

Are you smarter than a 15-year-old?

Here are some sample Pisa questions

Science question: Meteoroid



As a meteoroid approaches Earth and its atmosphere, it speeds up. Why does this happen?

Background: Rocks in space that enter Earth's atmosphere are called meteoroids. Meteoroids heat up and glow as they fall through Earth's atmosphere. Most meteoroids burn up before they hit Earth's surface. When a meteoroid hits Earth, it can make a hole called a crater.

- The meteoroid is pulled in by the rotation of Earth.
- The meteoroid is pushed by the light of the Sun.
- The meteoroid is attracted to the mass of Earth.
- The meteoroid is repelled by the vacuum of space.

Maths question: Climbing Mt Fuji



The Gotemba walking trail up Mount Fuji is about 9km long.

Walkers need to return from the 18km walk by 8pm.

Toshi estimates that he can walk up the mountain at 1.5kmh on average, and down at twice that speed.

These speeds take into account meal breaks and rest times.

Using Toshi's estimated speeds, what is the latest time he can begin his walk so that he can return by 8pm?

Problem-solving question: Alan's birthday party



It is Alan's birthday and he is having a party. Seven other people will attend: Amy, Brad, Beth, Charles, Debbie, Emily and Frances.

Everyone will sit around the circular dining table. The seating arrangement must meet the following conditions:

- Amy and Alan sit together.
- Brad and Beth sit together.
- Charles sits next to either Debbie or Emily.
- Frances sits next to Debbie.
- Amy and Alan do not sit next to either Brad or Beth.
- Brad does not sit next to Charles or Frances.
- Debbie and Emily do not sit next to each other.
- Alan does not sit next to either Debbie or Emily.
- Amy does not sit next to Charles.

Arrange the guests around the table to meet all of the conditions listed above.

For the answers, go to <http://str.sg/pisa>