



21 SERIOUSLY COOL CAREERS THAT NEED MATHS

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|------------------------------|---------------------------|
| 1. ANIMATOR | 16. STOCKBROKER |
| 2. SPECIAL EFFECTS DIRECTOR | 17. INTERIOR DESIGNER |
| 3. COMPUTER SCIENTIST | 18. CAR DESIGNER |
| 4. COMPUTER GAMES DESIGNER | 19. POLITICAL SCIENTIST |
| 5. FORENSIC SCIENTIST | 20. PETROLEUM ENGINEER |
| 6. ASTRONAUT | 21. AERONAUTICAL ENGINEER |
| 7. CRYPTANALYST | |
| 8. STATISTICIAN | |
| 9. ARCHITECT | |
| 10. DOCTOR | |
| 11. FASHION DESIGNER | |
| 12. ASTRONOMER | |
| 13. SCIENCE JOURNALIST | |
| 14. METEOROLOGIST | |
| 15. ENVIRONMENTAL CONSULTANT | |

THAT NEED MATHS



1. ANIMATOR

As well as cool jobs at Disney and Pixar, animators can work in computer and console game development, television programming, broadband internet animation, broadcast and web advertising, education, research, and military and corporate training.

An Animator uses linear algebra to show the way that an object is rotated and shifted and made larger and smaller.



2. SPECIAL EFFECTS DIRECTOR

Whether it's Inception or Sesame Street, special effects are used to give that WOW factor to a lot of what you watch on TV and at the cinema.

Mathematics provides the language for expressing physical phenomena and their interactions. Powerful computing equipment, numerical methods and algorithms are used to make most of the spectacular feats in the visual effects industry.



3. COMPUTER SCIENTIST

Whether it's the millionaire behind Facebook, the secretive geniuses behind Google or the cool creative types at Apple, maths will be needed by those wanting to be part of creating the next generation of gadgets and apps.

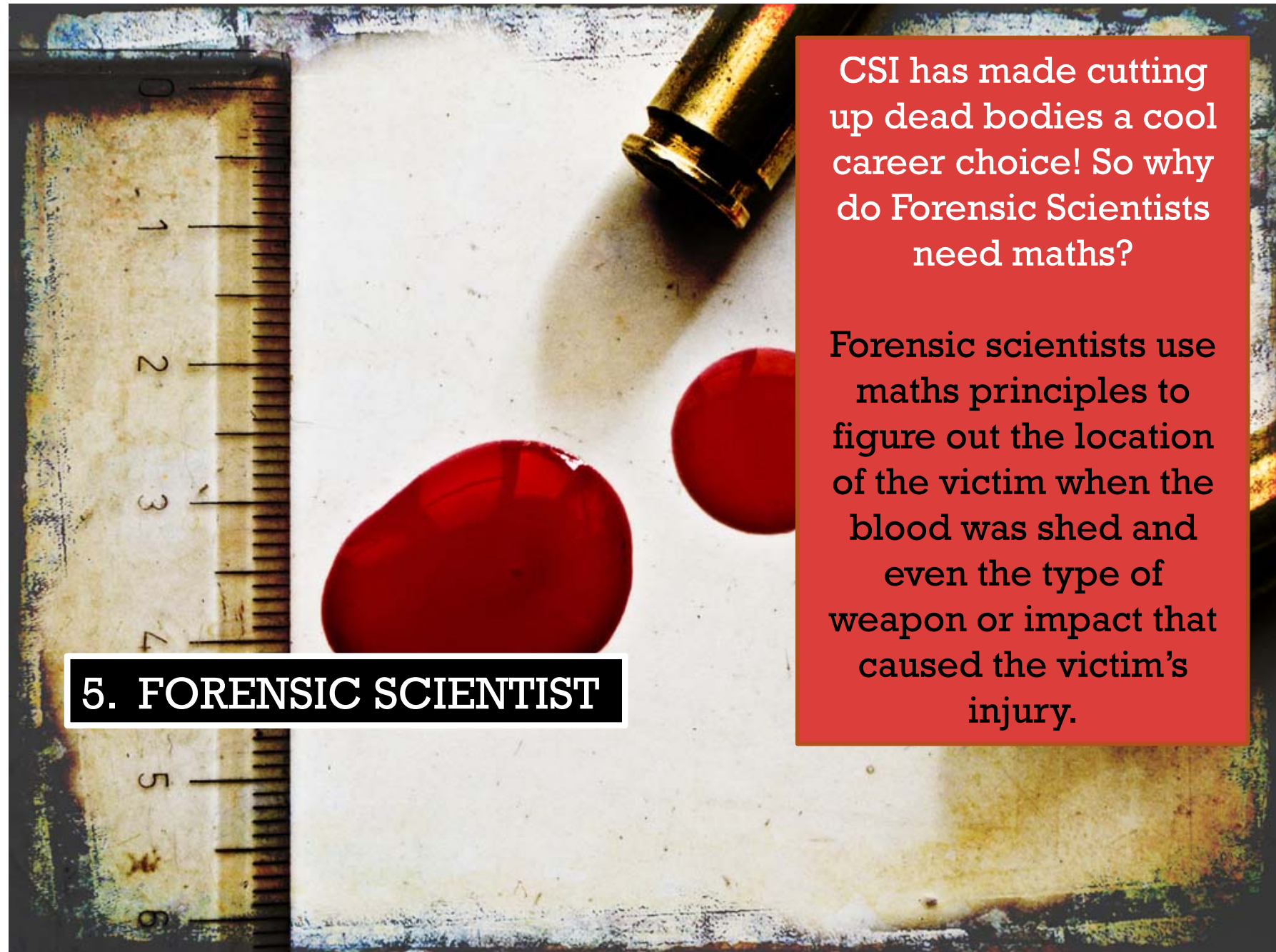
Computer scientists use mathematics as they span a range of topics from theoretical studies of algorithms, and the computation of implementing computing systems in hardware and software.



