



# ENGINEERING

2019-20 Challenge Season



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Review this information before beginning work on your team's solution.

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# GETTING STARTED

**I. THE CENTRAL  
CHALLENGE**

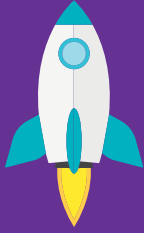
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## Approaching this Challenge

This Challenge can be solved on many levels, ranging from the simple to the complex.

Focus on solving this Challenge based on the intent in which it was designed. All Challenge requirements must be met unless otherwise stated using the terms “should” or “may.” If you find the details of the Challenge unclear, we encourage you to ask for a Team Clarification. (See Rules of the Road.) Remember, if it doesn’t say you can’t, then you can.



## Solving the Challenge

The information in the following materials is binding on all teams. Your team must read and follow this Challenge in its entirety, the Rules of the Road resource for teams, and all Published Clarifications (online at [DestinationImagination.org](https://DestinationImagination.org)).



## Team Budget

The total value of the materials used must not exceed **\$150US**.



## Time Limit

Complete the Presentation (including setup) in **8 minutes or less**.



## ☒ Tournament Data Form

Your team must explain elements of your Challenge solution on the Tournament Data Form found at the end of this Challenge. The check mark icon pinpoints the elements that will appear on the form.

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## A. Bridge Basics

1. Design and build a Bridge that will be assembled and then tested during your team's Presentation at the tournament.
2. Test how much weight the Bridge can support while extending over a Barrier by sending weight(s) across the Bridge. (See Sections I.E. and I.F.)
3. Your team is encouraged to build and test many bridges before the tournament.
4. Team members must do all designing, cutting, shaping, and assembling of the Bridge.
5. Your team must make any jig used in the construction and/or assembly of the Bridge. A jig is a template or guide that assists in the design and creation of the Bridge.

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## B. Bridge Materials

1. ☒ Design and build all parts of the Bridge using only Duct Tape and Playing Cards.
2. **Duct Tape:** Commercially available, pressure-sensitive, fabric-backed adhesive tape, often coated in polyethylene, in any color. Foil-backed tape is not allowed.
3. **Playing Cards:** Any type of commercially available, pre-printed, cardboard or paper card sold in multiple quantities called a “deck,” typically used to play a card game. Cardboard or paper cards with a commercially produced plastic coating are acceptable. The following are NOT allowed: commercially available cards made of other materials, index cards, and cards cut from poster board, boxes, or other materials.
4. Either or both of these materials may be used. More than one type of each material may be used.
5. The Bridge must not be soaked in anything other than water. The Bridge must be dry on tournament day.
6. The Bridge may be marked with pencil, ink, pen, and/or markers, in any color. However, it may not be painted, stained, varnished, or otherwise coated.
7. Appraisers will inspect the materials used in the Bridge during Bridge Check-In. **(See Section V.A.)** The Appraisers will examine the materials again after your team’s Presentation. The Bridge will not be returned to your team after the Appraisers examine the materials.

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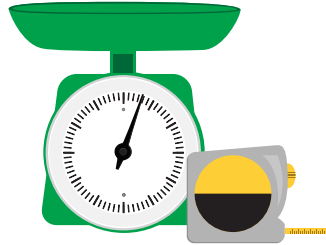
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## ☒ C. Bridge Specifications

1. Design the Bridge to be assembled from at least 2 and no more than 18 Bridge parts during the Presentation.
2. Each Bridge part must have a length, a width, and a height of no more than 18in (45.7cm) per dimension.
3. The weight of each Bridge part must not exceed 75 grams. The Total Combined Weight of all the Bridge parts together must not exceed 1,000 grams.
4. Your team may bring additional Duct Tape and/or Playing Cards to use to assemble the Bridge. These additional materials together will count as one Bridge part. Your team may bring Duct Tape that is still on a cardboard roll, but the cardboard roll must not be used as part of the Bridge.
5. The weight of the additional Duct Tape and/or Playing Cards your team brings must not exceed 75 grams. The weight of any cardboard roll used to transport Duct Tape will be included in the 75-gram limit. The additional materials will be weighed together during Bridge Check-In and again after the Presentation to determine the amount of additional material your team used. The weight of the additional materials used will be included in the Total Combined Weight.

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## D. Bridge Placement

1. During the Presentation, assemble the Bridge to create a continuous physical connection between the Bridge Foundations.
2. The tournament-provided Bridge Foundations will be 18in x 18in (45.7cm x 45.7cm) porcelain floor tiles that are between 1/4in (6mm) and 1/2in (13mm) thick. At some tournaments, a thin layer of material may be attached to the underside of each Bridge Foundation to protect the floor.
3. Tournament officials will attempt to use porcelain floor tiles that are as smooth and consistent as possible. However, your team should be prepared for porcelain floor tiles with natural inconsistencies.
4. If your team wishes to know the specifics of the Bridge Foundations, your team may check with the Tournament Director.
5. There will be two taped areas within the Presentation Area. **(See Figure A.)** One of the Bridge Foundations will be placed within Area A and the other will be placed within Area B. Each Bridge Foundation must remain completely within its corresponding Area and must be placed flat on the floor. Your team must not place anything between a Bridge Foundation and the tournament-provided floor.

