prestigious art institute and for your final exam, you are asked to design and build a "sculpture" that will represent an important event, accomplishment or person in the 21<sup>st</sup> century (2000-2099) given the materials below.

## Materials:

- 10 spaghetti
- 10 "ziti" (pasta)
- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- One 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 2 sheets construction paper (8.5 x 11)
- 5 index cards
- 1 paper cup
- 1 paper plate
- 8 mailing labels
- One 12" piece of aluminum foil

## Directions:

You will have 5 minutes to design and build your sculpture and 2 minutes to present it to the judges.

## Scoring:

- 30 points for the overall creativity of the sculpture
- 15 points for the creative use of materials
- 20 points for the presentation to the judges
- 25 points for originality
- 20 points for teamwork

# On the Way to D2K

This is a **hybrid** (verbal/hand-on) challenge.

## The Challenge:

Your team will use the props provided to tell a story.

## Scene:

Your homework assignment is to work with your DI team to tell the events leading up to your winning the State Championship and going to D2K in Ames, Iowa. Your team gets together and gathers up a bunch of props to use. The next day, just before you get up to give your presentation, the one member of the team that couldn't attend the planning session shows up with a bag of props that must be integrated into your presentation.

## Materials:

Bag of props that are not shown to team until one minute prior to presentation.

1 sheet white notebook paper (maybe used to gather ideas but may not be used in the final presentation).

3 sharpened pencils

## Directions:

Your team will have 5 minutes to write your story, based on the props provided and practice presentation. After the practice time is over, the team will be given several additional props and one minute to decide which props they can incorporate into their presentation. Your team will then have 3 minutes to present the story to the judges in any way you choose.

## Scoring:

5 points for each full minute of the presentation

15 points for the overall originality of the story

15 points for the creativity of the interpretation of the pictures

5 points for the integration of each prop provided at the beginning into the story

10 points for the integration of each prop provided just prior to presentation into the story

25 points for the overall quality of the story (characters, theme, structure)

25 points for teamwork

# Playthings

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

You must design a game that elementary school children can play that must keep them busy for at least 5 full minutes. The game must have written rules and a way of knowing who is the winner.

## The Scene:

You are visiting your old third grade teacher and she suddenly gets very ill. The principal asks you to substitute for the class. You have to entertain her class by having them play a game.

## Materials:

- 1 sharpened pencil
- 10 spaghetti
- 10 "ziti" (pasta)
- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- One 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 2 sheets construction paper (8.5 x 11)
- 5 index cards
- 1 paper cup
- 1 paper plate
- 4 mailing labels
- 12" piece of aluminum foil

## Directions:

You will have 5 minutes to design the game and write the rules. At the end of 5 minutes, you will have 3 minutes to the game, using the rules. You must show the judges how someone "wins" the game.

## Scoring:

- 20 points for the originality of the game
- 20 points for the creativity of the use of materials
- 5 points for each of the types of materials used in the game
- 20 point for the rules of the game
- 20 points of the demonstration of the game
- 20 points for teamwork

# Tell Me A Story

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

Your team will tell a story, involving these three pictures and their caption. You will have 5 minutes to prepare the story and 3 minutes to present it.

## The Scene:

You are reading story from a tattered old book when you realize that most of pages have been water-damaged and the end of the portions of the story are unreadable. However, there are three pictures each with a caption. Your challenge is to write a story linking these three pictures, using only the captions as a guide.

## Materials:

- 3 pictures with captions
- 1 sheet white notebook paper (maybe used to gather ideas but may not be used in the final presentation).
- 3 sharpened pencils

## Directions:

Your team will have 5 minutes to write your story and practice presentation. Your team will then have 3 minutes to present the story in any way you choose.

## Scoring:

- 5 points for each full minute of the presentation
- 15 points for the overall originality of the story
- 15 points for the creativity of the interpretation of the pictures
- 10 points for the integration of each picture into the story
- 25 points for the overall quality of the story (characters, theme, structure)
- 25 points for teamwork

# “That's Entertainment”

This is a **hybrid** (verbal/hands-on) challenge.

## **The Challenge:**

You must design and present a new type of entertainment in the year 3000. You must include an explanation of why each part was included.

## **Situation:**

You are the Vice President of the largest entertainment company on the planet and are bored with the entertainment of your time so you decide to design a new type of entertainment that will revolutionize the entertainment industry.

