

N5 Integration

Motivation: Creating engaging and stimulating Web based material

- Blended Learning.
- Cloud Integration.
- Stimulating material.
- Evaluation of On-line Material.



Prof Bill Buchanan, School of Computing

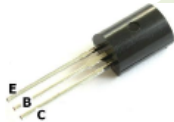
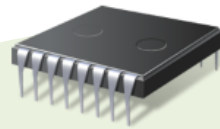
Twitter: @billatnapier

Web: <http://asecuritysite.com>

<http://brightredbooks.net>

Cloud is a disruptive technology ... probably the most disruptive since the **transistor**

Microchip



Transistor

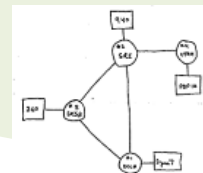


Microprocessor



The Cloud

The Internet



THE ARPANET
DEC 1969
BY DARPA



The Personal Computer

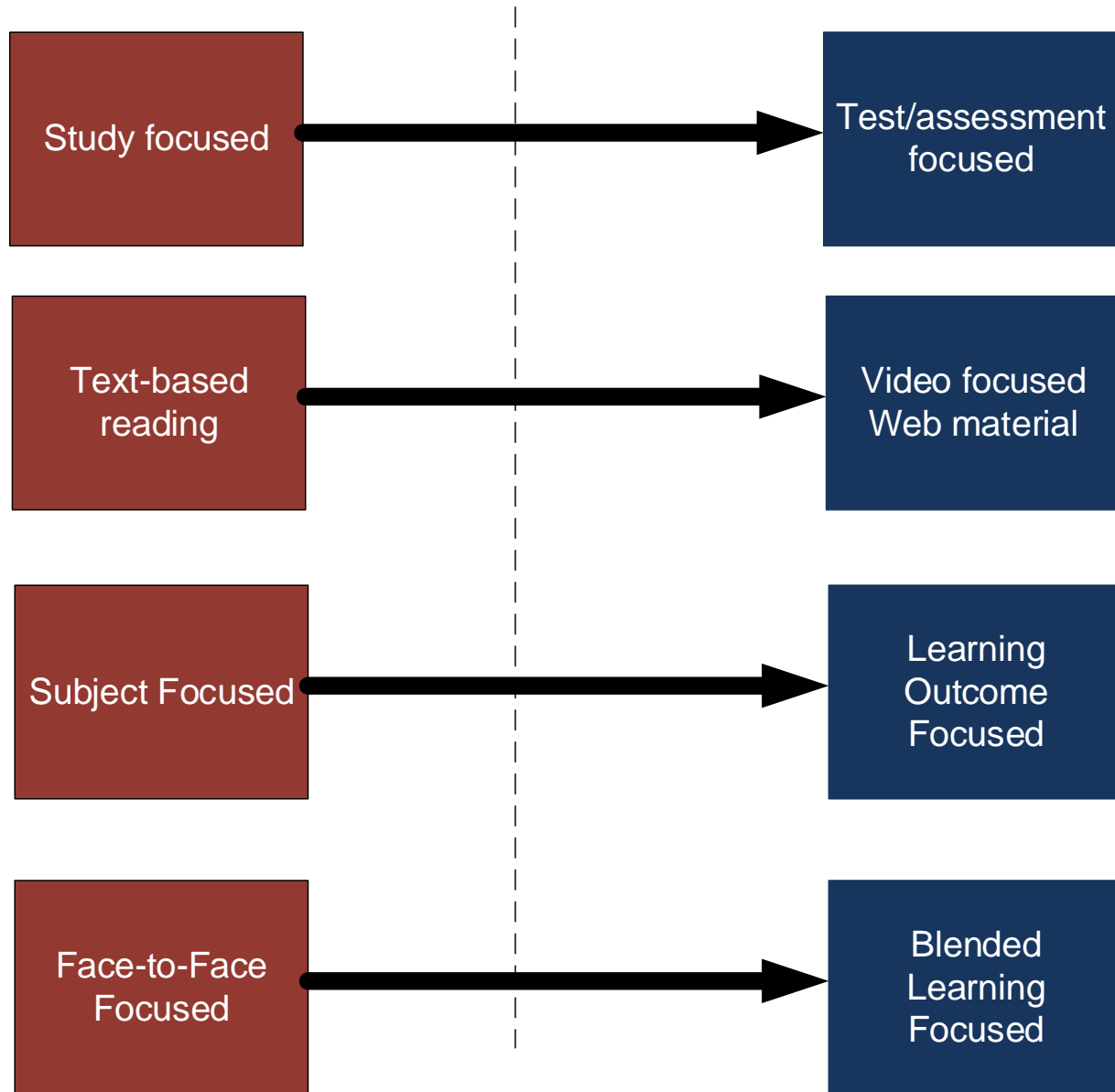
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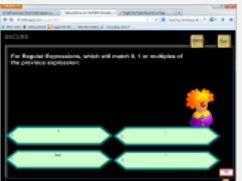
Cloud Integration