4. COMPUTER GAMES DESIGNER

Whether it's Little Big Planet, Mario, or virtual sports, kids and grown-ups love playing computer games. To build that one game, with all its user generated levels, requires some serious maths skills.

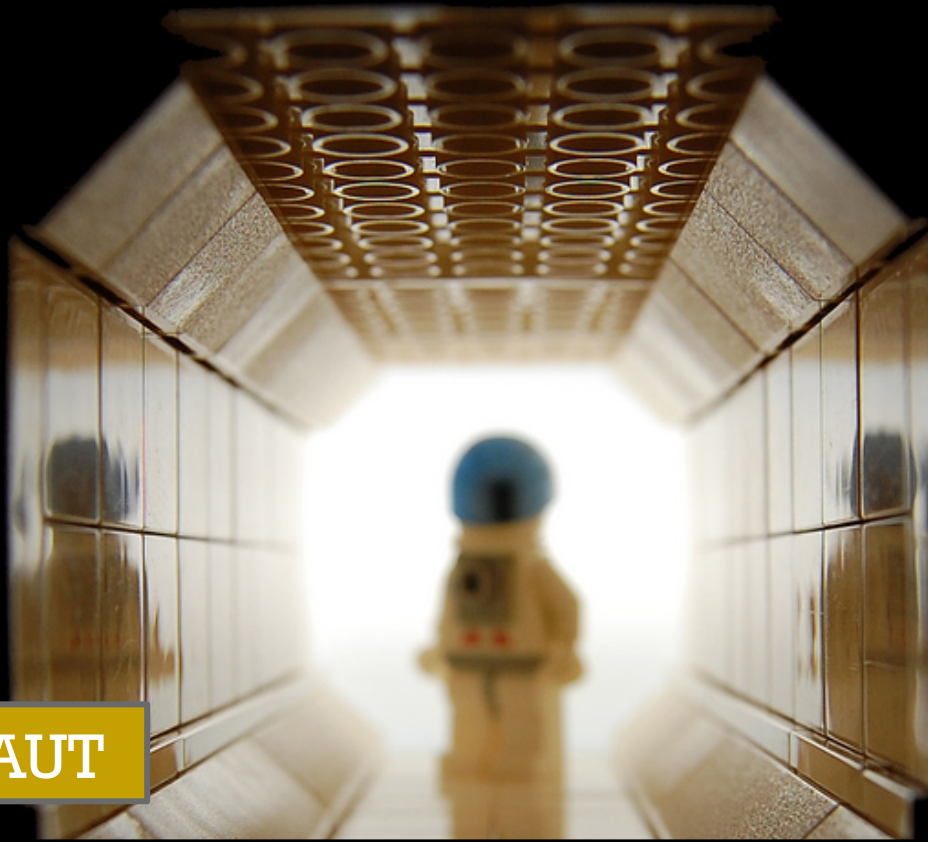
Every game designer needs to have a good grasp of game theory – a branch of applied mathematics. Aspiring video game programmers should also study trigonometry, physics, and calculus.