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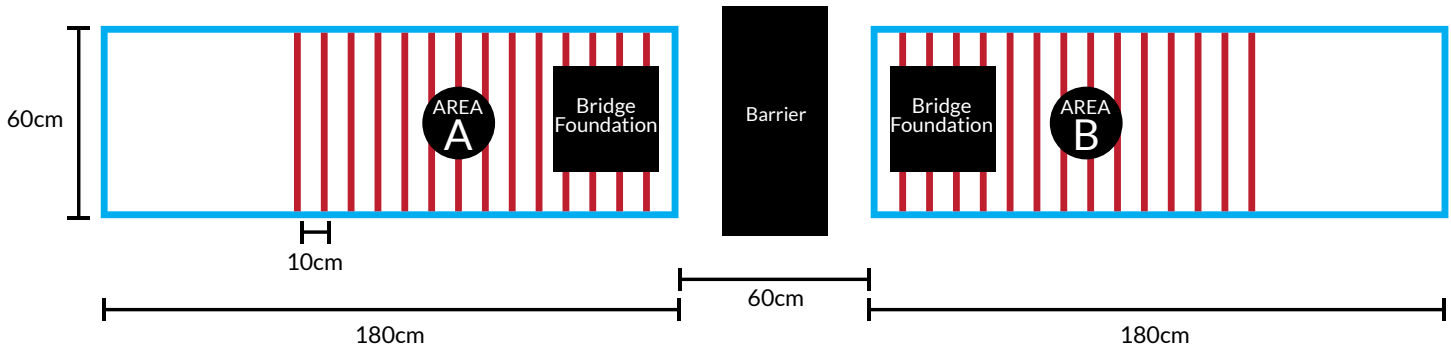
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**Figure A: Areas, Measurement Zones, and the Barrier**

Blue lines indicate the boundaries of the Areas. Red lines indicate the boundaries of the Measurement Zones. Blue and red lines will be taped.

- Each Area will be divided into 14 Measurement Zones. Each Measurement Zone will be 10cm x 60cm. A taped line will be considered part of the Measurement Zone that is farther from the Barrier.
- Decide in which Measurement Zone to position each Bridge Foundation. The Measurement Zone will be determined by the part of the Bridge Foundation that is closest to the Barrier.
- The assembled Bridge must rest only on the tops of the tournament-provided Bridge Foundations. Your team may use Duct Tape to attach the Bridge to the tops of the Bridge Foundations, as long as the Duct Tape was weighed during Structure Check-In. The Bridge must not be attached to the Bridge Foundations in any other way.



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## E. Barrier

1. Design the assembled Bridge to extend over a tournament-provided Barrier.
2. The Bridge must not extend under or around the side(s) of the Barrier. The Bridge must not touch the Barrier.
3. The Barrier will be placed in the middle of the 60cm space between Areas A and B.  
(See Figure A.)
4. If anything moves the Barrier, your team must move the Barrier back to its original position before continuing Bridge assembly or a Load Test. (See Section I.F.) If the Barrier is not moved back to its original position, your team risks receiving an Illegal Procedure deduction.
5. The Barrier will be a wooden board supported at each end by two PVC pipes.  
(See Figure B.)
6. The top of the Barrier will be a 36in x 5.5in (91.4cm x 14cm) piece of wood that is approximately 3/4in (19mm) thick.
7. The outside diameter of each PVC pipe will be approximately 4.5in (114mm).
8. The height of the Barrier when measured from the floor to the top of the board will be 6in (15.2cm) for Elementary Level, 12in (30.5cm) for Middle Level, and 18in (45.7cm) for Secondary/University Level.