## **Time:**

You will have 6 minutes to design the type of entertainment and build any props that you will need to sell the entertainment to your stock holders and 2 minutes to give a presentation to your stock holders.

## **Materials:**

- 10 spaghetti
- 10 “ziti” (pasta)
- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- One 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 2 index cards
- 1 paper cup
- 1 paper plate
- 4 mailing labels
- One 12" piece of aluminum foil

## **Directions:**

You will have 6 minutes to design the type of entertainment and build any props that you will need to sell the entertainment to your stock holders and 2 minutes to give a presentation to your stock holders.

## **Scoring:**

- 25 points for overall entertainment quality of the idea
- 20 points for the creativity of the entertainment
- 15 points for creative use of materials
- 20 points for presentation to judges
- 20 points for teamwork

# **The Jungle Book**

This is a **hybrid** (verbal/hands-on) challenge.

## **The Challenge:**

Your team will use the pictures of animals to tell a story.

## **The Scene:**

Your friend is a naturalist stationed in a remote area and is scheduled to visit in the near future. In order to avoid carrying a lot of heavy luggage, he sends you his scrapbook that tells the story of his time out in nature. The scrapbook arrives several days before your friend so, as you are looking at the scrapbook, you try to imagine the story that the pictures tell.

## **Materials:**

Pictures of animals

1 sheet white notebook paper (maybe used to gather ideas but may not be used in the final presentation)

3 sharpened pencils

## **Directions:**

Your team will have 5 minutes to write your story and practice presentation. Your team will then have 3 minutes to present the story to the judges in any way you choose.

## **Scoring:**

5 points for each full minute of the presentation

15 points for the overall originality of the story

15 points for the creativity of the interpretation of the pictures

5 points for the integration of each picture into the story

25 points for the overall quality of the story (characters, theme, structure)

25 points for teamwork

# **The Mouse House (adapted)**

This is a **hybrid** (verbal/hands-on) challenge.

## **Set Up:**

Must be on a flat surface. Tape an 18" square with masking tape and a line 18" from the front edge of the square. The entire ramp must be placed behind the line. The ramp must be made of a piece of 2 x 4, about 6" high and an 8" piece of cove molding wide enough to hold a tennis ball.

## **The Challenge:**

You must build a new "house" that is at least 6" high with a mouse hole in it. If you can roll a tennis ball through the mouse hole, and it is still intact, it will be big and strong enough.

## **Time:**

You will have 6 minutes to design and build the mouse house and 2 minutes to roll the tennis ball through the mouse hole and add the "family members, represented by ping pong balls.

## **The Scene:**

You are a tiny house mouse living in house that your family has inhabited for generations. It is getting very crowded as your family grows. Your problem is to build a new "house" that is at least 6" high with a mouse hole in it. If you can roll a tennis ball through the mouse hole, the house will be big enough for the whole family.

## **Materials:**

- 10 spaghetti
- 10 "ziti" (pasta)
- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 2 index cards
- 1 paper cup
- 1 paper plate
- 4 mailing labels
- One 12" piece of aluminum foil

## **Directions:**

You will have 6 minutes to design and build the mouse house. You may also practice rolling a tennis ball or the ping pong balls. After the 6 minutes are over, you will be given 30 ping pong balls and 1 tennis ball. During the next 2 minutes, you must first roll the

tennis ball until it goes through the mouse hole once. You may not push the tennis ball at all. You may only place it on the top edge of the ramp and let it go. After the tennis ball successfully passes through the hole you may remove the tennis ball and start to roll ping pong balls, 1 at a time into the mouse house until time runs out.

**Scoring:**

2 points for every inch over 6" high

10 points if you can roll the tennis ball through the mouse hole without breaking your house.

3 points for each ping pong ball that can be contained within the house, up to 30.

12 points for Creativity of the design of the mouse house

8 points for Creativity of the use of materials

8 points for (maximum) Number of types of materials used (1 point per material)

12 points for Teamwork

# The Ride of Your Life

This is **hybrid** (verbal/hands-on) challenge.

## Challenge:

Using the materials provided, create a theme park attraction and present it to the Board of Directors.

## Time:

You have 6 minutes to determine what the attraction is and to construct it. Then, you will have 2 minutes to present it to the Board of Directors.

