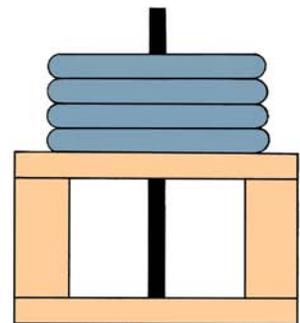
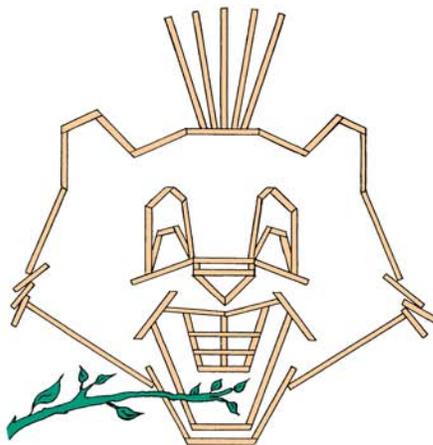


ODYSSEY OF THE MIND™ 2017-18



Problem No. 4

ANIMAL HOUSE



Animal House

Problem No. 4: Divisions I, II, III & IV

Introduction

Over the years, millions of team members have built and tested structures that had many different design limitations and unique methods of testing. The structure and weight placement are vital components of the team's performance of its solution. This year we combine those important elements with something we all love: Animals! Structures will be decorated to look like an animal during the performance. Do not worry; no animals will be harmed in the testing of these structures!

A. The Problem

Your team will design and build a structure using balsa wood that is decorated to look like an animal. The team will then feed the animal. After it eats, the animal will leave its home. The structure, still holding the food, will remain in place and be tested for strength. The change of appearance, why the animal leaves home, and testing of the structure will be incorporated and explained in an original performance.

The **Creative Emphases** of the problem are on the performance, how the decorations change the appearance of the structure to look like an animal, and how food is fed to the animal.

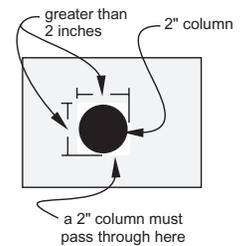
The **Spirit of the Problem** is for the team to design and build a structure made of balsa wood with the option of using glue to connect the parts, and to test it by placing weights onto it. The team will create an animal by decorating the structure. Before testing, the "animal" will be fed by having the structure support team-made food items. The animal decorations will be removed and the structure tested by supporting as much weight as possible while holding the food throughout weight placement. The team's solution will be presented in an original performance with a theme that explains the structure's transformation, why the animal leaves home, and weight-placement.

B. Limitations *(Italicized words/terms are defined in the Problem Glossary or in the 2017-18 Odyssey of the Mind Program Guide)*

1. **General Rules:** Read the *2017-18 Odyssey of the Mind Program Guide*. This manual is updated each year and includes important rules for solving Odyssey of the Mind problems and forms required for competition. This problem cannot be solved without referring to the **Program Rules** section of the guide.
2. **Problem Clarifications:** The *Odyssey of the Mind Program Guide* explains the types of questions that will be clarified and how to submit them. Problem clarifications can be submitted and accessed at www.odysseyofthemind.com/clarifications. The deadline for submission is February 15, 2018. CCI may find it necessary to issue clarifications after that date, so continue to check for them after February 15 and before each competition.
3. The **time limit** for this problem is 8 minutes. This starts when the Timekeeper says, "Team begin," and includes setup, Style, and the presentation of the solution.
4. The **cost limit** for this problem is \$145 (U.S.). The combined value of all materials used during the presentation of the solution, including Style, cannot exceed this amount. The Odyssey of the Mind Program Guide explains the cost limit and lists items that are exempt from cost.
5. The team's solution will be presented in an original performance that includes:
 - a. a structure for testing made of only balsa wood. Glue may be used to hold the pieces of balsa wood together.
 - b. testing the structure by placing weights onto it.
 - c. animal decorations for the structure.
 - d. team-made food items.
 - e. a theme explaining the structure's transformation, the animal leaving home, and weight-placement.
6. The structure:
 - a. must be made of only balsa wood and glue that is used to connect the balsa wood. Glue may be used, but only to connect pieces together.
 - b. must weigh no more than 15 grams.
 - c. must be a minimum of 8" (20.32cm) in height when resting on the Tester base and supporting the Crusher Board (see Figure B) and another weight. Extension pieces used to meet minimum height limitations but not to support weight are not allowed.