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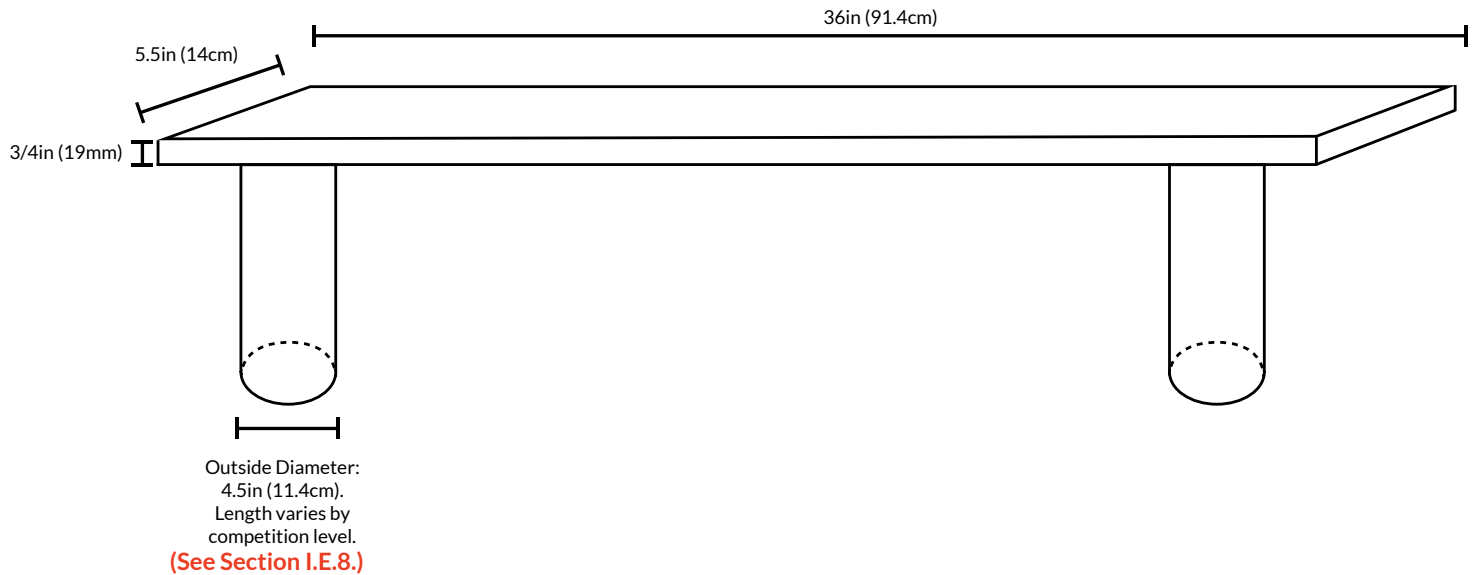


Figure B: Dimensions of Barrier

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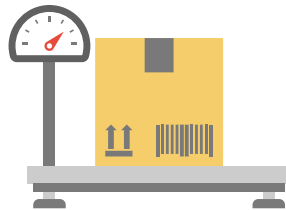
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## F. Load Test Specifics

1. Complete one or more Load Tests to demonstrate how much weight the assembled Bridge can support by moving a weight or set of weights across the length of the Bridge.
2. ☒ Use Technical Methods to move the weight(s) across the Bridge during the Presentation.
3. For this Challenge, Technical Methods refers to the use of principles in fields such as chemistry, computer science, electricity, hydraulics, mathematics, mechanical engineering, physics, or structural engineering. Other technical fields are also acceptable.
4. ☒ Bring up to 3 weights to use for Load Tests. Each team-provided weight may be any physical item and should be clearly numbered for easy identification.
5. ☒ The weight of each of the weights used for Load Tests must not exceed 175 grams, including any built-in Technical Methods and/or connectors.
6. Each weight must have a length, a width, and a height of no more than 12in (30.5cm) per dimension.
7. Select one or more of the weights to use for each Load Test. If more than one weight is selected, all weights used for the Load Test must be in physical contact with and/or physically connected to at least one other weight before the Load Test begins. The weights must remain connected to each other throughout the Load Test.

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8. For each Load Test, the selected weight(s) must begin entirely above a Bridge Foundation. Your team may choose to begin a Load Test from Area A or Area B.
9. A Load Test begins when any part of a weight leaves the space above a Bridge Foundation.
10. To successfully complete a Load Test, all parts of the weight(s) must leave the space above one Bridge Foundation, move across the Bridge between the Bridge Foundations and over the Barrier, and enter the space above the other Bridge Foundation. **(See Figure A and Figure C.)**
11. The Bridge must support all parts of the weight(s) during the Load Test.
12. Any device used to move the weight(s) during a Load Test must not increase the strength or stability of the Bridge. Device(s) used to move the weight(s) may be made from any materials your team chooses.
13. If the Appraisers determine that the Bridge does not support all parts of the weight(s) and/or that a device increases the strength or stability of the Bridge, your team may receive an Illegal Procedure deduction from your Bridge Strength Calculation. **(See Section I.G.2.)** The Appraisers' decision is final.
14. Team members who are participating in a Load Test must wear closed-toe shoes.

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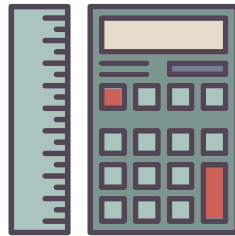
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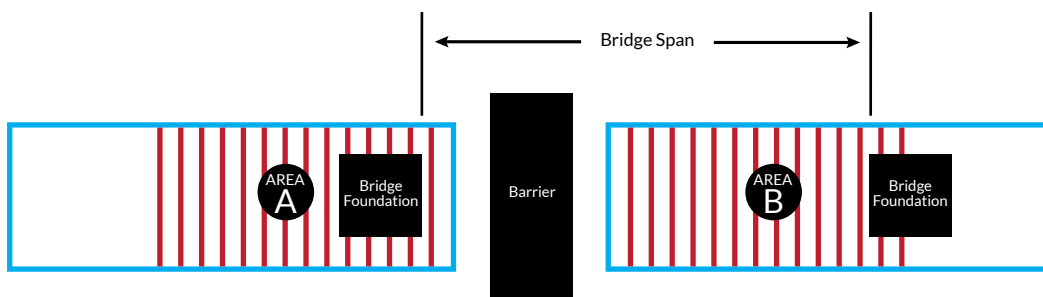
## G. Bridge Scoring

1. The Bridge Span of the assembled Bridge is the distance between the Bridge Foundation in Area A and the Bridge Foundation in Area B, including the 60cm space between Areas A and B. (See Figure C.)

