

## 2012 Division B Event Updates

As requests for clarification or interpretation of rules are received the questions and appropriate responses will be posted for all to read. The "new" or "updated" labels are to provide a quick visual means of determining whether or not you may have read the question/response previously. Entries are labeled as "new" for 15 days; entries are labeled as updated for another 15 days.

If you are familiar with RSS feeds you may set up a RSS aggregator (such as Google Reader) or your Email to automatically receive rules updates/clarifications feeds as they are posted. You can do this for new items as they are added as well as a separate feed for updates/clarifications that have been modified since they were posted. The RSS links are in the sidebar. You can click on Download PDF in the sidebar to get all rules/clarifications formatted for printing.

NOTE: Event updates and clarifications that are posted here will be in effect for the Los Angeles County Science Olympiad on Saturday, February 25, 2012. Any other clarifications posted elsewhere do not apply to this regional.

### **Keep the Heat (02/21/12)**

**Question:** Do the two team members take the written test together or separately?

**Answer:** The two students will take the test together. (Posted 02/21/12)

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### **Water Quality (02/21/12)**

**Question:** Will we be given a solution to test and demonstrate, and if so, will we be able to take the amount of solution we need? Also, will we be informed of the original amount of water used to make the solution? (Section 3, Paragraph c, Line 5)

**Answer:** Teams will be given a solution to test and demonstrate. Each team will receive at most 1 liter of salt water solution, but they do not have to take the full 1 liter of sample. Teams will not be informed of the original amount of water used to make the solution. (Posted 02/21/12)

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### **Optics (02/21/12)**

**Question:** Because competitors can place templates on the LSS and leave them on the LSS during the laser shoot, can competitors tape down their templates? (Section 3, Paragraph d, Subparagraph xv, Line 1)

**Answer:** Yes. (Posted 02/21/12)

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### **Keep the Heat (02/19/12)**

**Question:** National stated that "The 1.5cm hole must be completely open and clear from the surface of the water to the open air above, including the insulation and any box or lid" in response to my question regarding the lid is allowed to be removed or not, but this is not the same as what was previously answered here. (Section 3, Paragraph d, Line 1)

**Answer:** The State clarification says the device itself (as made and used during the cooling period) does not have to have a lid. The National clarification says that the lid (if there is one being used) cannot be removed for the purpose of putting the thermometer in there. The two answers do not contradict one another. In summary, if you bring in your device without a lid, that's okay. However, if you bring in your device with a lid and during the cooling period, the lid is on, the lid has to stay on for the portion when the thermometer is inserted into the device. The lid, if there is one during the cooling period, cannot be removed. (Posted 02/19/12)

**Question:** When it says "1 point for each data plot on a graph or graphs turned in (up to 4 total)" does the "up to 4 total" refer to the points, meaning up to 4 points, or does it refer to the graphs or plots. (Section 5, Paragraph a, Subparagraph v, Line 1)

**Answer:** Rule 2.c. clearly states you may turn in up to 4 plots. Rule 5.c.v. awards 1 point per plot for a maximum of 4 points possible. (Posted 02/19/12)

**Question:** Will the water be transferred by the Event Supervisor at the student's station or will students need to carry the beaker to their station to place the beaker into their device? (Section 2, Paragraph b, Line 1)

**Answer:** The beakers will be filled at the student's station. They will not have to carry them around the room. (Posted 02/19/12)

**Question:** Can we use particle wood / presswood for the construction of the box? (Section 3, Paragraph a, Line 1)

**Answer:** No. (Posted 02/19/12)

**Question:** Do you know yet if the supervisors are going to leave the thermometers in the beakers the entire cooling period? (Section 3, Paragraph a, Line 2)

**Answer:** The thermometer will not be left in the device during testing, however the thermometer hole must remain unobstructed during the cooling period. (Posted 02/19/12)

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**Mission Possible (02/19/12)**