Twitter



On-line Lectures

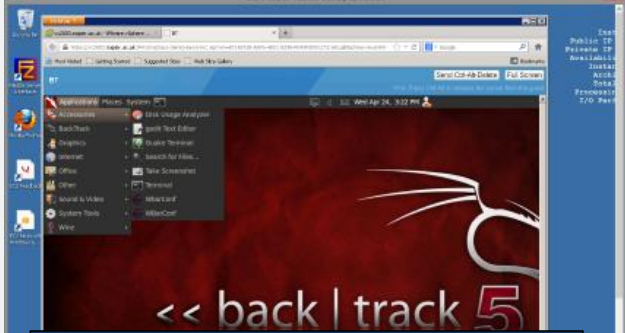


Fun Tests

Cloud Storage



On-line tests



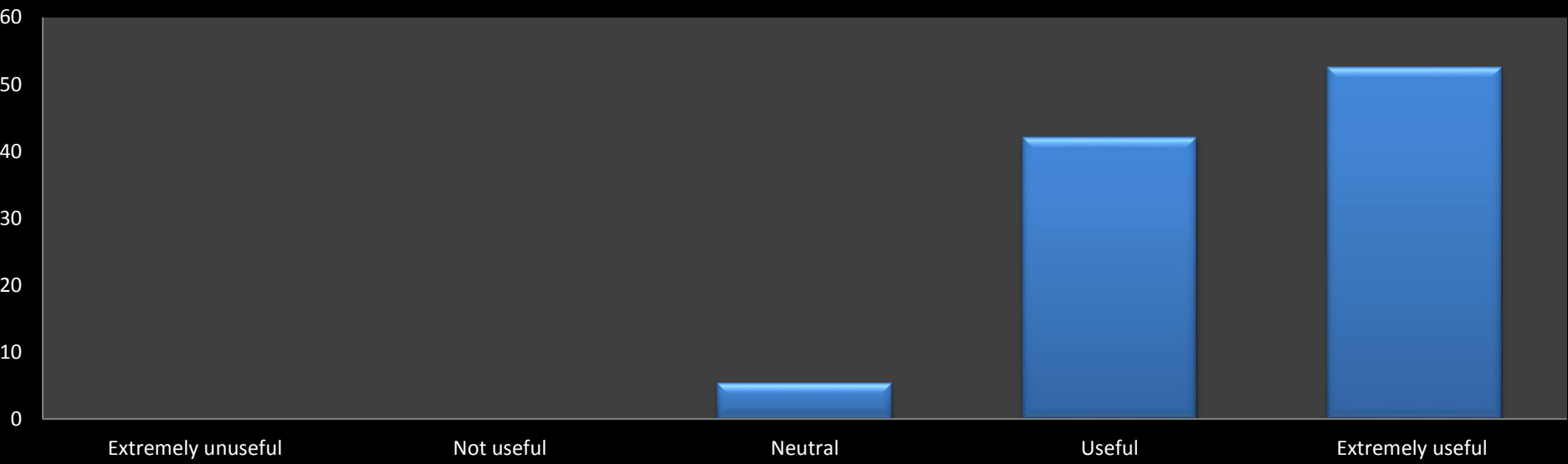
Cloud-based teaching



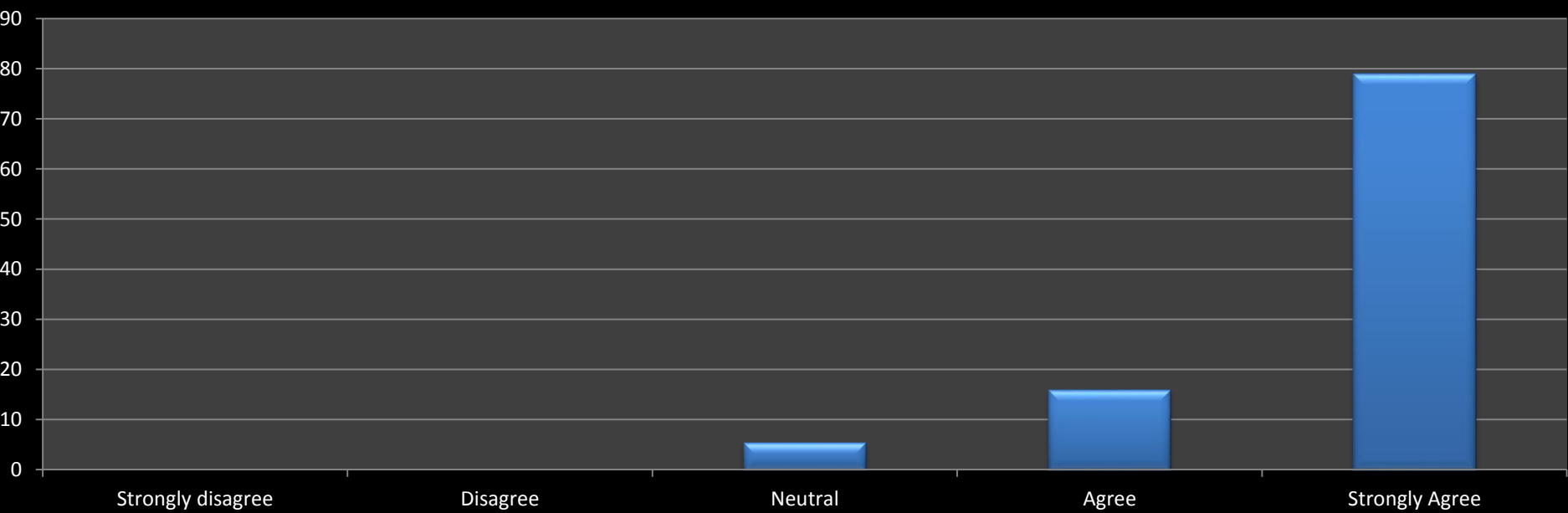
Itemized Feedback

Ever changing challenges

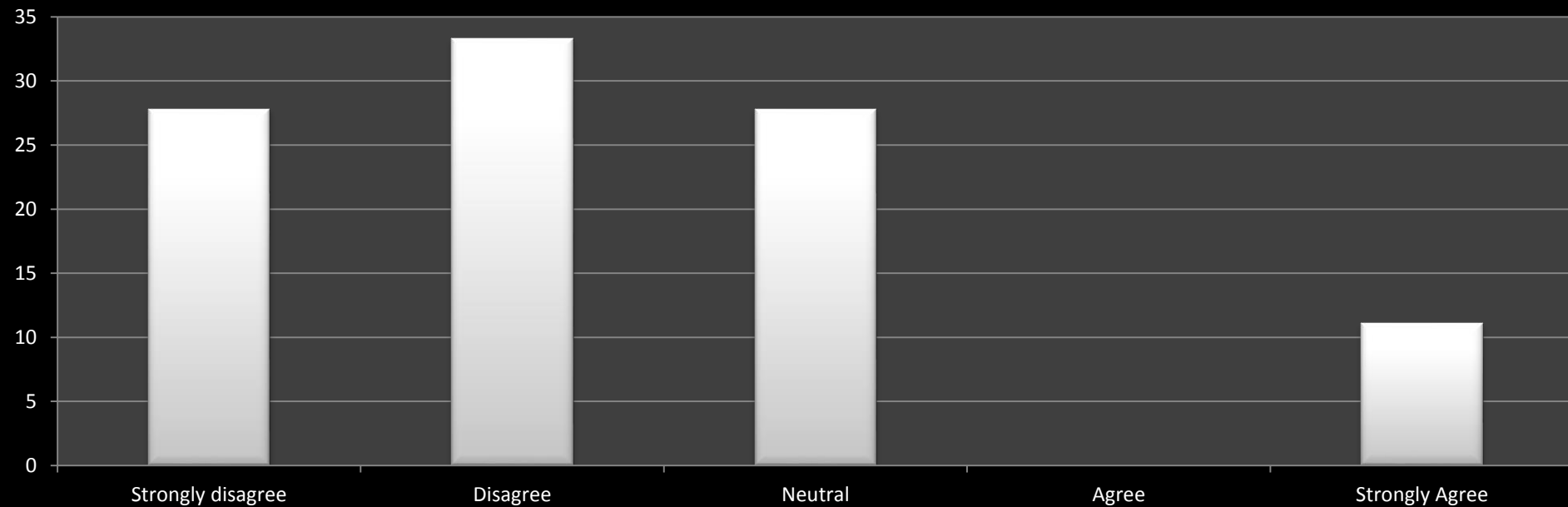
1. How useful is/were the on-line video versions of the lectures for your studies



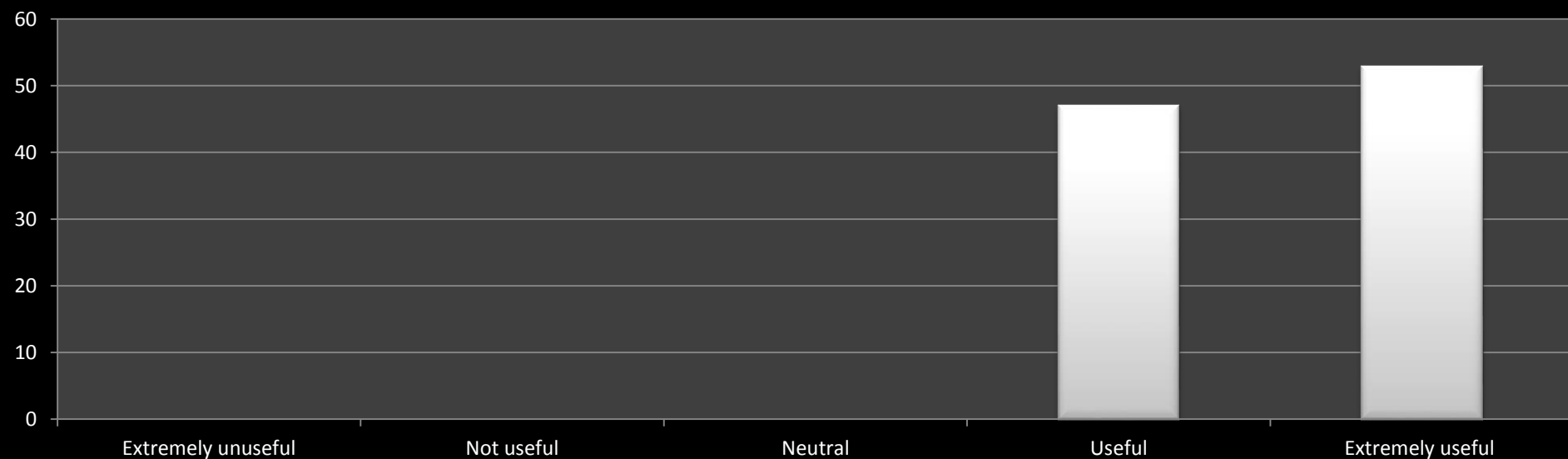
2. Do you think that all modules should have associated on-line lectures?