CSI has made cutting up dead bodies a cool career choice! So why do Forensic Scientists need maths?

Forensic scientists use maths principles to figure out the location of the victim when the blood was shed and even the type of weapon or impact that caused the victim's injury.

5. FORENSIC SCIENTIST



6. ASTRONAUT

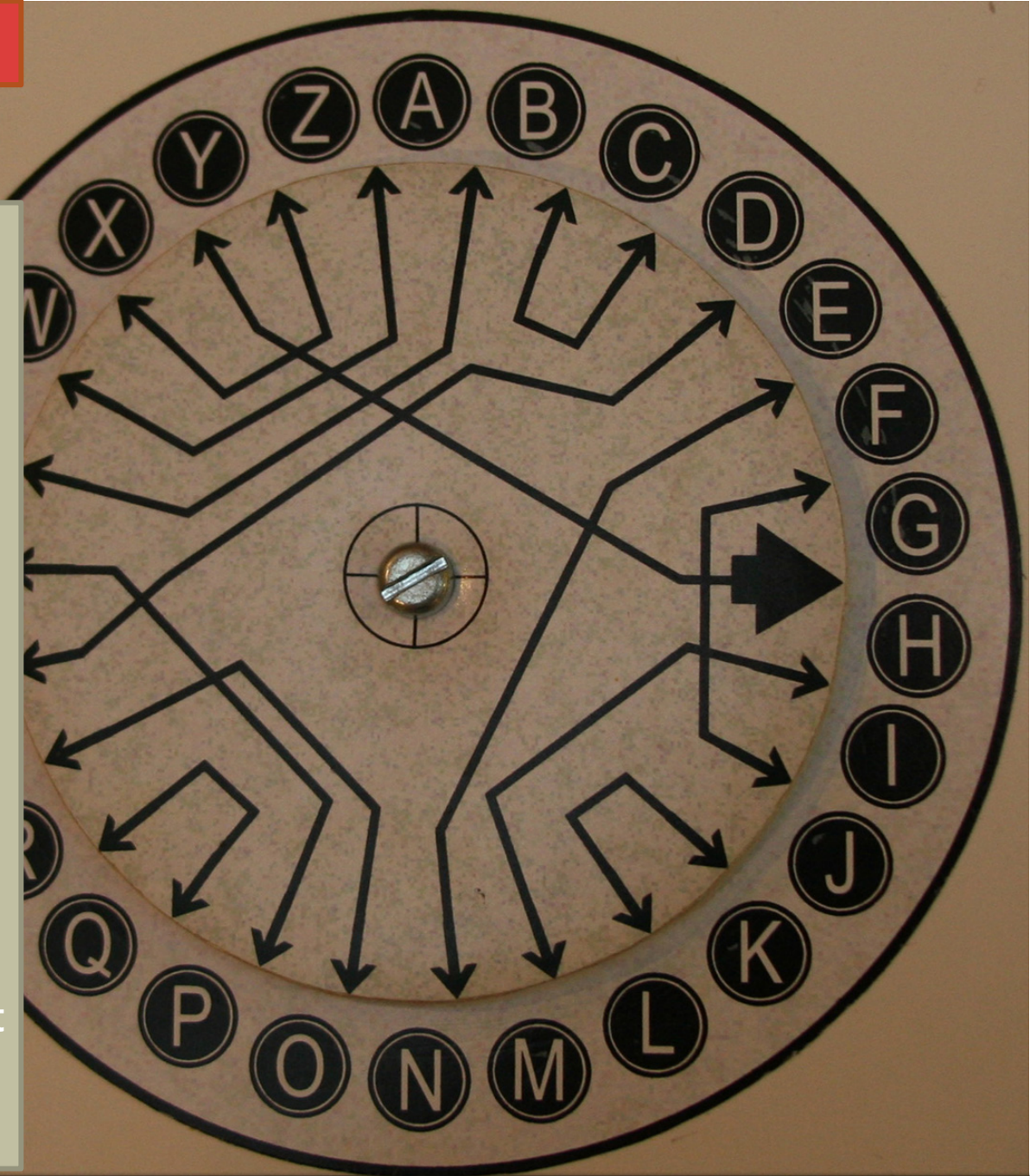
Even those who have no desire to travel into space will agree that being an astronaut is still a cool job.