## Materials:

- 15 pieces spaghetti
- 5 pieces of rotini noodles
- 4 mailing labels
- 1 piece of string 12" long
- 1 paper plate
- 5 tooth picks
- 1 paper cup
- 1 oz. of clay
- 1 clothes pin
- 1 piece of cardboard 12" long

## The Scene:

You are the attractions committee for a major theme park. It is time for you to create a new ride. The area of the park where the ride will be located has an educational theme. Therefore, your ride must promote a school subject. Use the provided materials to construct the ride. Then, present your new idea to the park's Board of Directors.

## Scoring:

- 25 points Creativity of the attraction
- 3 points for each material used
- 15 points Presentation
- 25 points Teamwork

# The School Project

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

Using the materials provided, determine the school project that the materials were to be used for, complete the project and explain it.

## Time:

You will have 6 minutes to determine what the school project was and complete the project.

## The Scene:

You are home sick with the flu. While you are asleep, your mom leaves a bag full of materials on your nightstand with a note that says the following: "These are the materials your teacher told me to give you to complete your school project. Please complete the project before I get home from work". You look further and there are no directions for the school project. Based on these materials, you must figure out what the project might have been, do it and be ready to explain it.

## Materials:

- 10 spaghetti
- 10 "ziti" (pasta)
- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- One 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 2 sheets construction paper (8.5 x 11)
- 5 index cards
- 1 paper cup
- 1 paper plate
- 4 mailing labels
- One 12" piece of aluminum foil

## Directions:

You will have 5 minutes to design and construct your school project. At the end of the 5 minutes, you will have 2 minutes to present your school project to the judges.

## Scoring:

- 25 points for reativity of the project
- 15 points for Creativity of the use of materials
- 15 points for Presentation of project
- 25 points for Teamwork
- 20 points for Humor of the overall presentation of the project

# The Tower of Babel

This is a **hands-on** challenge.

## Challenge:

Signal team members what and where to put building materials for the Tower of Babel.

## The Scene:

You are independent contractors commissioned to erect the Tower of Babel. However, since none of you have a common spoken language, chaos reigns and nothing is being accomplished. You want to get paid for the job don't you?

First your team must devise a non-verbal communications system so the engineers can “tell” the workers what building materials should go in which buckets. These will be hauled up the tower according to the “Master Plan.” Next, the engineers must “tell” the workers to place the building materials in the proper buckets. You will be given the “Master Plan” after you have devised your communications system.

## Materials:

### Communicating, or signaling, materials:

Pencil  
Dish cloth  
Piece of paper  
Envelope  
Paint brush

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### Building materials:

You will need enough of these materials to satisfy the requirements of the “Mater Plan.”

These quantities are sufficient for the master plan below.

25 Paper clips  
25 Tooth picks  
25 Lima Beans  
25 Coins  
25 Rubber bands

### Building buckets:

5 “buckets” to hold the selected materials. Each bucket should be a different color.

Buckets may be some sort of drinking or food packaging cup. For the master plan below use:

Orange  
Green  
Red  
Yellow  
Blue

**Directions:**

You will have 5 minutes to devise a non-verbal communications system. This communication system will enable the engineers to tell the workers, via signaling, to place the correct number and variety of building materials into the correct buckets to construct the Tower of Babel. During this time your team must decide who will be the engineers and who will be the workers. You will then have 3 minutes for the engineers to ensure the workers get it right. No talking, body language or signaling with anything other than the listed signaling items may be used to communicate during this part. None of the signaling materials may be altered.

**Scoring:**

1 - 25 points for Creativity of your communications system

1 - 20 points for Teamwork

1 point for each correct building material in the correct bucket

10 points bonus for getting a correct material in each of the 5 buckets

**Reveal the Master Plan only after the signaling system  
has been devised and the engineers and workers selected.**

**The Master Plan:**

Alter to suit your building materials and buckets.

Orange bucket:

6 paper clips  
9 coins  
4 lima beans  
1 tooth pick

Green bucket:

3 rubber bands  
7 tooth picks  
1 paper clip  
2 lima beans  
3 tooth picks

Red bucket:

2 lima beans  
3 coins  
1 rubber band

Yellow bucket:

4 coins  
1 lima bean  
1 paper clip

Blue bucket:

3 paper clips  
4 tooth picks  
1 lima bean  
5 coins  
2 rubber bands

Appraiser Copy

## **The Tower of Babel**

This is a **hands-on** challenge.