**Bridge Span = Area A Measurement Zone +  
Space Between Areas A and B + Area B Measurement Zone**

For example, if the Bridge Foundation in Area A is in the 20cm Measurement Zone and the Bridge Foundation in Area B is in the 130cm Measurement Zone, the Bridge Span is 210cm.

$$\text{Bridge Span} = 20 + 60 + 130 = 210$$



**Figure C: Example Bridge Span**

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2. The Efficiency Ratio is the Bridge Span in centimeters divided by the Total Combined Weight of the Bridge in grams (measured to the nearest tenth of a gram), and rounded to three decimal places. (See Section I.C.3.)

**Efficiency Ratio = Bridge Span in centimeters ÷ Total Combined Weight in grams**

For example, if the Bridge Span is 210cm and the Total Combined Weight is 96.2 grams, the Efficiency Ratio would be 2.183.

$$\text{Efficiency Ratio} = 210 \div 96.2 = 2.183$$

3. The Bridge Strength Calculation is the total weight of the weights used for the Load Test in grams (rounded to the nearest tenth of a gram) multiplied by the Bridge Span in centimeters.

**Bridge Strength Calculation =  
Load Test Weight(s) in grams x Bridge Span in centimeters**

For example, if the total weight of the weights used for the Load Test is 46.8 grams and the Bridge Span is 210cm, the Bridge Strength Calculation would be 9,828.

$$\text{Bridge Strength Calculation} = 46.8 \times 210 = 9,828$$

4. The Load Test with the highest Bridge Strength Calculation will determine your team's score for both the Efficiency Ratio and the Bridge Strength Calculation.

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## H. Bridge Compliance

1. If the Bridge does not meet the specifications in **I.B** and **I.C**, and if your team is unable to bring the Bridge into compliance with the specifications, the Bridge Span will be 0. However, your team may still present your solution and earn points for other Challenge requirements.
2. Any team that does not make a good faith attempt to present a Bridge for testing may earn points for other Challenge requirements but may not advance to the next tournament.

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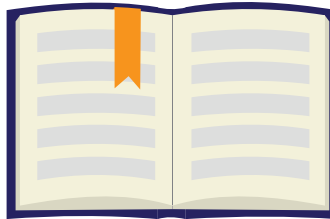
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## I. Story

1. ☒ Create and present a story about an unexpected connection and its outcome.
2. The unexpected connection may be between people, places, events, ideas, or anything else your team chooses.
3. ☒ Use artistic and/or theatrical techniques to portray the unexpected connection and its outcome. Artistic and/or theatrical techniques include, but are not limited to: visual effects, sound effects, staging, dialogue, dance, music, set pieces, props, costumes, makeup, etc.
4. Include 2 or more Settings in the story. For this Challenge, a Setting is the time and/or place in which any part of the story takes place.
5. ☒ Design and create a Set Piece that uses Technical Methods to transition between Settings. **(See Section I.F.3.)** For this Challenge, a Set Piece is an individual, freestanding backdrop or piece of scenery.
6. The story may include more than one set piece, but only one Set Piece will earn points for **IV.B.3, IV.B.4, and IV.B.5.**
7. The Set Piece should be visible from 25ft (7.62m) away.
8. ☒ Integrate Bridge assembly and Load Test(s) into the story.
9. The story may be set in any location(s), real or imaginary, and in any time period(s): past, present, or future.



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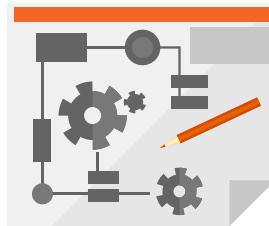
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## J. Technical Design and Innovation

1. Your team will earn points for Technical Design and Technical Innovation based on all Technical Methods used or attempted during the Presentation to initiate and/or operate the Set Piece and the Load Test(s).
2. If the Set Piece transition and/or the Load Test(s) are not successful, your team may still earn points for the Technical Design and the Technical Innovation of the methods used in the attempt. Your team's score for Technical Design may be affected.
3. Design and build all parts of the Set Piece and the Load Test method(s) using your own ideas and skills. Your team may incorporate commercially produced items, but for scoring, Appraisers will only consider your team's changes and/or additions to those items.
4. Technical Methods using less direct team member involvement may earn more points for Technical Design and Technical Innovation than methods that have more direct team member involvement.