Astronauts use maths in order to make precise mathematical calculations, from how the spacecraft leaves Earth's atmosphere to how the astronauts pilot the craft.

7. CRYPTANALYST

You may have read a story or two about code breaking or even enjoy making up codes yourself.

Cryptanalysts use maths to among other things; follow mathematical theorems and formulas, encode and encrypt systems and databases and devise systems for companies to help keep hackers out and to protect the company and consumer.



8. STATISTICIAN



From the daily news headlines to fact filled books like the Guinness Book of World Records, statistics rule the world!

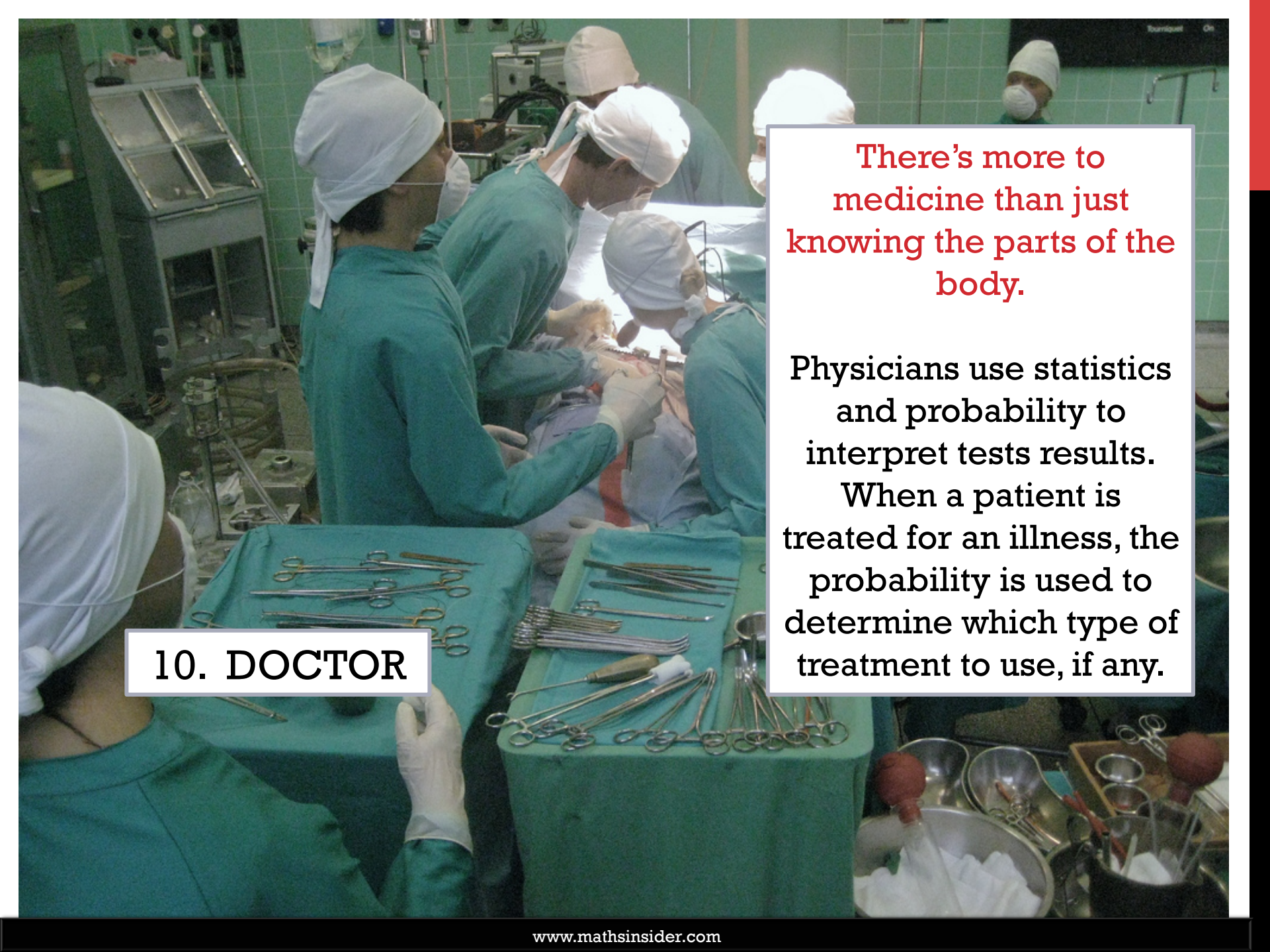
Statisticians apply their mathematical and statistical knowledge to the design of surveys and experiments; the collection, processing, and analysis of data; and the interpretation of the experiment and survey results.