### **Set-up:**

Place the communicating or signaling materials at one end of a table.

Place the building materials and buckets on a table about 6 to 10 feet away. The building materials should be closer to the workers (at the end of the table), the buckets conveniently in front of the building materials.

### **Challenge:**

Signal team members what and where to put building materials for the Tower of Babel.

### **The Scene:**

You are independent contractors commissioned to erect the Tower of Babel. However, since none of you have a common spoken language, chaos reigns and nothing is being accomplished. You want to get paid for the job, don't you?

First your team must devise a non-verbal communications system so the engineers can "tell" the workers what building materials should go in which buckets. These will be hauled up the tower according to the "Master Plan." Next, the engineers must "tell" the workers to place the building materials in the proper buckets. You will be given the "Master Plan" after you have devised your communications system.

### **Materials:**

Communicating, or signaling, materials:

Pencil  
Dish cloth  
Piece of paper  
Envelope  
Paint brush

Building materials:

---

You will need enough of these materials to satisfy the requirements of the "Master Plan."  
These quantities are sufficient for the master plan below.

25 Paper clips  
25 Tooth picks  
25 Lima Beans  
25 Coins  
25 Rubber bands

Building buckets:

5 “buckets” to hold the selected materials. Each bucket should be a different color. Buckets may be some sort of drinking or food packaging cup. For the master plan below use:

Orange  
Green  
Red  
Yellow  
Blue

**Directions:**

You will have 5 minutes to devise a non-verbal communications system. This communication system will enable the engineers to tell the workers, via signaling, to place the correct number and variety of building materials into the correct buckets to construct the Tower of Babel. During this time your team must decide who will be the engineers and who will be the workers. You will then have 3 minutes for the engineers to ensure the workers get it right. No talking, body language or signaling with anything other than the listed signaling items may be used to communicate during this part. None of the signaling materials may be altered.

**Scoring:**

- 1 - 25 points for Creativity of your communications system
- 1 - 20 points for Teamwork
- 1 point for each correct building material in the correct bucket
- 10 points bonus for getting a correct material in each of the 5 buckets

**The Master Plan:**

Reveal the Master Plan only after the signaling system has been devised and the engineers and workers selected.

Alter to suit your building materials and buckets.

Orange bucket:

6 paper clips  
9 coins  
4 lima beans  
1 tooth pick

Red bucket:

2 lima beans  
3 coins  
1 rubber band

Blue bucket:

3 paper clips  
4 tooth picks  
1 lima bean  
5 coins  
2 rubber bands

Green bucket:

3 rubber bands  
7 tooth picks  
1 paper clip  
2 lima beans  
3 tooth picks

Yellow bucket:

4 coins  
1 lima bean  
1 paper clip



# Time Capsule 2000

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

Given the following materials, you must design a time capsule to be opened on January 1, 3000 and the objects to put into it.

## The Scene:

It is December 31, 1999 and you are the mayor of your town, 1 of the activities for the turn of the century is to design materials to put into a time capsule.

## Materials:

- 10 spaghetti
- 10 "ziti" (pasta)
- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- One 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 2 sheets construction paper (8.5 x 11)
- 5 index cards
- 1 paper cup
- 1 paper plate
- 8 mailing labels
- One 12" piece of aluminum foil

## Directions:

You will have 5 minutes to assemble the time capsule and its contents. At the end of the 5 minutes, you will have 3 minutes to explain the capsule and its contents to the judges. All contents of the time capsule must fit into it.

## Scoring:

- 15 points creativity of the design of the time capsule
- 3 points for each item to go into the time capsule
- 10 points for the design and creativity of each item to go into the time capsule
- 25 points for the overall quality of the presentation of the time capsule and its contents
- 20 points for teamwork

# Time Capsule 3000

This is a **hybrid** (verbal/hands-on) challenge.

## The Challenge:

Given the following materials, you must design a time capsule and the contents of a time capsule that will be sealed on December 31, **2999** and will be opened on December 31, **3999**.

## The Scene:

It is December 31, 2999 and you are the mayor of your town and 1 of the activities for the turn of the century is to design materials to put into a time capsule that will be opened December 31, 3999.

