

SCIENCE TRIVIA CHALLENGE!

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The Science Trivia Challenge is a friendly, spirited contest hosted by the MIT Club of Boston that is part of the Cambridge Science Festival.

The tenth annual Challenge is scheduled for **Thursday evening, April 19, 2018.**

It is a live team trivia quiz where contestants are challenged on their knowledge of biology, chemistry, physics, mathematics, astronomy, computer science, earth sciences, inventions, local contributions to science and other subjects. The information might be useful or purely trivial and might test knowledge of scientific methods, theories, or history. Teams must be ready for anything, and any team can win!

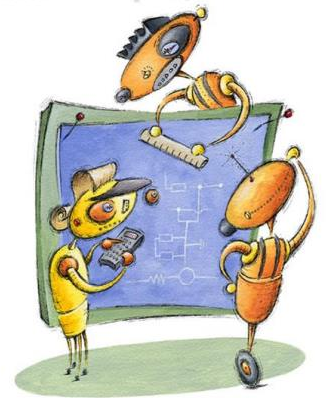
The contest is open to teams of students in 12th grade or lower (High School or Middle School). The maximum team size in any given round is five players, but teams can have up to ten players total.

Every contestant will receive a certificate and several other gifts. **The top finishing teams will also be treated to dinner by one of three Nobel Laureates.** This year's event will be moderated by MIT Professor Alex Slocum, a leader in the MIT Energy Initiative and the Precision Engineering Research Group, and former Massachusetts Professor of the Year.

Participants and spectators have an opportunity to informally meet and greet young career scientists from the Broad Institute during the registration and light supper hour from 5pm-6pm. The competition takes place from 6pm-9pm.

Register today at <http://web.mit.edu/trivia/>

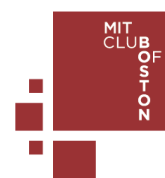
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This is a
Cambridge Science
Festival event

CAMBRIDGE
SCIENCE
FESTIVAL!

organized by the
MIT Club of Boston



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Try these questions from past Science Trivia Challenges...

1. A fluid is considered "Newtonian" when its viscosity is independent of its shear rate. All but one of the substances below is a Non-Newtonian fluid. Which one is a Newtonian fluid?

- a) house paint
- b) ketchup
- c) motor oil
- d) shampoo
- e) toothpaste

Answer: c) motor oil.

2. Scientists have long been able to calculate the masses of most planets, including Earth. It has taken longer to measure the masses of Mercury and Venus, primarily because these two planets lack what?

Answer: Moons.

3. Match each of the following animals with the way they consume their food:

- | | |
|--------------------|-----------------------------|
| 1. Cow | a) Grind in a gizzard |
| 2. Snake | b) Chew, regurgitate, chew |
| 3. Venomous spider | c) Filtration |
| 4. Whale shark | d) Dissolve and slurp it up |
| 5. Parakeet | e) Chew |
| 6. Raccoon | f) Swallow whole |

Answer: 1-b; 2-f; 3-d; 4-c; 5-a; 6-e.

4. A gallon of gasoline contains about 132 million joules of energy. My iPhone has a 3.7 volt battery with a fully-charged capacity of 1400 mAh (milliamp-hours). Approximately how many times could I charge my phone with the energy contained in one gallon of gasoline?

- a) 7
- b) 70
- c) 700
- d) 7,000
- e) 70,000

Answer: d) 7,000.

5. Match each of the following bathroom products with their common ingredients:

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|-------------------|--|
| 1. Antiperspirant | a) Isobutane (a propellant) |
| 2. Toothpaste | b) Ethanol |
| 3. Shampoo | c) Sodium Monofluorophosphate (fluoride) |
| 4. Shaving cream | d) Aluminum chloride |
| 5. Drain cleaner | e) Ammonium lauryl sulfate (a foaming agent) |
| 6. Mouthwash | f) Lye |

Answer: 1-d; 2-c; 3-e; 4-a; 5-f; 6-b.

6. Match each of the following algorithms with what you might use to find:

- | | |
|--------------------------|------------------------------------|
| 1. Dijkstra's algorithm | a) Factors (on a quantum computer) |
| 2. Euclid's algorithm | b) Greatest common divisor |
| 3. Ford-Fulkerson method | c) Maximum network flow |
| 4. Shor's algorithm | d) Prime numbers |
| 5. Sieve of Eratosthenes | e) Shortest path in a graph |

Answer: 1-e; 2-b; 3-c; 4-a; 5-d.