Architects are trained in the planning, design and oversight of the construction of buildings. With buildings getting taller and taller, as well as the challenges of housing the world's growing population, being an architect is certainly a cool and important career choice.

Mathematics is needed to analyse and calculate structural problems in order to engineer a solution that will assure that a structure will remain standing and stable.

9. ARCHITECT



There's more to
medicine than just
knowing the parts of the
body.

Physicians use statistics
and probability to
interpret tests results.
When a patient is
treated for an illness, the
probability is used to
determine which type of
treatment to use, if any.

10. DOCTOR



11. FASHION DESIGNER

Fashion design is often seen as a glamorous career but it's also a practical career which uses plenty of maths.

Fashion designers use area, perimeter and diameter as well as mathematical algorithms to help create designs as well as to calculate the amount and cost of fabric required.

If there is life on other planets, it's likely that astronomers will be the people to find it first.

Astronomers use maths to calculate the paths of stars, planets and other objects in space as well as to filter sound waves from outer space as they listen out for signals from other life forms!

12. ASTRONOMER

SPACE ODDITY

Science journalists translate complex ideas and discoveries that involve science into news articles that non scientists can understand.

Science journalists need a strong foundation in maths in order to fully understand the science they are reporting on so they can explain it in a simple way to their audience.

... schoolboy
Pluto is
... planet.
... entists
demote it
lump of rock



Picture: SCIENCE PHOTO LIBRARY

el Hanlon
SCIENCE EDITOR

... waiting to be discovered and,
the discoveries rol
October 2003,
Brown, a Cal
astronomer, discover
biggest KBO to date.
'2003 UB313' was found to have
a diameter of nearly 1,500 miles

... such as what Pluto is made of,
or where it came from.
No, this is an argument about
semantics. Pluto is a planet if we
say it is, and it is not if we say it
isn't.

... 1930 when Clyde
Tombaugh, working at the
Lowell Observatory in Arizona,
spotted a faint and elusive new
member of the Sun's family.
This was the first of a new class of
objects, now known as Kuiper Belt
Objects (KBOs).

13. SCIENCE JOURNALIST



14. METEOROLOGIST

Everybody loves to talk about the weather. The science of weather forecasting uses plenty of maths.

Maths is a central part of understanding the physics of the atmosphere. Meteorologists use mathematical variables and calculus to predict how different weather elements will interact with each other, and what weather will result.