**Question:** Does the axle need to lift the mass directly, or can it operate a pulley system to lift the mass? (Section 4, Paragraph m, Line 4)

**Answer:** Yes, the string wrapping around the axle must lift the mass directly. A pulley must not lift the mass. No pulley system! That is part of the challenge. (Posted 02/19/12)

**Question:** When the mass is lifted by the paddle wheel past its required height, is it ok if it falls back down or does it have to hold it up? (Section 4, Paragraph m, Subparagraph 3, Line 2)

**Answer:** When the mass passes the pre-marked line on the device, the timing stops and nothing is scored after that point. The mass does not have to stay above that line. (Posted 0/19/12)

**Food Science (02/19/12)**

**Question:** Can we bring a homemade viscosity testing device different than the suggestion at the end of published rules? (Section 5, Line 1)

**Answer:** Yes, teams may bring a homemade viscosity testing device other than the suggested one published in the rules. This is one simple way to make the tester. The rules state that the device "can be made" not "must be made" by this method. (Posted 02/19/12)

**Question:** Will masking tape be provided or do we bring our own as part of the device? (Section Viscoteter, Line 1)

**Answer:** Tape will not be provided. If tape is needed as part of the viscosity testing device, students must bring their own. (Posted 02/19/12)

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**Bottle Rocket (02/19/12)**

**Question:** What is the maker of type of launcher to use and would the launcher able to self adjust as if the 1 liter beverage bottle mouth with different maker (say Gingle Ale is different than coke) might be slightly different in size per team? The water inside the bottle after at launch position might leak out after pressurized if the bottle mouth and the laucher neck does not match in size. If so, due to safety issue, are the parents of the students allow to use a screwdriver to assist in adjust the neck of the launcher before the rocket shoot? (Section 4, Paragraph a, Line 2)

**Answer:** NERDS. Inc. is the manufacturer of the launcher. Most bottles should fit the o-ring seal and can be launched. Only students are allowed in the competition area and once the bottle is pressurized no students are allowed in immediate vicinity of the launcher/bottle rocket. (Posted 02/19/12)

**Question:** For possible safety concern, are you expecting a student or event supervisor to lock the rocket onto the launcher? Students are not familiar with the launcher to be used and might not know how to used it. It is also probably risky for students to lock the rocket due to pressurized bottle inside the rocket. (Section 5, Paragraph a, Line 1)

**Answer:** The students will be the ones locking the rocket into place. The Event Supervisor will check the rocket before launch to ensure that the rocket is secured properly. (Posted 02/19/12)

**Question:** For fairness and to ensure every team is pressurized to the same 60 psi, is the student of event supervisor is the one to pressurize the bottle to 60 psi? (Section 5, Paragraph b, Line 1)

**Answer:** The device has a maximum pressure limited by the gauge which is set by the Event Supervisor. The pressure will be the same for ally teams.(Posted 02/19/12)

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**Storm the Castle (02/19/12)**

**Question:** The rules appear to require two individual counterweights. We built a single adjustable counterweight from 4" PVC as suggested on the website. Inside we have four individual 0.5 kg bags of lead shot; making this counterweight adjustable from 0.5 kg to 2.5 kg. Can we use just this

one adjustable counterweight or do we need construct an additional counterweight? (Section 3, Paragraph c, Line 1)

**Answer:** On the day of the tournament, the counterweights used will be the ones provided by the Event Supervisors. While students are encouraged to use homemade counterweights to practice, those counterweights will not be used on the day of the tournament. (Posted 02/19/12)

**Question:** I'm assuming that two official counterweights will be provided by the event supervisor on the day of the event ... similar to past events? (Section 4, Paragraph g, Line 1)

**Answer:** Yes, the event supervisors will provided 2 different official counterweights for each team. (Posted 02/19/12)

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### **Food Science (02/09/2012)**

**Question:** Can we bring a homemade viscosity testing device different than the suggestion at the end of published rules? (Section 5, Line 1)