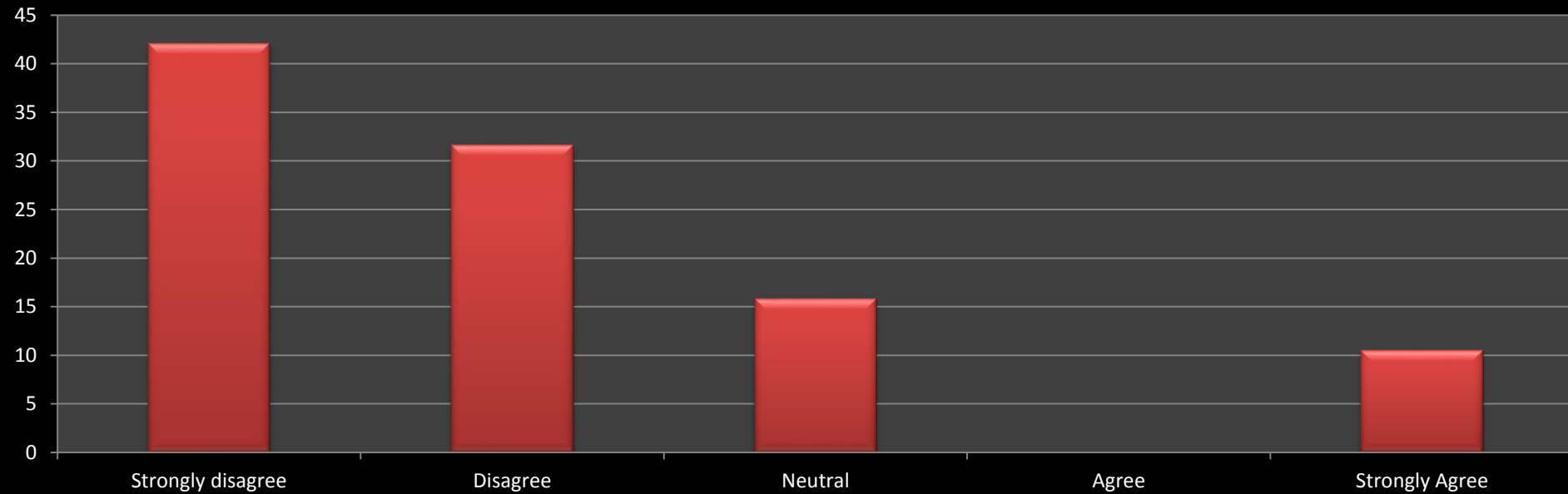
3. Should on-line lectures replace traditional lectures?



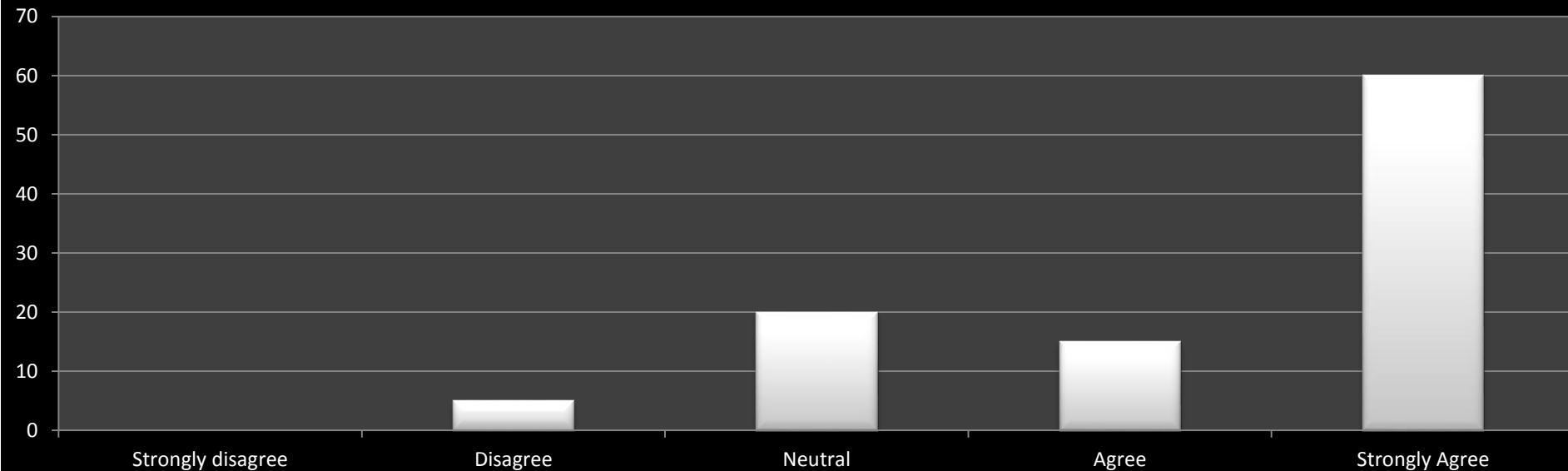
4. For guidance in performing practical work in the lab, how useful are on-line step-by-step video captures of the lab?



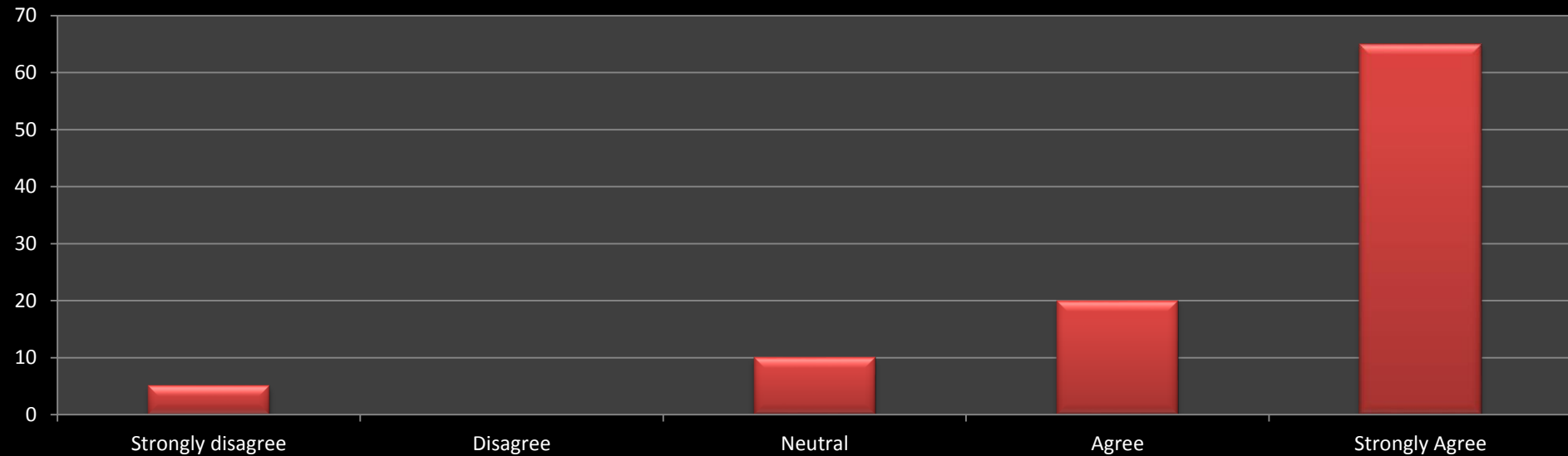
10. On-line lectures should replace traditional lectures.



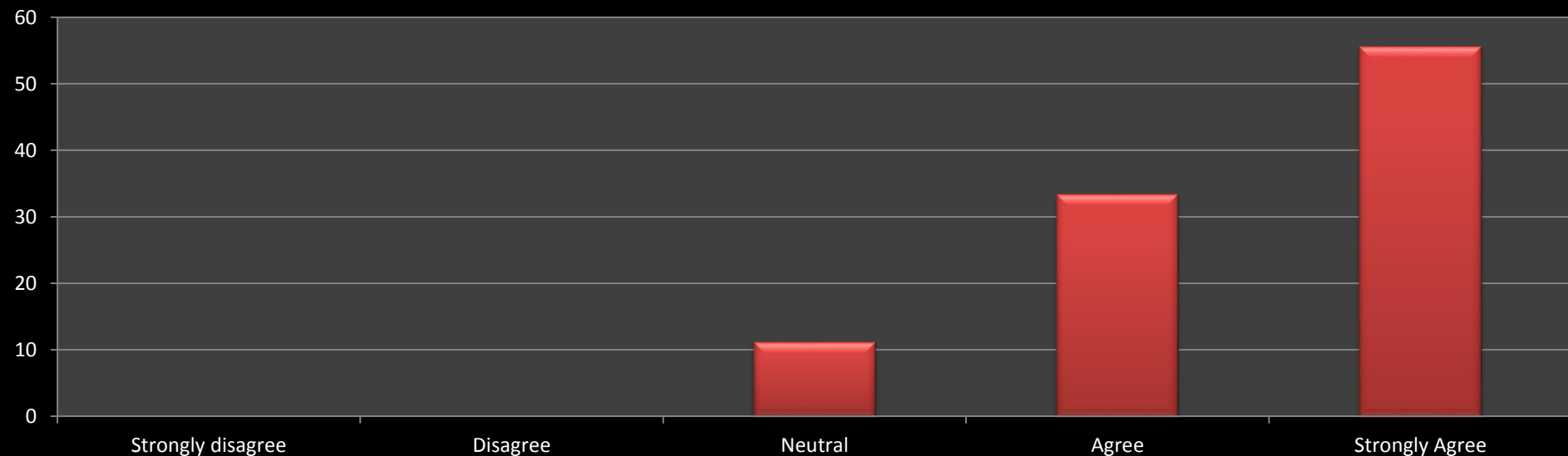
15. I believe the on-line lectures enhance the reputation of my programme/ university/ School.