15. ENVIRONMENTAL CONSULTANT

Environmental consultants study the sources and consequences of pollution and develop solutions to minimise pollution.

Environmental consultants use mathematical models to calculate the impact of pollution and construction projects on the environment. They help to design energy efficient machines.

Stockbrokers invest in the stock market for individuals or corporations. They gather information from clients about their needs and financial ability, and then determine the best investments for them.

A stockbroker uses maths to work out whether particular stocks and mutual funds are a good investment and advanced calculations when helping a client plan for retirement, factoring in current assets, expected returns, inflation, taxes, and living expenses.

16. STOCKBROKER

AMERICAN STOCK EXCHANGE

17. INTERIOR DESIGNER

Interior designers design our living and working spaces by taking into account the needs and resources of the clients.

Interior designers use area and volume calculations to lay out fixtures and fittings.

They also use mathematical calculations to make sure their designs comply with building regulations.

18. CAR DESIGNER



Car designers use design principles to create practical and innovative new designs for everything from the family car, through to cool racing cars and cars of the future.

Car designers use geometry to design cars that both look good and perform well. They work with engineers using calculus to design ever more powerful and economical engines.



19. POLITICAL SCIENTIST

Political scientists study the structure of government and seek solutions to issues such as welfare, immigration and foreign policy.

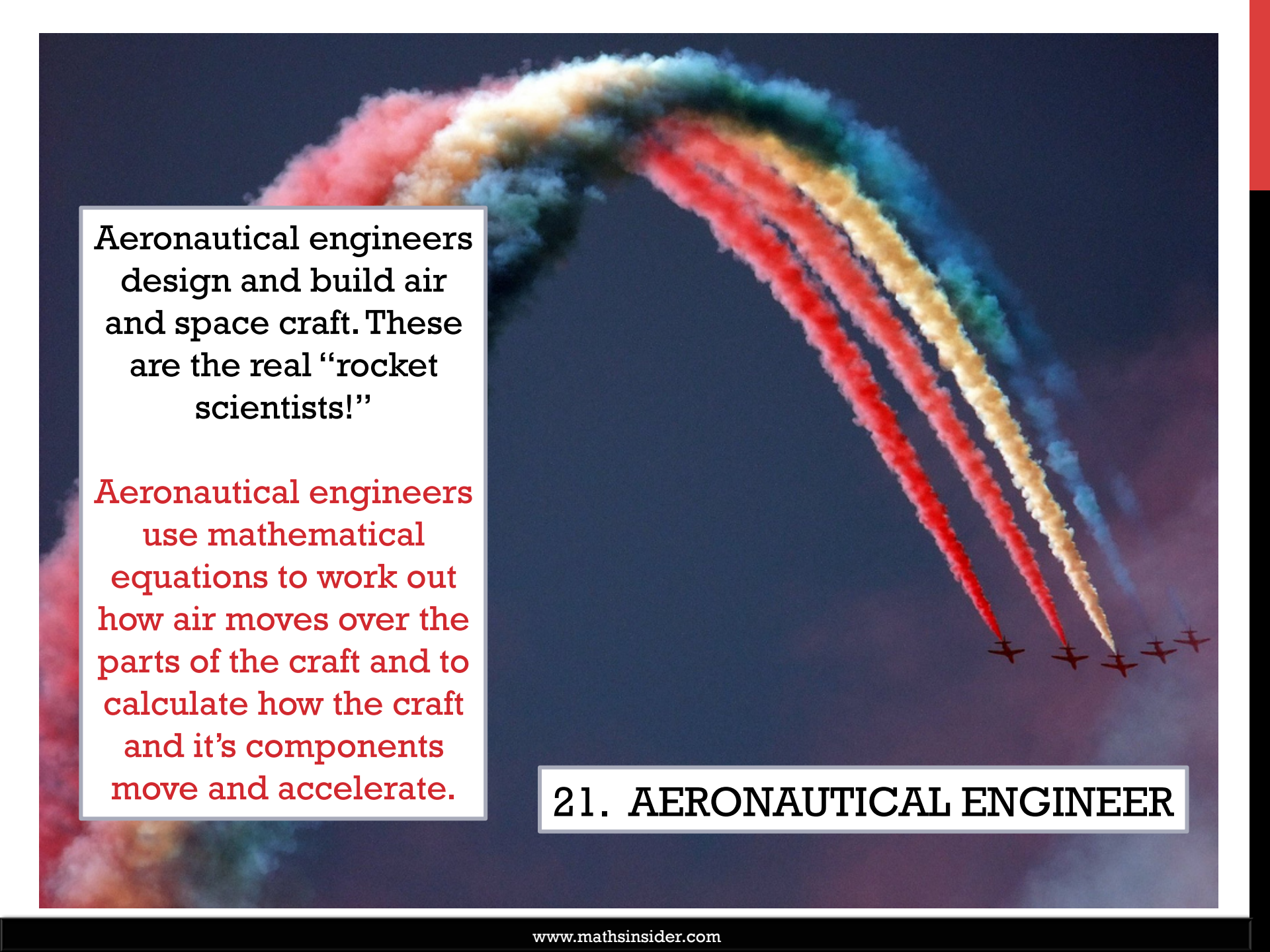
Political scientists use math and statistics to predict the probability of political events occurring. They also use regression analysis and other mathematical formulae to work out how to allocate resources to best benefit all parties.