- d. must be a single assembled object that is designed and built by team members without any outside influence (see B21). All pieces of balsa wood must be *interconnected*.
- e. may be assembled using other items and/or devices; however, these must be removed before weigh-in at the competition.
- f. must have an open area running the entire height that will accept a column that is 2" (5.1cm) in diameter. Therefore, the opening in the structure must be greater than 2". This will be measured at weigh-in. The safety pipe must pass through the opening of the structure during weight placement (see Figure A). This includes when the structure is decorated as an animal and when supporting required food items.
- g. is not allowed to be strengthened in any way. Nothing may be added to the balsa wood. Animal decorations must be completely removed (leaving no residue) before the structure is tested.
- h. will support team-made food during weight-placement.

Figure A: Top View of the Opening

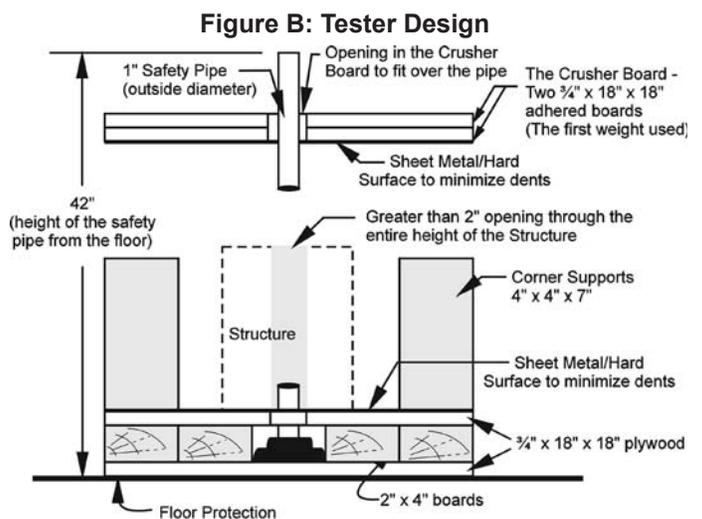


- 7. The balsa wood used in the structure:
 - a. must come from only commercially produced strips of balsa wood. No other type of balsa wood or any variation of balsa wood may be used. Balsa wood may be purchased through www.odysseyofthemind.com/shop—any balsa purchased from here during the current program year will be considered as being within the limitations. Teams must provide an invoice from CCI that shows the purchase information including the date of the transaction.
 - b. must come from strips with a cross section of 1/8" x 1/8" that are at least 36" (0.91m) long when the team receives it. It is not allowed to be cut by the team into strips from oversized wood (greater than 1/8" in width or depth) to meet the 1/8" x 1/8" cross section limitation.
 - c. must have a 1/8" x 1/8" deep (0.32cm x 0.32cm) cross section for most of its length. Some commercial cuts vary, so the maximum allowed of either dimension is actually .135" (0.33cm), which is slightly greater than 1/8". Every piece of wood used in the structure must have this cross section when tested. Teams are allowed to sand or carve pieces of wood in small areas as long as it has a 1/8" x 1/8" cross section for most of its length.
 - d. is not allowed to be hand-picked by anyone other than team members. Team members may request wood to be from a commonly known grade, but no one else may sort and pick specific pieces.
 - e. must be cut by the team. The only exceptions are the perpendicular end cuts of the original strip as defined in B7b & c.
 - f. must be used "as is." The wood is not allowed to be strengthened in any way. For example, accelerants are not allowed. Water, hot air and cold air are not considered strength-enhancing.
- 8. If glue is used in the structure:
 - a. it must be a commercial brand that has the word "glue," "epoxy," "cement," or "adhesive" printed by the manufacturer on the tube, container, box, or accompanying material. More than one type of glue may be used.
 - b. it must be used as purchased. That is, nothing may be added to it, nor may it be mixed with anything unless the manufacturer specifies that the ingredients, sold together, combine to form the glue.
 - c. must only be used to adhere pieces of balsa wood together to form a single, interconnected structure.
- 9. Judgments dealing with measurements, weight, wood, the "open area" (see Figure A) and artificial strengthening will take place at the Weigh-In Site before competing. Judges not associated with weigh-in may bring certain matters to the attention of the Weigh-In Judges. Penalties may be given before and/or after a team has competed.
- 10. The animal decorations:
 - a. are allowed to be made out of any material the team wishes and are allowed to be on the structure when time begins.
 - b. do not count toward the structure's weight.
 - c. must be on the structure when placed over the safety pipe and onto the tester when in position for testing. The animal will be fed until the structure supports the three required food items.
 - d. must "leave home" before the crusher board is placed onto the structure. This means that all of the animal decorations must be removed from the structure.
 - e. will be applied to the structure to create the appearance of an animal species from one of the following animal groups: Whale Bear Dog Cat Duck Turtle Shark Woodpecker
- 11. The three required food items:
 - a. must be made by the team. They cannot be made of any material that could cause harm to the competition site if crushed.
 - b. may be the same or different from each other.