13. The on-line lectures allow me to catch-up on things that I did not quite understand in the lecture.



14. I mainly use the on-line lectures to catch-up on material before an assessment.

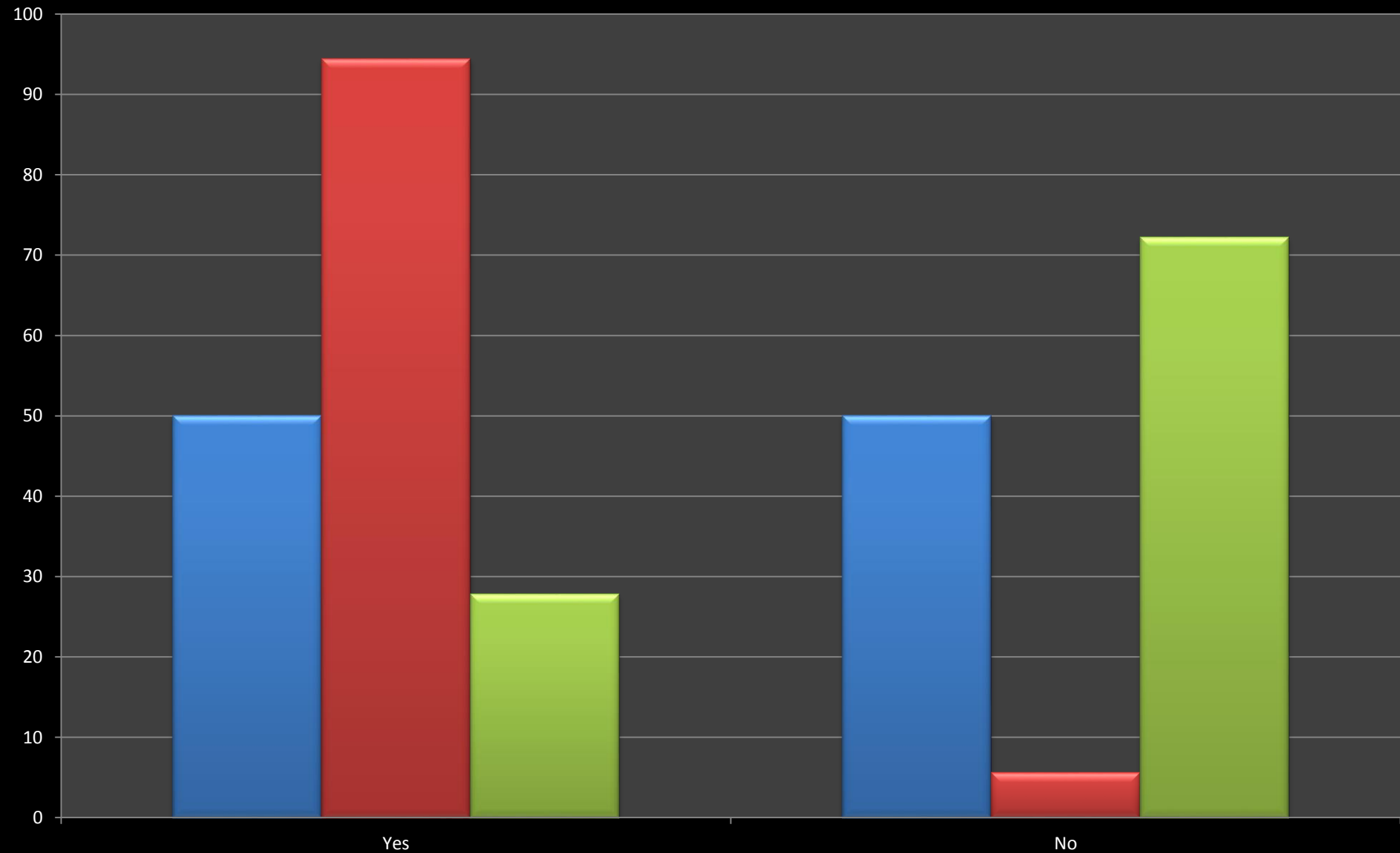


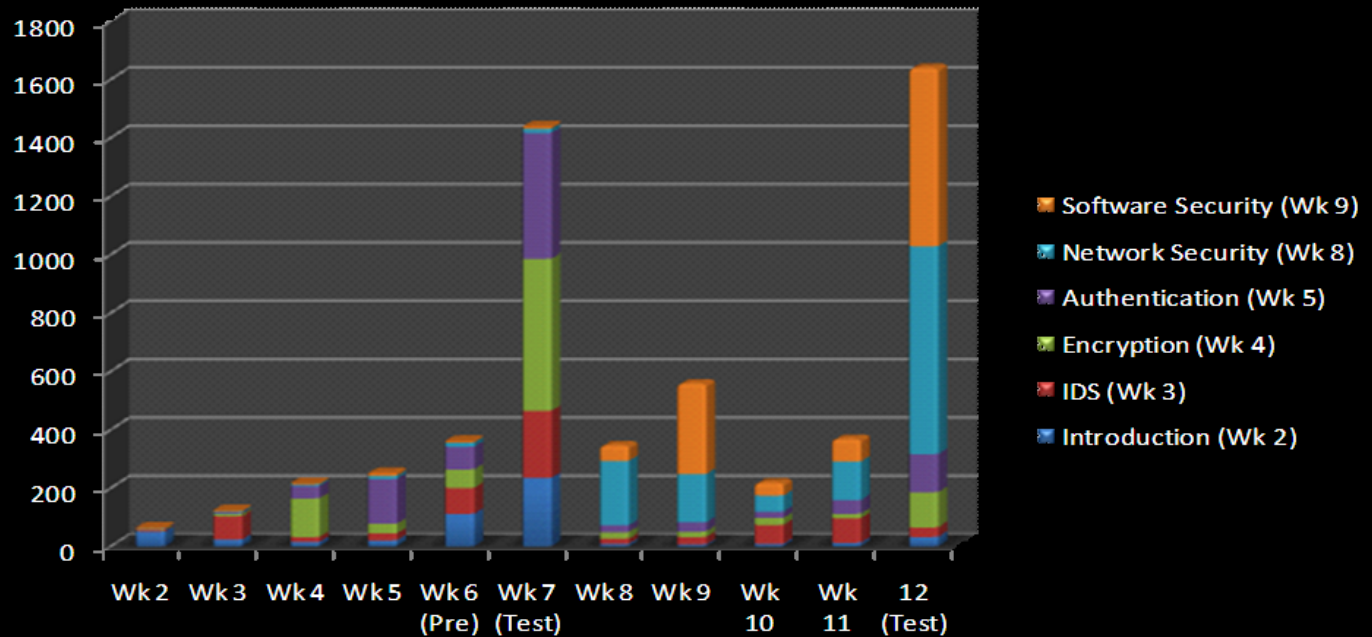
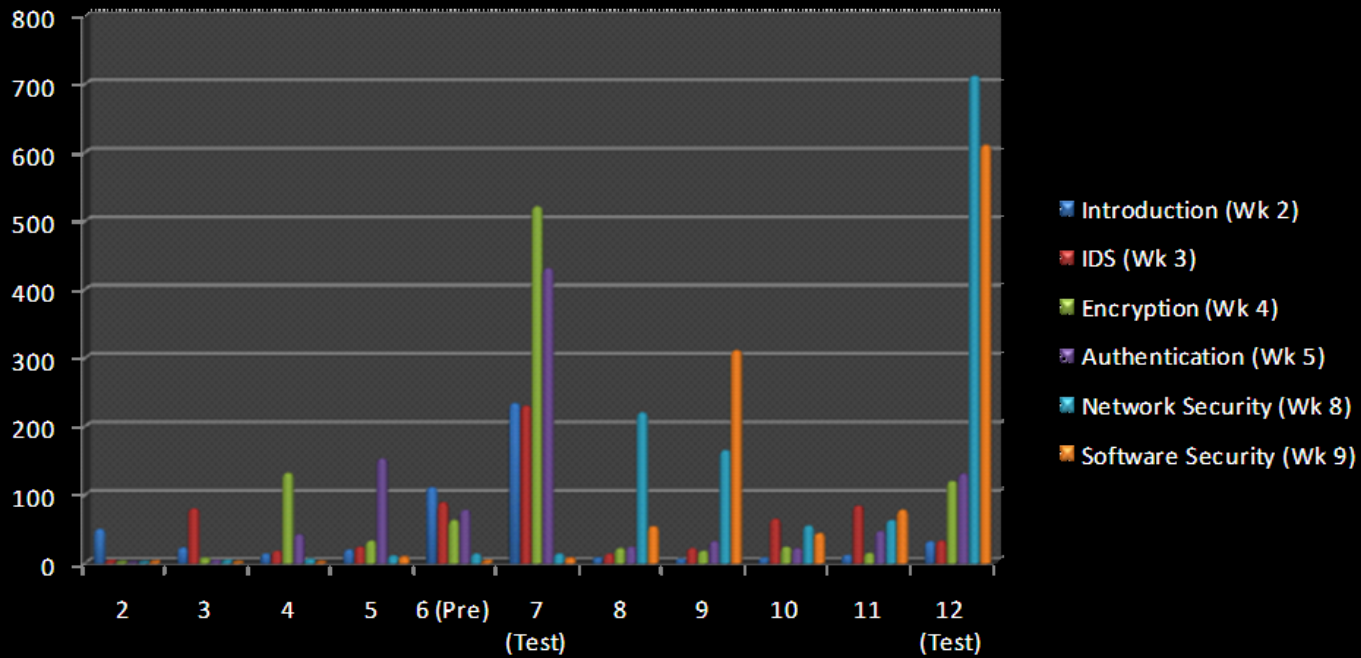
25. Did you find that you use the on-line lecture to:

- prepare before the actual lecture

- review after the actual lecture

- replace the actual lecture





Online lecture usage

Wireless - Security (HD)

Bill Buchanan · 451 videos

Channel settings

1,751

Like About Share Add to

Published on May 13, 2012
This provides an outline to wireless security, including:

- Wireless Threats (Lay
- Security Methods,
- Encryption.

ALL COMMENTS (7)



shubham goel · 1 week ago

Why did you make this video !! Now my prof is making me learn everything in this :(

Share you

3

Top comments

shubham goel · 1 week ago

Why did you make this video !! Now my prof is making me learn everything in this :(

Bill Buchanan · 6 days ago

I made it as I'm an academic and my role is to provide teaching material. My main aim was to present the material to my own students, and have shared it with others.

Bunnath Chan · 1 week ago

thank you

- Wireless Security: Beyond the Basics**
by SophosLabs
716 views
- Intro to Security and Network Forensics: Data Hiding and**
by Bill Buchanan
510 views
- 14 - Wireless LAN Security Techniques**
by techtrainingvideo
395 views

- Wireless Authentication Methods**
by Train Signal is now Pluralsight!
3,796 views
- Watch & Learn - Introduction to Wireless Networking [Tier 2]**
by hpaag
5,297 views
- How to Remove a Windows User Login Password**
by GuruBrew
377,949 views
- Как узнать пароль Wi-Fi 100%**
by assistanceTV
141,586 views

Demographics

TOP GEOGRAPHIES

- United States
- United Kingdom
- India
- Canada
- Germany



GENDER

- Male 88%
- Female 12%



Discovery

TOP PLAYBACK LOCATIONS

- YouTube watch page 87%
- Embedded player on other websites 7.6%
- Mobile devices 4.5%
- Other 1.1%



TOP TRAFFIC SOURCES

- View referrals from YouTube 64%
- Mobile apps and direct traffic 24%
- View referrals from outside YouTube 12%



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- Evaluation of On-line Material.



Stimulating Material

N5 BrightRED

Responsive Designs

Be Bright Be Ready

Welcome napier! Log Off

- Home Page
- Admin IT
- Biology
- Chemistry
- Comp. Science
- English
- French
- Geography
- Health & FT
- History
- Maths
- Modern Studies
- Physical Edu.
- Physics

Follow on Twitter

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TERMS OF USE ABOUT CONTACT ACCESSIBILITY

B-READY



The Cloud can enhance teaching ... but good teachers are the key!

N5 BrightRED

Be Bright Be Ready > Calculators

Welcome napier! Log Off

- Home Page
- Admin IT
- Biology
- Chemistry
- Comp. Science
- English
- French
- Geography
- Health & FT
- History
- Maths
- Modern Studies
- Physical Edu.
- Physics

Follow on Twitter

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Charting

Back Plot your function

Show lines

You can enter details of the line here:

Linear ($y=mx+c$) $m=2$ $c=3$ **Show**

Quad ($y=ax^2+bx+c$) $a=1$ $b=-2$ $c=1$ **Show**

Sin ($y=a \sin(bx)$) $a=10$ $b=1$ **Show**

Cos ($y=a \cos(bx)$) $a=10$ $b=1$ **Show**

Plot a graph

You can enter co-ordinates here:

My chart

interquarible Range and Boxplots

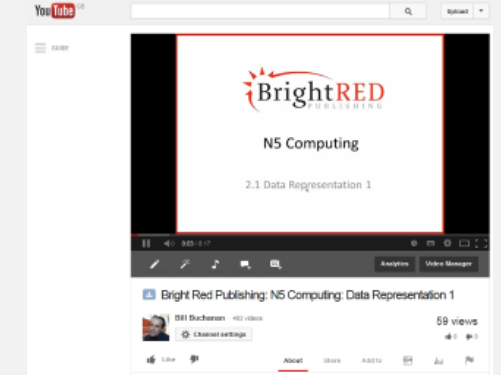
Values

Calculations

Examples

Focusing on supporting deep learning

Allow for many ways of learning and delivery mechanisms





ATOMIC STRUCTURE: THE STRUCTURE O...

[Back](#) [Home](#)

Overview

This section supports pages 14-15 of the BrightRED N5 Chemistry Study Guide which covers the Structure of the Atom. Ancient Greek philosophers originally had the idea that if something was broken down into smaller and smaller pieces eventually it would not be possible to break it down into anything simpler. At the start of the nineteenth century, the English scientist John Dalton (1776-1803) put forward atomic theory to explain his experimental observations. Dalton was the first person to use the word atom, which comes from the Greek word atomus, meaning unsplitable. Atoms are tiny particles that are present in all elements and each element in the Periodic Table has its own atomic number. The atomic number of an element is equal to the number of protons in its nucleus. When learning about the Structure of the Atom, the key topics explored are:

- The History of the Atom
- The Modern Atomic Model
- Atomic Number and Mass Number

Tests

Click a link below to take a topic test.

[The Structure of the Atom](#)

Video link

To see more about basic atomic structure, click on this link and watch the clip - [Link](#)

Learn more about the Structure of an Atom by watching this video -



Increase in test-based learning

Increasing Integration with Youtube

Increase enforcing feedback during and after tests

2.1 Data Representation 1

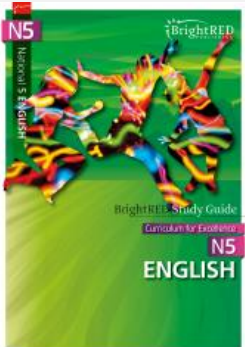
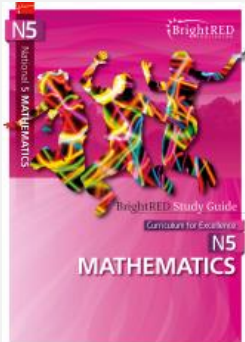
[Back](#) Click your answer, then NEXT and END when you are done to find out how you got on! ([Roll over for Help](#))

8 of 8 Prev Next End

6. What is -128 in 2's complement.

- A 01111111
- B 10111010
- C 11001110
- D 10000000
- E 11100111
- F 11111111

Ever-changing "infinite" tests



TRANSPORT ACROSS CELL MEM

[Back](#) Click your answer, then NEXT and END when you are done to find out

1 of 4 Prev Next End

1. The concentration of tissue which surrounds cells is about 1%. If liver cells were placed in a 10% sugar solution, they would...