**Answer:** Yes. Teams may bring a homemade viscosity testing device other than the suggested one published in the rules. This is one simple way to make a viscosity tester; there are other ways as well. The rules state that the device "can be made" not "must be made" by this method. (Posted 02/09/12)

**Question:** Are we supposed to set up 7 stations with questions made up by ourselves using the listed ingredients or tasks? Should we bake something for some of the stations? (Section 3, Paragraph c, Line 1)

**Answer:** The competitors are not responsible for making up any lab stations. Section 3 explains the layout of the competition; the lab stations described in section 3 will be set up by the event supervisors on the day of the competition, and will use the ingredients listed in 3.a. Students will not be required to bake anything for any of the stations. (Posted 02/09/12)

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### **Keep the Heat (02/09/2012)**

**Question:** May teams prepare more than four unique plots to use during the competition and only enter four for scoring? (Section 2, Paragraph c, Line 1)

**Answer:** Yes. (Posted 02/08/12)

**Question:** What constitutes a natural fiber? (Section 3, Paragraph a, Line 1)

**Answer:** Natural fibers come from plant or animal sources. In their raw form they are typically continuous filaments or discrete elongated pieces. They can be processed into items such as threads, ropes, matted sheets or fabrics. Any of these forms are allowable as long as they are made up of 100% natural fibers. Examples include, but are not limited to cotton balls, wool blankets, and silk fabric. (Posted 02/09/12)

**Question:** Are packing peanuts made from corn starch allowed to be used as insulation? (Section 3, Paragraph a-b, Line 1)

**Answer:** Packing peanuts made from corn starch are a type foam which is prohibited from use in the device per rule 3.b. (Posted 02/09/12)

**Question:** With regards to fastening materials, please provide examples of when they are or are not "contributing to the insulating properties of the device"? (Section 3, Paragraph a, Line 3)

**Answer:** Allowable examples of fastening materials usage include, but are not limited to: using a single strip of tape or glue along an entire edge to hold 2 sides of the device together (it doesn't need to be just 'tacked' together at a few spots). Spreading a thin layer of adhesive on the entire surface of a piece of aluminum foil to secure it to a piece of wood (e.g. like you would with wallpaper). NOT allowable example uses include, but are not limited to: using multiple layers of tape on an edge to seal it. Wrapping the entire device in tape to hold it together. Filling a large cavity with glue to 'hold together' an inside and outside wall. (Posted 02/09/12)

**Question:** Can aluminum foil tape (Nashua Tape Products Multi-Purpose Foil Tape) be used in our device? The tape is basically aluminum foil and tape, so it fits both as aluminum foil and a fastening device. We plan to use it to seal up cracks in the project. While it is a fastening device, it is also aluminum foil (a permitted material). On the label, the tape says "HVAC": Heating, Ventilation, Air conditioning. (Section 3, Paragraph b, Subparagraph i, Line 2)

**Answer:** Spreading a thin layer of adhesive on the entire surface of a piece of aluminum foil to secure it to a piece of wood (e.g. like you would with wallpaper) is allowed, but filling a large cavity with glue to 'hold together' an inside and outside wall isn't allowed. (Posted 02/09/12)

**Question:** Is the hole in the top of the box, which would require the beaker to sit near the top lid of my box. OR can the box top be removed and the hole be in the insulation above the beaker? (Section 3, Paragraph d, Line 1)

**Answer:** The top of your container (box) can be removed, but the container with the top removed must still fit within a 30.0cm x 30.0cm x 30.0cm cube. In this case, insulation can be put on top of the beaker still, with the top of the insulation being considered as the top of the box (assuming there's nothing higher than the insulation). The insulation, being considered as the top of the box, must also have a hole at least 1.5 cm in diameter directly above the beaker and the highest part of the insulation must be less than 5 cm above the top lip of the beaker. (Posted 02/09/12)

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### **Water Quality (02/08/2012)**

**Question:** How accurate does the salinometer/hydrometer need to be for the test? (Section 3, Paragraph c, Sub-paragraph i, Line 4-6)