## II. TEAM CHOICE ELEMENTS

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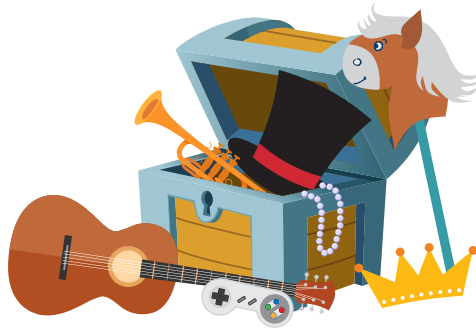
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- A. ☒ Present TWO creations that show off your team's interests, skills, areas of strength, and talents. Your team may create anything it wishes, including props, music, technical gadgets, costumes, physical actions, etc.
- B. Each Team Choice Element should have a meaningful connection to your team's Central Challenge solution and must be presented as part of the 8-minute Presentation.
- C. A Team Choice Element may not be a specific item that is required in the Central Challenge that is already being evaluated. A Team Choice Element MAY be a single unique PART of a required item, as long as it can be evaluated as a stand-alone item. Or, a Team Choice Element MAY be a larger item that includes a required element, as long as the required element can be evaluated as a single unique part of the Team Choice Element. Examples of these can be found in Rules of the Road.
- D. Both Team Choice Elements may be presented at the same time ONLY IF both can be easily identified and scored separately.
- E. Each Team Choice Element will be evaluated in three ways: for creativity and originality, for quality, workmanship, or effort that is evident, and for integration into the Presentation.

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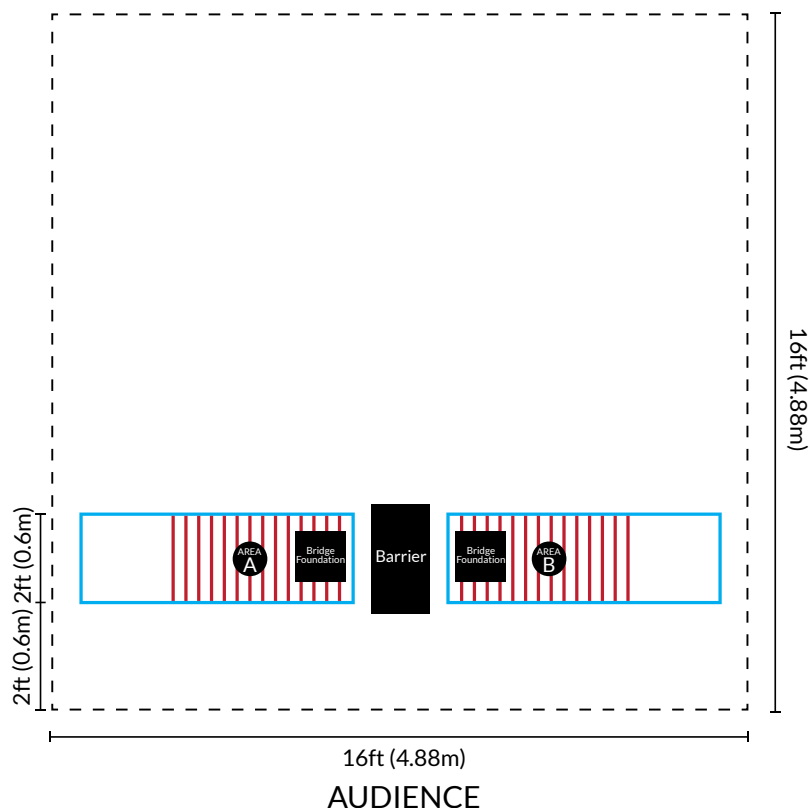
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**A. Presentation Area:** The minimum required size is 16ft x 16ft (4.88m x 4.88m). (See Figure D.) Your team may use any additional space that tournament officials designate as available, but your team should be prepared to present your solution in the minimum space. In most cases, the 16ft x 16ft area will not be marked on the floor. The Presentation Area will be a large space with a hard floor, such as wood, linoleum, concrete, or very short-napped carpet. Your team should be prepared to deal with a variety of floor surfaces. A single 3-prong electrical outlet will be provided at the edge of each Presentation Area for your team's use. Your team should keep in mind that the Bridge Foundations, Areas A and B, and the Barrier will occupy a portion of the Presentation Area, as shown in Figure D. The team must not move the Barrier from its location.



### Figure D: Presentation Area Layout

Figure D represents the minimum 16ft x 16ft (4.88m x 4.88m) Presentation Area. The solid blue and red lines will be taped. The dashed lines will not be taped.

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- B. **Forms:** Your team will need to bring copies of your completed Expense Report, Declaration of Independence, and Tournament Data Form to the tournament. (See Rules of the Road for the Expense Report and Declaration of Independence. The Tournament Data Form can be found at the end of this Challenge.)
- C. **Team Identification Sign:** Your team will provide a freestanding sign displaying your team name, Team Number, school/organization, and level. The purpose of the sign is to identify your team to the Appraisers. (See Rules of the Road, Team Identification Sign.)
- D. **Instant Challenge:** At a tournament, your team will solve one Instant Challenge in addition to showcasing your Team Challenge solution. Instant Challenges are kept secret until the day of the tournament. (See Rules of the Road.) Because Instant Challenge is worth 25% of a team's overall score at a tournament, teams often practice different types of Instant Challenges throughout the season. (See Roadmap.)