- A Lose water and become plasmolysed
- B Gain water and become turgid
- C Lose water and shrivel out
- D Gain water and burst

If a solution is 10% sugar, this means that it is 90% water. Water moves from a high water concentration to a lower water concentration.

TRANSPORT ACROSS CELL MEMBRANES

[Back](#) [My results](#)

Score: 25% Fairly good.

Correct

Question	Your Answer	Feedback
The following graph shows the concentration of ions in a pondweed and the surrounding pond water. Which of the ions were taken into the plant by active transport?	Potassium and chloride	

Incorrect

Question	Your Answer	Feedback
Which pair of structures numbered in the diagram are correctly identified?	Phospholipid - 3, Protein - 7	
During diffusion, molecules always move...	Against a concentration gradient from low to high concentration	
The concentration of tissue which surrounds cells is about 1%. If liver cells were placed in a 10% sugar solution, they would...	Gain water and become turgid	



Interquartile Range and Boxplots

Back Enter your values

Values

You can enter values separated by commas:

Calc

Calculations

Ordered: 10.00 11.00 11.00 13.00 15.00 17.00
20.00 21.00 24.00 26.00 26.00 27.00

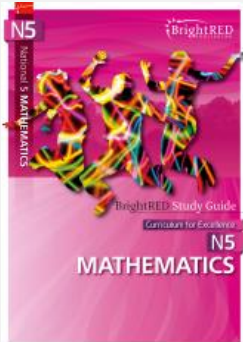
Min: 10.00
Max: 27.00
Lower Quartile (Q₁): 12.00
Median (Q₂): 18.50
Upper Quartile (Q₃): 25.00
Interquartile range (Q₃-Q₁): 13.00

Examples

- 1,2,3,4,5,6,7,8. Median=4.5. [Try](#)
- 1,2,3,4,5,6,7. Median=4. [Try](#)
- 1.09,1.26,1.05,1.43,1.00,1.15,1.25,1.03,1.19,1.36. Median=1.17. [Try](#)
- 18,23,23,26,32,36,46,56,70. Median (Q₂)=32, Q₁=46, Q₃=51. [Try](#)
- 20,25,18,26,21,35,30,26,25,20,31,18,35,30,27. Median(Q₂)=26, Q₁=21, Q₃=30. [Try](#)

Box Plot Example

Supportive environments with solutions to problems



Integration of advanced Web services (eg Language translator)

English Language Translator

Back Press the button for the translation [I love Paris in the Springtime][Can you tell me where I can purchase some coffee?][What is the capital of Scotland?][Hello (German)][Hello (Italian)]

Parameters

Enter English phrase:
Hello to the Learning Through Technology Conference. So nice to be able to present some of our ideas.

Translate

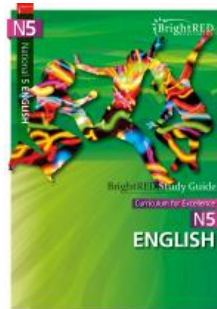
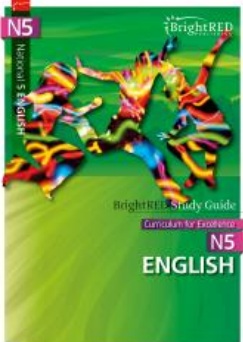
English to French French to English

Other translations to English:
German Polish Russian Italian
Spanish Danish Japanese Dutch
Norwegian Chinese Finnish Greek
Turkish

Translation

Bonjour sur l'apprentissage par le biais de conférence sur la technologie. Tellement agréable d'être en mesure de présenter certaines de nos idées.

Audio



Automated conversion of books to Web site



N5 Integration

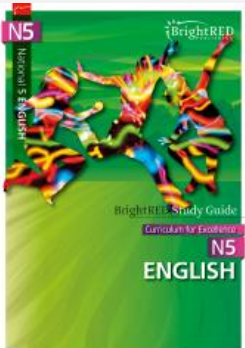
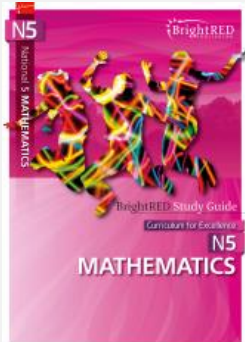
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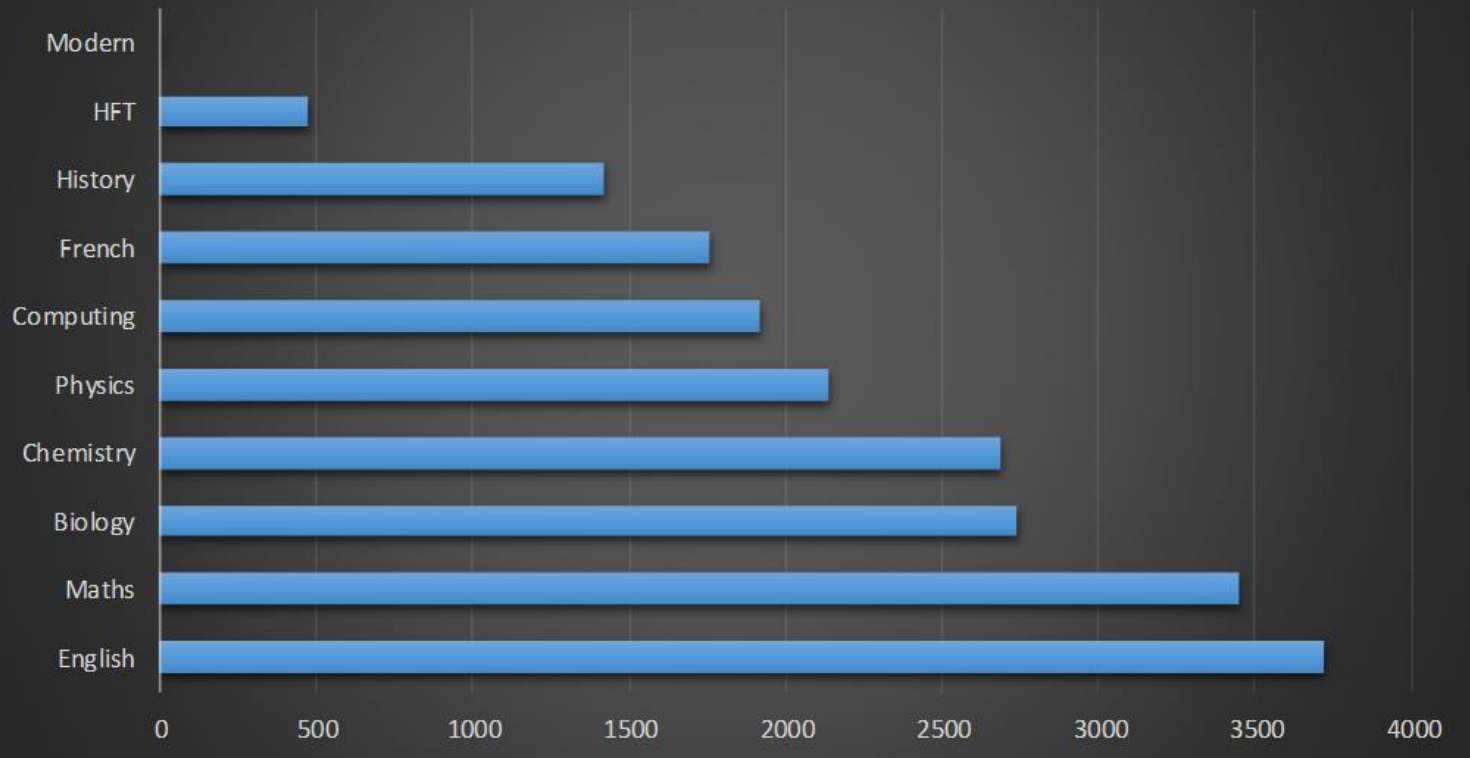