- c. must be completely supported by the structure before testing is allowed to start.
 - d. are allowed to be moved back into place if they fall when the decorations are removed before testing. They are not allowed to be moved after weight placement begins.
 - e. are not allowed to help the structure hold weight.
 - f. will receive score if they are still supported by the structure after it breaks or until time ends. Food is supported as long as it is not touching the tester base, the competition floor, etc.
12. The theme of the performance can be about anything, but must include the structure's transformation, an explanation for the animal leaving home, and weight-placement.
 13. The team may begin the weight-placement process any time after the animal leaves home. The structure must be *completely within the boundary* of the Tester base without touching the corner supports of the Tester before weights are placed onto it.
 14. The team must use only the weights and Tester supplied by the Tournament Director. These are only allowed to be used in the normal process of placing weights; for example, the weights cannot be used for Style, the Tester cannot be decorated, etc.
 15. Team members must place weights one at a time onto the structure. The first weight must be the Crusher Board supplied by the Tournament Director. This will count toward the total weight held.
 16. Team members are required to safely select, lift, carry, and place weight onto the structure. Division I and Division II teams are not required but are allowed to have adult assistance* in placing weights as follows:
 - a. Adults are not allowed to help any team in any division select a weight for placement.
 - b. Division I and II teams will determine if they will use limited adult assistance. They may use adult assistance at any time during weight placement from when the weight has been selected by the team until it is resting in place on the weight stack.
 - c. Division I teams may have an adult assist at least one team member in placing weights heavier than 20 pounds.
 - d. Division II teams may have an adult assist at least one team member in placing weights heavier than 40 pounds.
 - e. The adult is only allowed to help. If the judges determine an adult is selecting a weight, or that one or more team members are not helping, they will instruct the team to remove the weight and place it back onto the unused weight stack before continuing weight placement.

**only one adult (18 years of age or older) is allowed to be on the competition site and assist the team at any time. The adult is allowed to help one or more team members lift, carry, and/or place eligible weights onto the stack. The adult is allowed to assist one or more team members in placing weights onto the structure whether or not they helped carry the weight to the Tester.*

17. Team members and judges must wear safety goggles, eyeglasses with plastic lenses, or other protective eyewear (approved by the judges) if they are within the Safety Area with their head below the level of the Crusher Board while the structure is supporting weight (including the crusher board). This applies to everyone in the Safety Area (see E12).
18. A weight must be on the stack without a team member touching it for at least 3 seconds to count in the total weight held.
19. If the weight stack reaches the top of the safety pipe, it is the team's responsibility to add an extension pipe to the safety pipe.
20. The team should present the Staging Area Judge with four copies of the Team List Form found in the forms section at www.odysseyofthemind.com/members or four copies of a list on one side of one or two sheets of 8 1/2" x 11" or A4 paper. This list can be hand-printed, typed, or computer generated. It is for reference only. This list must include:



