

## Q & A

### Safe Design and Construction

**Q:** What is the role of the scientific mentor? Is he/she testing us? Is it possible to consult with him/her with regards to building the safe?

**A:** The role of the scientific mentor is to direct you so that the safe will meet the tournament's criteria and standards. The scientific mentor gives a grade according to the group's conduct and teamwork, but he is/she there for you for consultation on technical and physics-related dilemmas.

**Q:** Can the safe concept form and drawing be handwritten/hand-drawn?

**A:** No. Hand-written forms or manual drawings will not be checked and no corresponding notice will be sent.

**Q:** Is it possible to use a logic or a mathematical riddle as part of the safe?

**A:** No. The goal of the safe is present a physics challenge – and not in other areas.

**Q:** Can a physics formula be part of the riddle?

**A:** Yes, but the calculation must be simple and short, and the formula should be given to the safe crackers, along with a calculator.

**Q:** Is it possible to build a safe that cannot be cracked?

**A:** The challenge of cracking the safe should only be based on the physics riddle. A mechanism whose cracking will take too long or be too difficult to do (once the physics of it is understood) will not be approved. Unapproved cases, for example, included ones which required a complicated alignment of mirrors for a small detector, difficult coordination of operations in parallel, shooting a ball into a hoop.

**Q:** Should the safe structure be original?

**A:** Yes. Mechanisms that are too similar to safes from previous years will not be approved because their descriptions are available on the website and are accessible to all, and the mechanisms will be too easy to be cracked by rival groups.

**Q:** Can the safe crackers be told **not** to use or **not** to touch some of the components?

**A:** At the tournament, safe crackers may do and use anything, as long as they do not use excessive force or endanger the safe. If there are things you do not want them to touch, cover or lock them.

**Q:** What happens if one of the teams destroys our safe during the competition?

**A:** You must build your safe to be sturdy and durable so that this will not happen. Bring spare parts (bulbs, batteries, etc.) and warn crackers about vulnerabilities.

**Q:** Is it allowed to “hide” some of the elements or use distractors in the safe which the crackers will have to locate?

**A:** No. The safe crackers must possess full knowledge with regards to the objects they can use.

**Q:** Is it permitted to integrate in the safe mechanism fire or high voltage?

**A:** Any component that constitutes a safety risk requires safety measures and the approval of the scientific mentor. Any connection to high voltage (V220) must be isolated from the safe crackers’ contact. Any means of fire (a candle, a gas burner) must have a stable base and secure distance from flammable components.