Evaluation of On-line Material

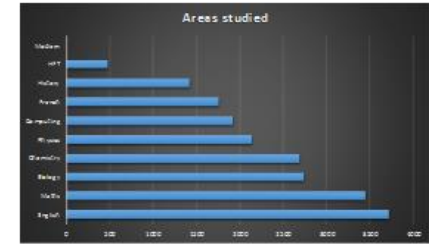
Study Areas



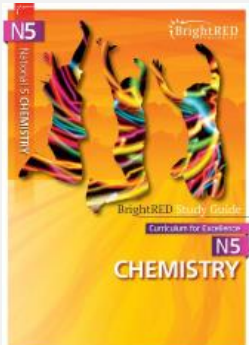
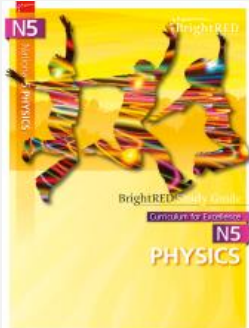
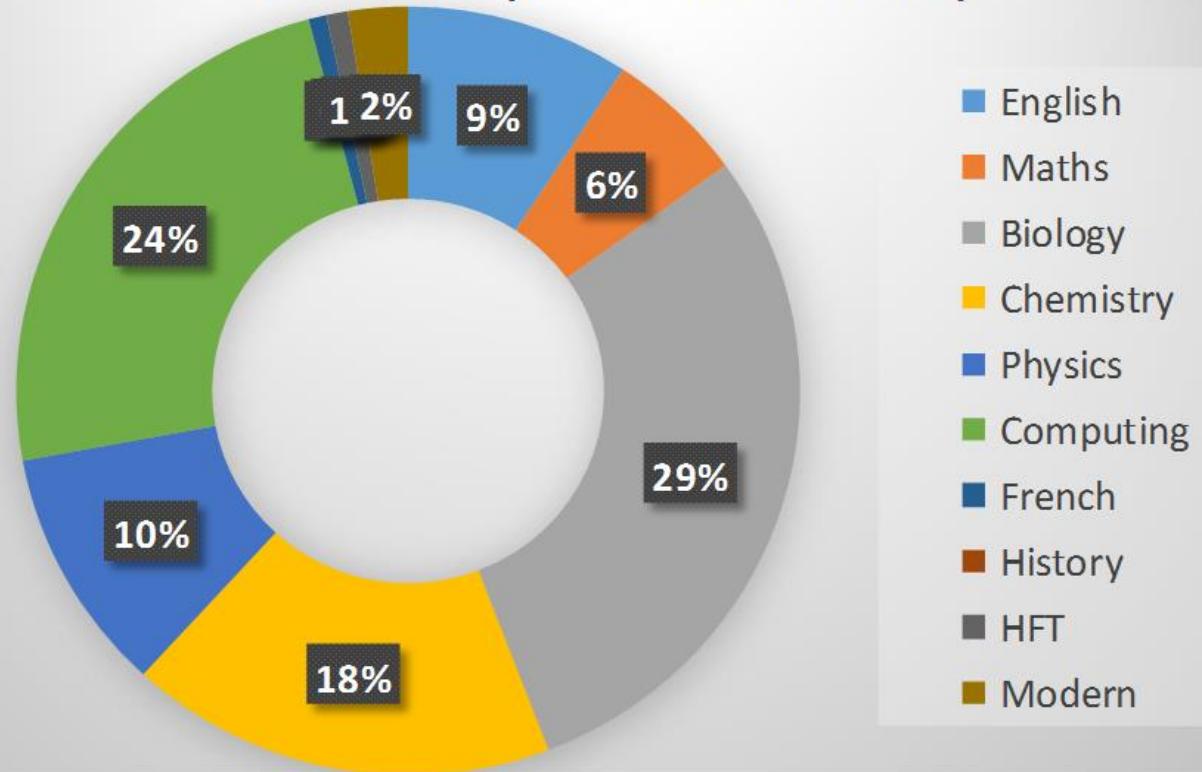
Areas studied



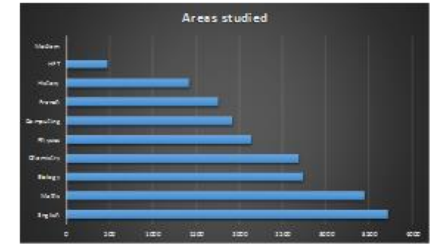
Tests Undertaken



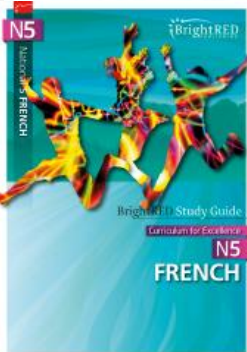
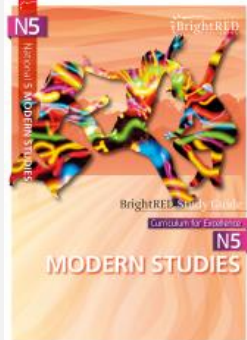
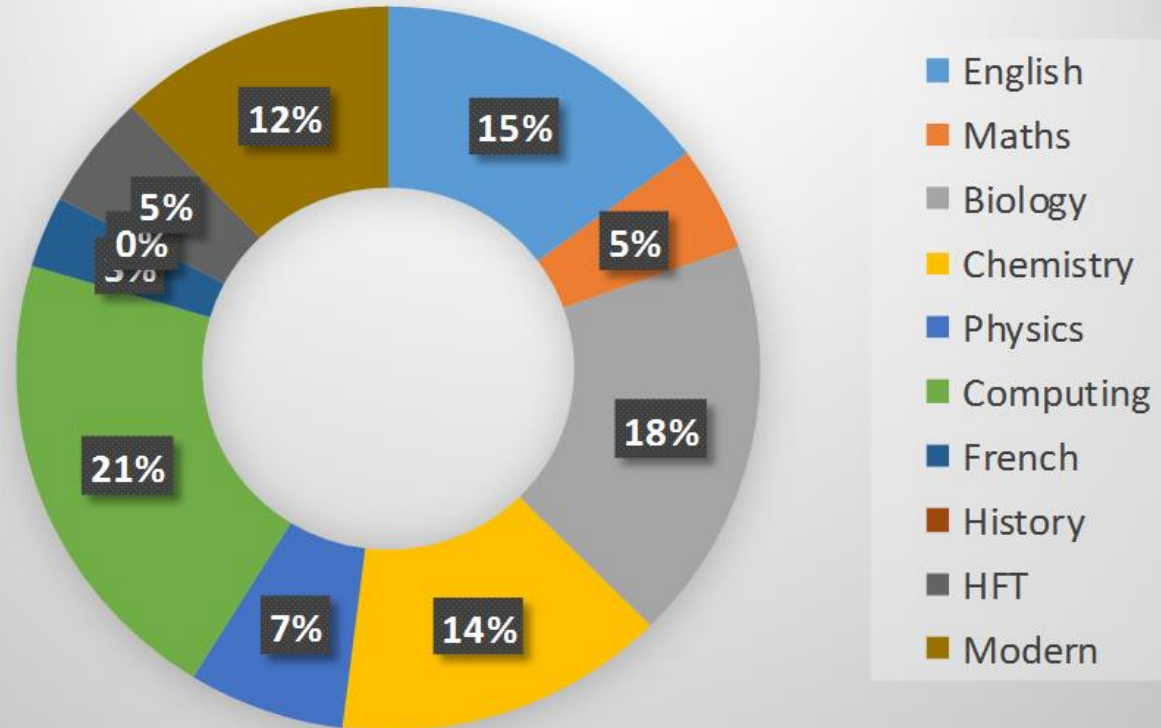
Tests Undertaken (Since creation of site)