- a. the team's membership name and number, the problem and division.
 - b. the animal decoration selected from B10.
 - c. how the animal is fed and how the structure supports the required food items.
 - d. when in the performance the structure's transformation is explained.
 - e. when in the performance the costume scored in F2 will occur and the method used.
 - f. the signal the team will use to indicate it has finished its performance (weight-placement can continue if time allows).
21. A reminder about outside assistance: All outside assistance rules apply. Team members are responsible for making an original design and building an original structure. Photographing or otherwise referencing other teams' solutions is outside assistance.

C. Site, Setup and Competition

1. A stage or floor area a minimum 14' x 14' (4.3m x 4.3m) will be used, but a larger area is desirable. This will not be marked. Teams must be prepared to perform in a 14' x 14' area. If space permits, the team may perform and/or place equipment, props, etc. outside the 14' x 14' area. If a drop-off exists beyond the 14' x 14' dimensions, a caution line may be taped 30" (76.2 cm) from the edge of the drop-off. This will serve as a warning, not a boundary.
2. If possible, the Tester will be on a solid, level floor. The Tester will be positioned in the center of the Safety Area, a 60" x 60" taped square, which will serve as a guide to keep team members aware of their proximity to the Tester and as a reminder of where they must wear safety glasses. The team is not allowed to move the Tester.
3. At least 30 minutes before its scheduled competition time, the team must report to the Weigh-In Site with its undecorated structure to have it checked for specifications. Some tournaments may require earlier check-in.
4. If the structure does not meet specifications, Weigh-In Judges will try to give the team an opportunity to bring it into specification or submit a different structure before the team's competition time. In most cases, corrections should be completed no less than 20 minutes before competition time. There is no penalty if the structure is brought into specification before completing the weigh-in process.
5. Once the structure is weighed and measured, a judge will provide the team a bag. The team will place it into the bag and the judge will keep it at the Weigh-In Site until the team picks it up for competition. The judges at Weigh-In will supply the bag. The team must return to pick up its structure no earlier than 25 minutes before its scheduled competition time.
6. The judge will attach a Weigh-In Checklist to the bag containing the structure. The team cannot remove the Weigh-In Checklist until directed to do so by the Staging Area Judge. If the Weigh-In Checklist has been removed, the bag tampered with, or the structure removed, the team may have to repeat the weigh-in process. Depending on the situation, the team could receive a Spirit of the Problem penalty.
7. Team members must report to the competition site with everything they will use in their solution at least 20 minutes before they are scheduled to compete. The team is allowed to place the decorations onto the structure at any time after the Staging Area Judge has reviewed the Weigh-In checklist. However, this may not delay the staging process and teams may need to complete this during their performance time.
8. The team may place the decorated structure onto the tester any time after the Timekeeper says "Team Begin." Score for how well the structure looks like the selected animal will be determined by the appearance of the structure when it is placed onto the tester. It will then put the food items in place, and once supported by the structure, remove the animal decorations.
9. After the "animal" is placed onto the Tester, fed, and leaves home, the team may adjust the structure. Team members may continue touching the structure while placing the Crusher Board onto it. No one can touch the structure once the team begins to place weights onto the Crusher Board. If team members wish to adjust the structure, they must remove all weights. Teams do not have to remove the Crusher Board, but can if they wish. Team members may then touch the structure before resuming weight placement.
10. If any of the following occur, all weight-placement will end:
 - a. the Crusher Board or any part of the structure touches any corner post.