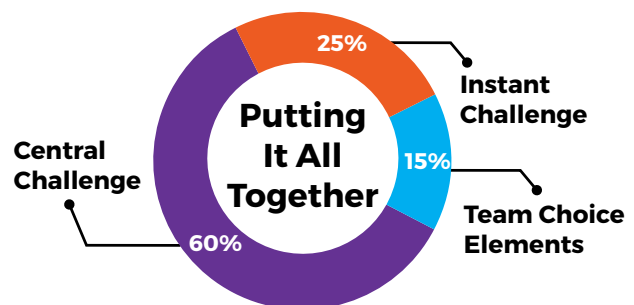
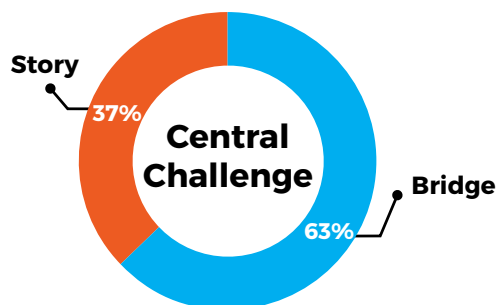
## IV. SCORING

### The Central Challenge: Up to 240 Points

A. Bridge (See Sections I.F and I.G.)		Up to 150
1. <b>Efficiency Ratio</b> In each competitive level, the team with the highest Efficiency Ratio will receive 50 points.  The scores for all other teams in that level will be based on the percentage of their Efficiency Ratio compared to the highest Efficiency Ratio in that level.  $\text{Team's score} = (\text{Efficiency Ratio} \div \text{highest Efficiency Ratio in level}) \times 50$		Up to 50
2. <b>Bridge Strength Calculation</b> In each competitive level, the team with the highest Bridge Strength Calculation will receive 70 points.  The scores for all other teams in that level will be based on the percentage of their Bridge Strength Calculation compared to the highest Bridge Strength Calculation in that level.  $\text{Team's score} = (\text{Bridge Strength Calculation} \div \text{highest Bridge Strength Calculation in level}) \times 70$		Up to 70
3. <b>Technical Design of the method(s) used to move the weight(s) during a Load Test</b> Technical Design is the result of a plan for carrying out or accomplishing a task. A high-quality design shows careful planning and is effective, efficient, and reliable.		Up to 15
4. <b>Technical Innovation of the method(s) used to move the weight(s) during a Load Test</b> Technical Innovation includes how new, unique, original, or creative the methods are for carrying out or accomplishing a task.		Up to 15
B. Story (See Section I.I.)		Up to 90
1. <b>Creativity of the story</b> A story is more creative when there is novel development of the storyline and characters.		Up to 15
2. <b>Effective portrayal of the unexpected connection and its outcome</b> This includes how the artistic and/or theatrical techniques support the portrayal of the unexpected connection and its outcome.		Up to 15
3. <b>Technical Design of the Set Piece</b> This includes all Technical Methods used in the Set Piece and its transition between Settings.		Up to 15
4. <b>Technical Innovation of the Set Piece</b> This includes all Technical Methods used in the Set Piece and its transition between Settings.		Up to 15
5. <b>Visual design of the Set Piece</b> This includes the use of imagery, themes, color, shapes, and/or other methods to create the physical appearance of the Set Piece and its transition between Settings.		Up to 10
6. <b>Integration of Bridge assembly and Load Test(s) into the story</b> This means that the Bridge assembly and Load Test(s) are important to the story.		Up to 20

### Team Choice Elements: Up to 60 Points

C. Team Choice Element 1 (See Section II.)		Up to 30
1. Creativity and originality		Up to 10
2. Quality, workmanship, or effort that is evident		Up to 10
3. Integration into the Presentation		Up to 10
D. Team Choice Element 2 (See Section II.)		Up to 30
1. Creativity and originality		Up to 10
2. Quality, workmanship, or effort that is evident		Up to 10
3. Integration into the Presentation		Up to 10



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### A. Bridge Check-In

1. The purpose of Bridge Check-In is to confirm that the Bridge and weight(s) meet the Challenge specifications. This is done 1 hour prior to your team's Presentation time. Bring the Bridge parts, weight(s), and a completed copy of **Page 2** of the Tournament Data Form to the Bridge Check-In Area.
2. The Bridge Check-In Appraisers will verify that your team has at least 2 and no more than 18 Bridge parts.
3. The Appraisers will verify that the Bridge parts are made of only Duct Tape and/or Playing Cards.
4. The Appraisers will measure each Bridge part and verify that the length, width, and height of each Bridge part is no more than 18in (45.7cm) per dimension. They will also measure each weight your team intends to use for the Load Test(s) and verify that the length, width, and height of each weight is no more than 12in (30.5cm) per dimension.
5. The Appraisers will instruct your team to place each Bridge part on a scale, one at a time. The Bridge parts will be weighed individually to the full resolution of the scale. Once the scale reading stabilizes, the Bridge Check-In Appraisers will verify that the weight of each Bridge part does not exceed 75 grams.
6. Any additional Duct Tape and/or Playing Cards your team plans to use to assemble the Bridge will be weighed at this time. Your team should bring these materials to the Bridge Check-In Area in a 1-gallon size or smaller plastic bag. The Bridge Check-In Appraisers will instruct your team to take the additional materials out of the bag and place them on the scale together. Once the scale reading stabilizes, the Appraisers will verify that the weight of the additional materials does not exceed 75 grams. After the materials have been weighed, the Appraisers will instruct your team to place them back in the plastic bag.