**Answer:** Any value  $\pm 2\%$  will be given full credit. For example, an answer between 6 and 10% will receive full credit if the actual salinity is 8%. (Posted 02/08/12)

**Question:** How much water will each team receive for the salinity tester? (Section 3, Paragraph c, Line 5)

**Answer:** Each team will receive at most 1 liter of salt water solution, but they do not have to take the full 1 liter of sample. (Posted 02/08/12)

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#### **Mousetrap Vehicle (02/08/2012)**

**Question:** The revised schedule shows an impound for Mousetrap Vehicle. Is this still required?

**Answer:** Yes. Make sure you are following the latest Preliminary Event Schedule dated 02/08/12 or later. (Posted 02/08/12)

**Question:** Is it permitted to push the U hinge on the bar which holds the snap bar in its locked (set) position deeper into the trap? (Section 3, Paragraph b, Line 1-3)

**Answer:** Pushing that U hinge deeper into the wood does not essentially modify the trap. It removes or adds nothing and the structural integrity of the trap is not changed. The trap still functions as intended. (Posted 02/08/12)

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#### **Optics (01/23/2012)**

**Question:** During the laser shoot, are we allowed to place our pre-made templates on the LSS, and if so, do we need to remove them after we position our mirrors and before the laser is turned on? (Section 3, Paragraph d, Subparagraph xv, Line 2)

**Answer:** Yes, you can place your pre-made templates in the LSS and they can remain in the LSS after you position your mirrors and after the laser beam is turned on. (Posted 01/23/12)

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#### **Awesome Aquifers**

**Question:** In the rules, it says "students cannot bring notes, texts, or references". Will labeling objects used to demonstrate be legal? For example, labeling a spray bottle "cloud". (Section 2, Line 5)

**Answer:** Labeling is allowed however it needs to be done at station 3 (aquifer building) and within the 10 minutes time limit. (Posted 01/23/12)

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#### **Food Science**

**Question:** Should we bring our own stop watch? (Section Viscotester, Paragraph 1, Line 1)

**Answer:** Yes, students should bring all materials needed to use their homemade viscosity tester. (Posted 01/23/12)

**Question:** Do event supervisors provide timepieces for use with the viscosity testing devices ("lab equipment"), or is the expectation that the timepiece is part of the viscosity tester and teams bring their own? (Section 2, Paragraph c, Line 2)

**Answer:** Teams should provide their own timing devices, although event supervisors should have a

back up timing device available for a team that has forgotten theirs. (Posted 01/23/12)

**Question:** Will masking tape be provided or do we bring our own as part of the device? (Section Viscotester, Paragraph 1, Line 1)

**Answer:** Tape will not be provided. If tape is needed as part of the viscosity testing device, students must bring their own. (Posted 01/23/12)

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### Forestry

**Question:** Will tree identification be made using twigs, cones, seeds, flowers, bark, or other parts of the tree? (Section 3, Paragraph c)

**Answer:** No, tree identification will be based only upon live or preserved leaf specimens but may be accompanied by other parts of the tree. Twigs, cones, seeds, flowers, bark, fruit, or other parts of the tree may be used without leaf specimens for other types of questions, but will not be used for tree identification without the presence of a live or preserved leaf specimen. (Posted 01/23/12)

**Question:** There is a problem with one of the species names on the official tree list. For the Chinkapin Oak, the name on the official list is *Quercus muhlenbergii*. However every source I can find including the Audubon guides has the name as Quercus muehlenb... (Section 3, Paragraph e, Line 5)

**Answer:** *Quercus muehlenbergii* is the correct spelling for Chinkapin Oak. This correction has been made to the Official Tree List posted on the National Website. Please be sure you are using this corrected version of the tree list. (Posted 01/23/12)

**Question:** Instead of the National Tree List, will a regional or state list of trees be used at this competition? (Section 3, Paragraph e, Line 1)