## Materials:

- 10 spaghetti
- 10 "ziti" (pasta)
- 6 straws
- 2 rubber bands
- 2 sheets notebook paper
- One 12" piece of string
- 5 paper clips
- 3 cotton balls
- One 12" piece of wax paper
- 2 sheets construction paper (8.5 x 11)
- 5 index cards
- 1 paper cup
- 1 paper plate
- 8 mailing labels
- One 12" piece of aluminum foil

## Directions:

You will have 5 minutes to assemble the time capsule and its contents. At the end of the 5 minutes, you will have 3 minutes to explain the capsule and its contents to the judges. All contents of the time capsule must fit into it.

## Scoring:

- 15 points creativity of the design of the time capsule
- 3 points for each item to go into the time capsule
- 10 points for the design and creativity of each item to go into the time capsule
- 25 points for the overall quality of the presentation of the time capsule and its contents
- 20 points for teamwork

# Time Marches On

This is a **verbal** challenge.

## The Challenge:

Your team will use the timepieces provided to tell the history of a person, event or structure.

## The Scene:

You are visiting a museum and come upon an unusual display of timepieces under construction. These timepieces are used to tell the history of a significant event, well-known person or easily recognizable structure. Unfortunately, the display won't be completed until after you leave. Your job is to determine what history these timepieces might be telling and present it to the judges.

## Materials:

Pictures of timepieces

1 sheet white notebook paper (maybe used to gather ideas but may not be used in the final presentation).

3 sharpened pencils

## Directions:

Your team will have 5 minutes to write your story and practice presentation. Your team will then have 3 minutes to present the story to the judges in any way you choose.

## Scoring:

5 points for each full minute of the presentation

15 points for the overall originality of the story

15 points for the creativity of the interpretation of the pictures

5 points for the integration of each timepiece into the story

25 points for the overall quality of the story (characters, theme, structure)

25 points for teamwork

# Tiny Tools

This is a **hands-on** challenge. The only materials are your imagination.

## The Scene:

Last week scientists announced that they had invented some tiny tweezers. These tweezers used electricity to grasp molecules in a world where a human hair was the size of a redwood tree. It allows scientists to build tiny three-dimensional structures for the first time.

## The Challenge:

Your task is to come up with a skit in which you use a tiny tool to do some work in a tiny world. This world is the size such that a human hair could be the size of string, a spool of thread would be a stool for you to sit on.

## Directions:

You must invent a tool in your imaginations, describe what it is made of, and show how it makes certain jobs in your tiny world easier or even possible. You will present this, without speaking, in a skit that will last two minutes. You have ten minutes to create your skit.

## Scoring:

- 20 points for the story's beginning, middle, and end
- 20 points for presenting all elements of the skit
- 20 points for creativity
- 40 points for teamwork

# Twin Cities

This is a **task-based** (hands-on) challenge.

## The Challenge:

A neighboring city wants to recreate the design of your city hall. You are a group of architects assigned to send the plans to the builders in the other city. They do not speak your language, however, and you have to find a way to communicate the design to them with the materials provided.

## Materials:

### Building materials:

Two identical sets of building blocks, about 20 pieces each.

*Note: I found small wooden building block sets at the dollar store, but you could use a selection of legos, wooden blocks of different shapes, or for a two dimensional version, you could use construction paper shapes.*

A screen to visually hide the architects model building.

Something that the teams can signal over but hides one of the buildings, for example, a two foot high cardboard box.

### Signaling materials:

1 unsharpened pencil

1 dish towel

1 rubber band

1 wooden paint stirrer

1 ping pong ball

*Note: Any common household objects would do for signaling materials.*

## Directions:

In part 1 (5 minutes), your team must decide who will be the architects and who will be the builders, and develop a signaling system using only the materials provided, no body language or facial expressions. The team will be able to see the building materials, but will not know what the design of the structure is until part 2.

Before part 2 begins, the judge will build a structure with one set of building materials one one side of the screen, so that it can be seen by the architects but not by the builders.

In part 2 (3 minutes) the architects will signal to the builders to instruct them in the construction of a duplicate structure on their side of the screen. The architects will not be able to see the builders' structure as it is taking shape.

You may talk together as a team during the planning time, but you will not be scored on what you say. During the building time, you may not talk or communicate with body language or facial expressions.

**Scoring:**

2 points for each block that is correctly placed.

1 - 20 points for the creativity and effectiveness of the signaling system.

1 - 20 points for how well you work together as a team.

Robin Atwood Fidler of the Kaleidoscope Homeschoolers, submitted this Instant Challenge.