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7. The weights of the Bridge parts and any additional Duct Tape and/or Playing Cards will be added together and then rounded to the nearest tenth of a gram. The Bridge Check-In Appraisers will verify that the Total Combined Weight does not exceed 1000 grams and will record it on the Bridge Check-In Form.
8. The Appraisers will instruct your team to place each weight your team intends to use for Load Test(s) on the scale, one at a time. Once the scale reading stabilizes, the Appraisers will verify that each weight does not exceed 175 grams and will record the official weight to the nearest tenth of a gram on the Structure Check-In Form.
9. If any Bridge and/or Load Test weight requirements have not been met, the Appraisers will make every effort, within reasonable scheduling constraints, to allow your team the time to bring the Bridge part(s) and/or Load Test weight(s) into compliance.
10. When Bridge Check-In is complete, your team will place all Bridge parts, additional Duct Tape and/or Playing Cards, and weight(s) into a team-supplied storage container, and an Appraiser will seal the container. The sealed container and the Bridge Check-In Form must remain in a designated place in the Bridge Check-In Area until approximately 20 minutes before your team's scheduled Presentation time.
11. At that time, one or more team members must return to the Bridge Check-In Area to collect the sealed container and carry it to the Prep Area. Team members must not break the seal on the container until the Prep Area Appraiser directs your team to do so.
12. If a team arrives in the Prep Area with a Bridge container with a broken seal, your team will be required to return to the Bridge Check-In Area to have the Bridge parts and Load Test weight(s) re-checked.
13. The Appraisers will recall the Bridge and any remaining Duct Tape and/or Playing Cards after your team's Presentation to verify that all requirements were met. Once the Bridge has been returned to the Bridge Check-In Area, the Appraisers will weigh the remaining Duct Tape and/or Playing Cards to determine the amount of additional material your team used during the Presentation. The Appraisers will adjust your team's Total Combined Weight based on this measurement.

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### B. Bridge Assembly

1. Any time after the Presentation begins, place the Bridge Foundations within any Measurement Zone in Areas A and B, and begin Bridge assembly.
2. Your team may adjust the Bridge Foundations to your satisfaction before and/or during Bridge assembly.
3. The Bridge Appraiser will indicate to your team if the Bridge Foundations have been incorrectly or inappropriately placed and/or if the assembled Bridge has not met the requirements in **I.D** and **I.E**.
4. Your team must not physically use the Bridge Foundations or the Barrier for any purpose other than testing the Bridge during the Presentation.
5. Any Duct Tape and/or Playing Cards that were not used as part of the Bridge should be returned to the plastic bag to be weighed after the Presentation.

### C. Load Test Procedure

1. Demonstrate the Bridge's ability to support weight while extending over a Barrier by sending weight(s) across the Bridge.
2. Your team may repair or modify the Bridge before each Load Test.
3. Your team may adjust the positions of the Bridge Foundations before each Load Test.
4. Select a team-provided weight or set of weights to use for a Load Test. If more than one weight is used for the Load Test, your team must connect the weights before the Load Test begins. (See Sections **I.F.7** and **I.F.9**.)
5. Place the weight(s) on the Bridge, entirely above a Bridge Foundation.
6. One or more team members may touch the Bridge while they place the weight(s) onto the Bridge. Your team may adjust the weight(s) before the Load Test begins.



## V. TOURNAMENT PROCEDURES

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7. Use Technical Methods to move the weight(s) across the Bridge to complete the Load Test. (See Section I.F.10.)
8. Team members must not touch the Bridge, the Bridge Foundations, or the weight(s) during a Load Test. The Bridge Foundations must not be moved once a Load Test has begun.
9. The Bridge Appraiser will indicate to your team if a Load Test is unsuccessful. If this happens, the Presentation time will not stop and that Load Test will not be eligible for the Efficiency Ratio and the Bridge Strength Calculation.

### D. End of the Load Test(s)

1. A Load Test will end in one of the 6 ways specified in V.D.2 - V.D.7.
2. The connection created by the Bridge between the Bridge Foundations is broken.
3. The Bridge Span touches the floor, the Barrier, or anything else, with the exception of the weight(s) and/or any device(s) used to move the weight(s) during a Load Test.
4. Team members touch or support the Bridge, the Bridge Foundations, or the weight(s).
5. The weight(s) no longer contact the Bridge. Your team may choose to stop a Load Test at any time by removing the weight(s) from the Bridge.
6. Team members move a Bridge Foundation during a Load Test.
7. The 8-minute Presentation time ends.
8. Your team may use the entire 8-minute Presentation time for Bridge assembly and Load Tests, regardless of whether or not your team has ended the performance of your story. Your team may also use the entire 8-minute time for your Presentation regardless of whether or not you have completed the Load Test(s).
9. Your team may choose to stop Load Tests at any time during the 8-minute Presentation.