**Answer:** We will be using the entire list posted on the National web page: [2012 National Tournament Specimen List for Forestry Organized to correspond to Audubon Field Guides of North American Trees](#) as well as 3 additional trees listed here: [2012 LA County Regional Forestry B/C Additional Trees](#) (Posted 01/23/12)

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### Keep the Heat

**Question:** What is meant by organic granular material? (Section 3, Paragraph a, Line 1)

**Answer:** Organic material is matter that has come from a once-living organism, is capable of decay or the product of decay, or is composed of organic compound. Granular material is a conglomeration of discrete solid, macroscopic particles characterized by a loss of energy whenever the particles interact (the most common example would be friction when grains collide). Thus, organic granular material could be described as a collection of pieces of organic material. Some examples of organic granular materials are rice, coffee, corn flakes, sugar, nuts, popcorn, coal, pieces of cork, leaves, etc. (Posted 01/23/12)

**Question:** Is cork acceptable as "wood"? (Section 3, Paragraph a, Line 1)

**Answer:** Cork is not wood but it is organic and must be granular if used. Please see the posted FAQ for organic granular material. (Posted 01/23/12)

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### **Rocks and Minerals**

**Question:** Is a mini, hand held magnification device acceptable as a magnifying glass? (Section 2 Line 1)

**Answer:** A pocket sized magnifier of any type will be acceptable at the event. (Posted 01/23/12)

**Question:** Are any rocks or minerals to be tested beyond those on the National list? (Section 3, Paragraph e, Line 2)

**Answer:** No. (Posted 01/23/12)

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### **Storm the Castle**

**Question:** Please interpret the sentence " If all shots are zero due to this, the last shot must be scored from where the projectile first impacts the floor, target or wall."How do you score them when they are all Zero? (Section 5, Paragraph a, Subparagraph vii, Line 1-2)

**Answer:** If the first three Launches hit the side wall or ceiling they will be scored as Zero. When the forth launch is made, the event supervisor will be prepared to mark where the projectile hits the floor after hitting the, wall or ceiling. From that point the event supervisor will measure the distance from the center of target. This rule is to help eliminate ties when the event must be held in a venue with a low ceiling. Students should be prepared to adjust their device so it does not strick the ceiling to receive the best possible score. (Posted 01/23/12)

**Question:** If a trebuchet has a containment device built to hold counterweight, can the student use their own counterweight calibrated to the correct mass used for the day's event? (Section 3, Paragraph c, Line 1)

**Answer:** Students may not use their own counterweights; they must use the counterweights provided to them by the Event Supervisor. (Posted 01/23/12)

**Question:** Do you have an idea of what type of counterweight will be used ? (loose shot, solid kg mass, etc.) Please note I am not asking for a mass, but more of a type of mass used. (Section 3, Paragraph c, Line 1)

**Answer:** We have not determined the type of mass we will be using. In the case of loose shots, they will be taped together and will have a hook attached. (Posted 01/23/12)

**Question:** Does the total mass of the counterweight include the containment device? (if used) (Section 3, Paragraph c, Line 1)

**Answer:** No. However, remember that the device, without the counterweight and projectile, must not contribute energy to the launch. (Posted 01/23/12)

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### **Mission Possible**

**Question:** How is IMA determined? (Section 4, Paragraph f, Line 1)

**Answer:** IMA is determined by the input distance moved divided by the output distance moved. (Corrected 1/20/2012 6:52 AM) (Posted 01/23/12)

**Regional Rules Clarification:** (Section 4, Paragraph f)

**Clarification:** The previous National FAQ has the incorrect method of calculating IMA and is now fixed here. The correct IMA is determined by the input distance moved divided by the output distance moved. (Posted 01/23/12)

**Question:** Can the paddle wheel have cup-like paddles or only completely flat paddles? (Section 4, Paragraph m, Line 1)

**Answer:** The paddle wheel may have any type of paddles to complete the task as described. (Posted 1/23/12)

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### **Mousetrap Vehicle**

**Question:** Can the mousetrap be glued to the chassis legally, or would it be considered an illegal modification? (Section 3, Paragraph b, Line 4)

**Answer:** Yes, the mousetrap may be glued to the chassis. (Posted 01/23/12)

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### **Teams and Team Members**

A maximum of 15 students may participate on any team.