Petroleum engineers search the world for reservoirs containing oil or natural gas, then work with geologists and other specialists to work out how to extract this dwindling resource.

Petroleum engineers use mathematical computer modeling, statistics and probability analysis, to enhance oil recovery.



20. PETROLEUM ENGINEER



Aeronautical engineers design and build air and space craft. These are the real “rocket scientists!”

Aeronautical engineers use mathematical equations to work out how air moves over the parts of the craft and to calculate how the craft and its components move and accelerate.

21. AERONAUTICAL ENGINEER

SERIOUSLY COOL SOURCES

<http://www.wikipedia.com>

<http://www.answers.com>

<http://weusemath.org/>

<http://www.dreambox.com/blog/7-dream-jobs-that-require-math>

<http://www.mathscareers.org.uk>

<http://plus.maths.org/content/Career>

SERIOUSLY COOL PHOTOS

Cover Photo & Animator <http://www.flickr.com/photos/87919923@N00/2322720389/>

Special Effects Director <http://www.flickr.com/photos/8087836@N05/1312189857/>

Computer Scientist <http://www.flickr.com/photos/25064547@N06/2568436053/>

Computer Games Designer <http://www.flickr.com/photos/21671782@N03/4520938592/>

Forensic Scientist <http://www.flickr.com/photos/22715327@N06/2972228779/>

Astronaut <http://www.flickr.com/photos/48152057@N00/3813345704/>

Cryptanalyst <http://www.flickr.com/photos/lwr/839316075/>

Statistician <http://www.flickr.com/photos/22177648@N06/2136954043/>

Architect <http://www.flickr.com/photos/14838182@N00/4594489291/>

Doctor <http://www.flickr.com/photos/mallix/3611512334/>

Fashion Designer <http://www.flickr.com/photos/dos-chin/474076652/>

Astronomer <http://www.flickr.com/photos/28634332@N05/3765799902/in/set-72157606205297786/>

Science Journalist <http://www.flickr.com/photos/28634332@N05/3765799902/sizes/o/>

Meteorologist <http://www.flickr.com/photos/taminator/353301838/sizes/o/>

Environmental Consultant <http://www.flickr.com/photos/shutterhack/2773618786/sizes/z/>

Stockbroker <http://www.flickr.com/photos/russloar/2484507721/>

Interior Designer <http://www.flickr.com/photos/jinkazamah/2607335084/sizes/z/>

Car Designer <http://www.leedownham.com>

Political Scientist <http://www.flickr.com/photos/jmtimages/2287332094/>

Petroleum Engineer <http://www.flickr.com/photos/bpamerica/4691529582/>

Aeronautical Engineer <http://www.flickr.com/photos/amyllloyd/4811244553/sizes/l/>