- b. any part of the structure touches anything other than the surface of the Tester base and the bottom of the Crusher Board in such a way that judges determine that it is helping to support the weight stack.
 - c. the top weight rests against the safety pipe and the judges determine that the pipe is helping to support the weight stack. If time remains, the team will be given an opportunity to adjust that weight and continue weight placement.
 - d. a weight extends beyond the height of the full length of the safety pipe, including extension pipes, if available and used.
 - e. the team indicates it wishes weight placement to stop.
11. The team has 8 minutes to test its structure and present its performance. The team must stop all activity when the judge calls "time." Or, the team may give a signal indicating the performance is over.
 12. The team should inform the Staging Area judge if it expects to continue its performance after the structure breaks. Should the team finish its performance before the structure breaks and has given the signal to end the performance, the team will be allowed to continue placing weights until any one of the criteria from C10 or C11 occurs.
 13. Teams should bring cleaning utensils to clean up any mess. Should a team take an unreasonable amount of time to clean the site, or leave a mess, the judges will assess an Unsportsmanlike Conduct penalty. Others not on the team's roster may help the team clear the site and remove the team's props. The competition area must be left clean and dry for the next competing team.
 14. A three-prong electrical outlet will be available. Teams must bring their own extension cords and adapters, if needed.

D. Scoring

1. Overall creativity of the theme of the performance..... 1 to 15 points
2. Overall quality of the presentation 1 to 15 points
3. Weight held..... 1 to 100 points
(In each division, the team with the highest weight-held score will receive 100 points. All other structures will receive a corresponding score based on the percentage of weight held)
4. The animal..... 2 to 20 points
 - a. decorations are attached to the structure 0 or 5 points
 - b. how well it resembles an animal from the selected group 1 to 5 points
 - c. creativity of how it changes the appearance of the structure..... 1 to 10 points
5. Feeding the animal 3 to 25 points
 - a. all food remains supported when weight-placement ends..... 0 or 10 points
 - b. creativity of how food is fed to the animal..... 1 to 5 points
 - c. artistic quality of the food 2 to 10 points
6. How well the following were integrated and enhanced the performance 6 to 25 points
 - a. weight-placement..... 2 to 10 points
 - b. the structure's transformation 2 to 5 points
 - c. the explanation for the animal leaving home 2 to 10 points

Maximum Possible: 200 points

E. Penalties

1. "Spirit of the Problem" violation (each offense) -1 to -100 points
2. Unsportsmanlike conduct (each offense) -1 to -100 points
3. Incorrect or missing membership sign..... -1 to -15 points
4. Outside assistance (each offense) -1 to -100 points
5. Having someone other than team members cut pieces of wood or glue joints weight-held score of zero
6. Over cost limit..... -1 to -100 points
7. Artificially strengthened structure -5 points to weight-held score of zero

8. Structure does not support three pieces of food..... weight-placement cannot begin
9. Structure does not meet specifications and is not corrected before completing weigh-in*:
 - a. **Overweight structure** (Weight will be determined by the official gram scale for each competition.): Any structure weighing more than 15 grams will receive -5 points for every .1 gram overweight, up to 2 grams. Two or more grams overweight will receive zero score for weight-held. The penalty must not exceed the calculated weight-held score.
 - b. Oversized Wood: any piece exceeds 1/8" x 1/8" (.135" x .135") at its cross section (not assessed if it is an irregularity of that piece and the rest is within limitations) weight-held score of zero
 - c. Undersized Structure:
 - (1) Less than 8" but more than 7-7/8" high..... - 50 points
 - (2) 7-7/8" or lessweight-held score of zero
10. Open Area does not accept the 2" diameter column through its enter height.....weight-held score of zero
11. Material other than balsa wood or glue used in the structure.....weight-held score of zero
12. If any team member is not wearing safety glasses while inside the Safety Area with their head below the Crusher Board, the team must stop weight placement until that team member puts on safety glasses. Time will continue.
13. If an adult selects a weight or places it without help from a team member, that weight does not count toward weight-held score. The weight must be removed. It may be placed properly for score. A judge will warn the team and the adult. If this continues after two warnings, a 10-point Outside Assistance penalty will be assessed for each future occurrence.