A maximum of five 6th grade students may participate on a Division A team.

A maximum of five 9th grade students may participate on a Division B team.

A maximum of seven 12th grade students may participate on a Division C team.

Middle schools may invite a maximum of five of their last year's 8th grade students to be part of the current Division B team.

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### **Mission Possible**

**Question:** What describes a granular material? (Section 4, Paragraph m, Line 2)

**Answer:** A granular material is a conglomeration of discrete solid, macroscopic particles characterized by a loss of energy whenever the particles interact (the most common example would be friction when grains collide). Some examples of granular materials are nuts, coal, sand, rice,

coffee, corn flakes, fertilizer, sugar, nuts, popcorn, ball bearings, etc. - National FAQ (Posted 12/1/11)

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### **Keep the Heat**

**Question:** Does the event supervisor or the student pour the water into the beakers? (Section 4, Paragraph a, Sub-paragraph iv, Line 1)

**Answer:** That is up to the individual event supervisor, although the recommendation is that the event supervisor transfers the water. The student(s) load the beaker into their device. - National FAQ (Posted 12/1/11)

### **Regional Rules Clarification** (Section 3, Paragraph a, Line 1)

**Answer:** The definition posted by the National Science Olympiad on organic dirt is somewhat confusing because dirt is technically non-organic. At the regional tournament, the interpretation for the clarification will be "All dirt will be allowed as long as it is not man made." (Posted 01/23/12)

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### **Reach for the Stars**

**Clarification:** The correct spelling of Canes Venatici is with an "i" at the end not an "a". (Section 3, Paragraph a) (Posted 12/1/11)

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### **Forestry**

**Question:** Is it acceptable to print the tree list single-sided and write notes on the reverse side of each sheet? (Section 2, Line 3)

**Answer:** No, This would be a violation of the Spirit of the Rules of the competition. If the tree list is printed on a single side of paper, only the front of the paper may contain notes. (Posted 11/30/11)

**Question:** Does "teams may ... write on any of these" include digital modifications to the tree list? (Section 2, Line 5)

**Answer:** No, you are not allowed to make digital modifications to the tree list but you are allowed to write on the tree list. (Posted 11/30/11)

**Question:** What types of books are encompassed by the phrase "field guide"? In other words, must a book have the words "field guide" printed on the cover in order to be permissible for the event? (Section 2, Line 3)

**Answer:** A published or commercially published field guide is any printed resource that is published and used for identifying natural objects, flora, or fauna. (Posted 11/30/11)

**Question:** Is there a State List of Trees for each individual state that will be used for regional/state competitions? (Section 1, Line 1)

**Answer:** Answer is under review. (Posted 11/30/11)

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### **Water Quality**

**Question:** How accurate does the salinometer/hydrometer need to be for the test? (Section 3, Paragraph c, Sub-paragraph i, Line 4-6)

**Answer:** No resolution is stated. This will be determined by the Event Supervisor. (Posted 11/30/11)

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### **Rocks and Minerals**

**Question:** What types of books are encompassed by the phrase "field guide"? In other words, must a book have the words "field guide" printed on the cover in order to be permissible for the event? (Section 2, Line 3)

**Answer:** A published or commercially published field guide is any printed resource that is published and used for identifying natural objects, flora, or fauna. (Posted 11/30/11)

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### **Towers**

**Question:** How is the height of the tower defined? (Section 6, Paragraph b, Sub-paragraph, Line: 1)

**Answer:** Add one line, "6.c.iv. Tower height is measured to the highest tower point that the bottom of the loading block rests on." - National Rules Clarification

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