# TOURNAMENT DATA FORM PAGE 1

## TEAM INFO

Team Name:  Team Number:  -   
School/Organization:  Level: ☐ EL ☐ ML ☐ SL ☐ UL

### To our teams and Team Managers:

Help your Appraisers identify the required elements of your Challenge solution so they can award you all of the points you have earned. Please fill out this 3-page form completely and neatly. For Elementary Level teams only: Team Managers MAY fill out the form, writing out the words dictated by the team.

## PART ONE: REQUIRED PAPERWORK

At the tournament Presentation Site, the Prep Area Appraiser will ask for your team's completed forms. A checklist of the required forms is below. None of the forms listed below can be used as a scoring item. Your team needs:

### 6 copies

Tournament  
Data Form  
Pages 1 and 2  
This is PAGE 1  
of the form.

### 1 copy

Tournament  
Data Form  
Page 3  
This page helps your  
team reflect on how you  
experienced the creative  
process.

### 2 copies

Declaration of  
Independence  
Blank copies of this form  
can be found in Rules of  
the Road. Take one copy to  
your Team Challenge and  
the other to your Instant  
Challenge.

### 1 copy

Expense Report  
This form can be found in  
Rules of the Road. Be sure  
to bring copies of your  
receipts in case you are  
asked for them. It is not  
necessary to attach your  
receipts to the form.

### 1 copy

Team Clarifications  
Bring a copy of each  
Team Clarification issued  
to your team.

### Team Identification Sign

See Rules of the Road for more information.

### Published Clarifications

You need to be sure you are aware of any Published Clarifications for  
this Challenge available at [DestinationImagination.org](https://DestinationImagination.org).

## PART TWO: BRIEF DESCRIPTION OF TEAM CHOICE ELEMENTS

### What is your Team Choice Element 1?

Please write a brief description of your Team Choice Element. Make sure that Appraisers know **exactly** what you want them to evaluate. What would you like them to know about the Team Choice Element?

### What is your Team Choice Element 2?

Please write a brief description of your Team Choice Element. Make sure that Appraisers know **exactly** what you want them to evaluate. What would you like them to know about the Team Choice Element?



## TOURNAMENT DATA FORM PAGE 2

### TEAM INFO

Team Name:  Team Number:  -   
School/Organization:  Level: ☐ EL ☐ ML ☐ SL ☐ UL

### PART THREE: BRIEF DESCRIPTION OF SCORED ELEMENTS

This Challenge asks the team to supply the following information to help the Appraisers evaluate your solution. This is PAGE 2 of the form. Be sure to fill in all pages.

**Bridge Specifications:** Check to make sure your Bridge meets these specifications.

(See Sections **I.B**, **I.C**, and **I.F**.)

- ☐ There are at least 2 and no more than 18 Bridge parts.
- ☐ The Bridge parts are constructed of only Duct Tape and Playing Cards.
- ☐ The length, width, and height of each Bridge part is no more than 18in (45.7cm).
- ☐ The length, width, and height of each weight used for Load Test(s) is no more than 12in (30.5cm).
- ☐ Each of the Bridge parts (including additional Duct Tape and/or Playing Cards) does not exceed 75 grams.
- ☐ The Total Combined Weight of all Bridge parts together does not exceed 1000 grams.
- ☐ Each of the weights your team intends to use for Load Test(s) does not exceed 175 grams.

1. Briefly describe each weight your team intends to use for Load Test(s).

Weight 1:

Weight 2:

Weight 3:

2. Briefly describe the Technical Method(s) used to move the weight(s) across the Bridge.

3. Briefly describe your story about an unexpected connection and its outcome. Briefly describe the artistic and/or theatrical techniques used to portray the unexpected connection and its outcome.

4. Briefly describe your team's Set Piece and the Technical Method(s) used to transition from one Setting to another. Briefly describe the Settings before and after the transition.

5. Briefly describe how Bridge assembly and Load Test(s) are integrated into your story.



## TOURNAMENT DATA FORM PAGE 3

### TEAM INFO

Team Name:  Team Number:  -   
School/Organization:  Level: ☐ EL ☐ ML ☐ SL ☐ UL

### PART FOUR: THE CREATIVE PROCESS

Reflect on how your team experienced each stage of the creative process as you solved the Team Challenge.

1. **RECOGNIZE:** What process did your team go through in order to understand all the issues or points of the Challenge?

2. **IMAGINE:** How did your team use your imagination to explore new ideas about possible solutions to the Challenge?

3. **COLLABORATE AND INITIATE:** How did your team take risks and go beyond the minimum as you committed to a solution? How did your team work in a collaborative way?

4. **ASSESS:** How did your team assess your solution as it was being created?

5. **EVALUATE AND CELEBRATE:** Reflect on your experience. What did your team learn? How did your team celebrate your journey and accomplishments?



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The PDF files for the Team Challenges, Roadmap, and Rules of the Road are available for download at [Resources.DestinationImagination.org](https://Resources.DestinationImagination.org).