**These penalties will be substituted with a weight-held score of zero if, in the aggregate, that is less of a penalty.*

Omission of scored problem requirements carries no penalty except loss of score.

F. Style (*Elaboration of the problem solution; use four copies of the Style Form from the 2017-18 Odyssey of the Mind Program Guide*)

1. The creativity of the artistic design of the membership sign..... 1 to 10 points
2. Creativity of the method used to change the appearance of a team member's costume 1 to 10 points
3. (Free choice of team) 1 to 10 points
4. (Free choice of team) 1 to 10 points
5. Overall effect of the four Style elements in the performance..... 1 to 10 points

Maximum possible: 50 points

G. Tournament Director Will Provide

At the Weigh-In Site:

- a. a gram scale accurate to 1/10th of a gram.
- b. a micrometer or other precision method of checking wood thickness.
- c. a 2-inch diameter column-measuring device.
- d. an accurate ruler or device to measure the structure's size requirements.
- e. a bag to hold the team's structure.
- f. tape to attach the Weigh-In Checklist to the bag.

At each competition site:

- a. a 14' x 14' (4.3m x 4.3m) competition area (larger if possible).
- b. a three-prong electrical outlet.
- c. a Tester and a 60" x 60" (1.5m x 1.5m) taped Safety Area.
- d. a 12" extension to the safety pipe.
- e. three pairs of safety glasses: one to be used by a judge and two that are available to the team.

- f. a judging team and all materials necessary to judge this problem.
- g. a minimum of 400 lbs. of weights in assorted sizes, generally from 5 lbs. to 45 lbs., each with a hole 2" in diameter.
When registering for a tournament, teams needing more weight should notify the Tournament Director.

**Note: Contact your Tournament Director for information regarding specific competition sites such as actual dimensions, amount and size of weights, weight of the Crusher Board, registration procedures, floor surface, etc. Do not submit a clarification request for this information.*

H. The Team Must Provide

1. Four copies of its Style Form, one Cost Form, one Outside Assistance Form, and all of its team clarifications.
2. Four copies of the Team List. This list is to assist the judges. If the team fails to provide the list, there will be no penalty; however, it benefits the team to have the lists because without them the judges might miss a scored aspect of the performance.
3. Safety glasses or other eye protection. However, the team may use up to two pairs of goggles provided by the tournament director.
4. Any necessary extension cords or adapters.
5. Cleanup materials as needed.

I. Metric Equivalency Chart

Lengths:

1 inch = 2.54 cm 1 foot = 30.48 cm
1 cm = .39 inches 1 meter = 3.28 feet

Weights:

1 ounce = 28.35 grams 1 gram = .035 ounces
1 pound = .45 kilograms 1 kilogram = 2.2 pounds

J. Problem Glossary (*Italicized terms that are not in this Glossary can be found in the 2017-18 Odyssey of the Mind Program Guide*)

Interconnected – Attached together in some way. Parts may be glued together. An interconnected structure is able to be held at any point of contact and be lifted and rotated in any direction and remain completely connected. Pieces may change their orientation or position, but they must be able to move as one unit. Touching alone is not considered interconnected.

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P R E C A U T I O N S

- Use eye protection, e.g., a face shield, safety glasses, goggles, etc., when looking closely at a structure holding weight. Collapsing structures may project pieces of wood several feet.
- Keep your fingers on the sides of the weights when placing them onto the Crusher Board or onto other weights.
- Remain aware of the structure, the testing device, and the weight stack at all times to avoid injury in case of collapse.
- Do not stand too close to the structure, Tester, and weight stack unless necessary, and avoid bumping them accidentally.
- Use a safety pipe through the center hole of the weights to help prevent them from falling.
- Place a piece of plywood/hardboard or a tumbling mat under weights waiting to be placed onto the weight stack to help prevent damage to the floor.
- Super glues are extremely dangerous to use and some glues have dangerous fumes. Read and follow all precautions and directions on the manufacturer's labels. Non-toxic model airplane wood glues are recommended. If toxic glue is used, proper precautions, such as adequate ventilation and parental supervision, are advised.