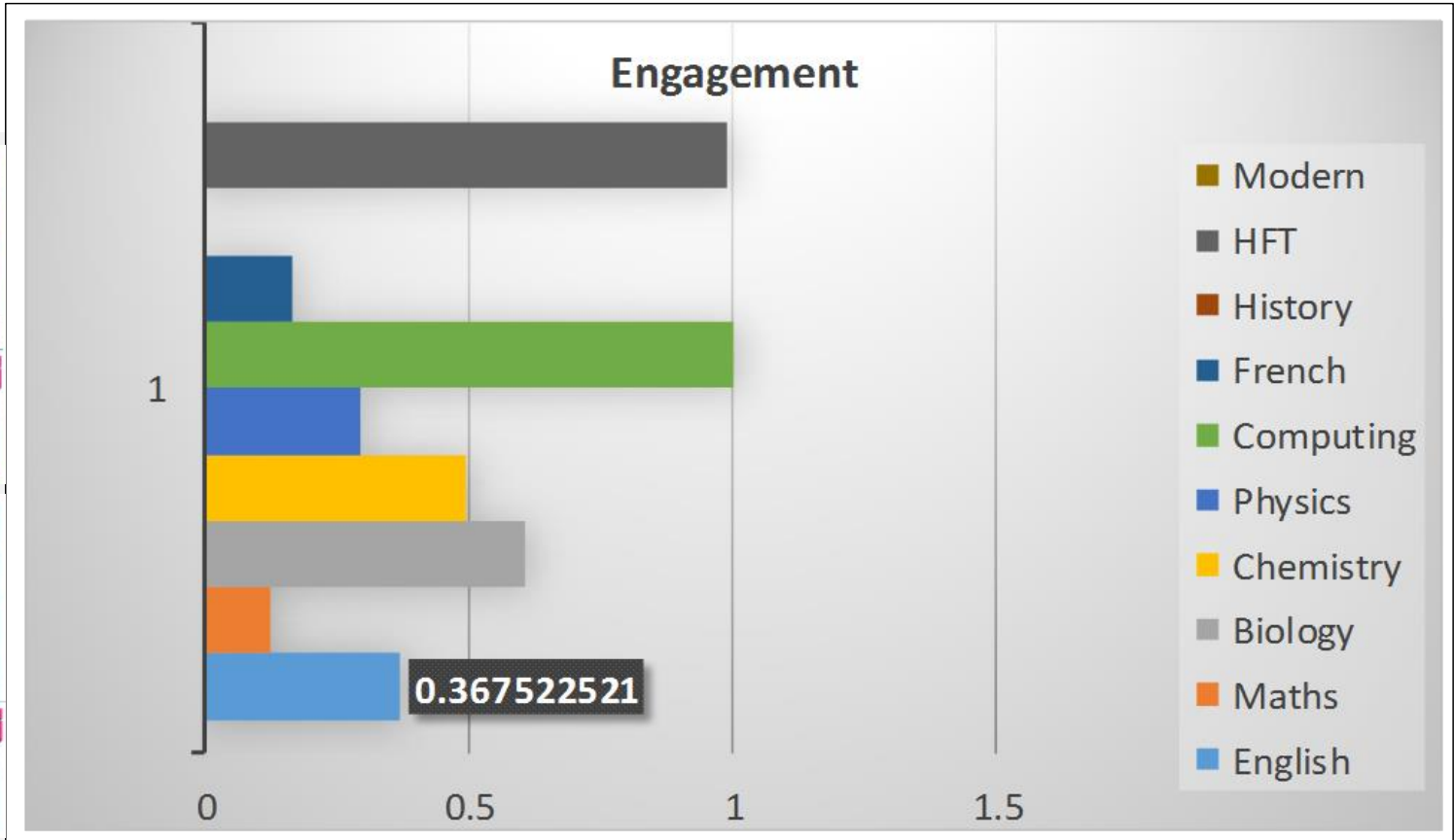
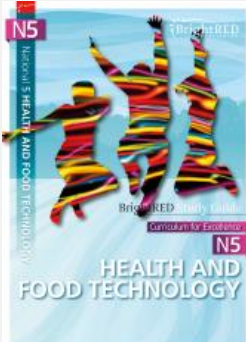
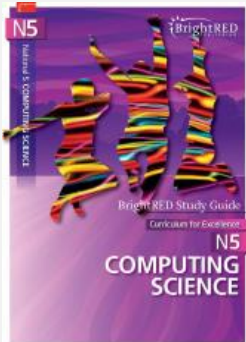
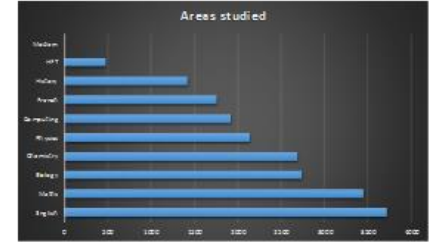
Tests Undertaken (Last two weeks)



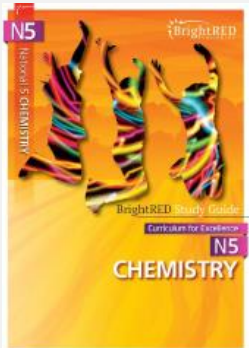
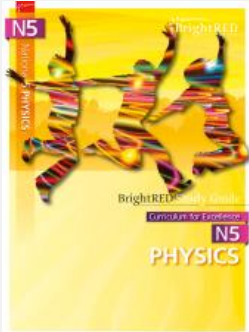
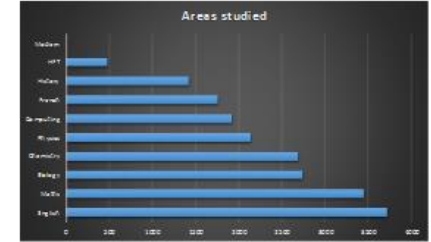
Tests Undertaken (Last two weeks)



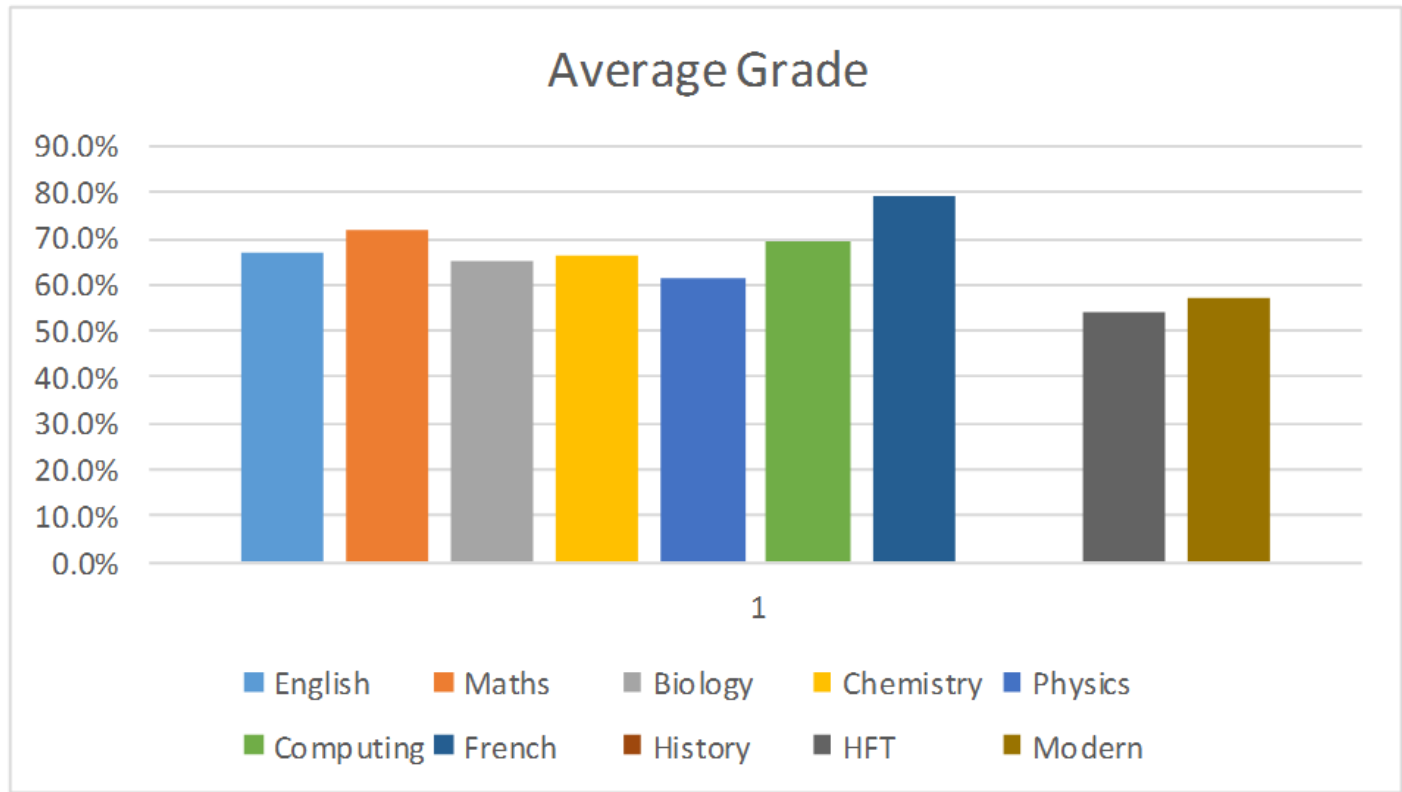
Engagement (Last two weeks)



Average Grades



Average Grade



Scores for subjects (Maths)

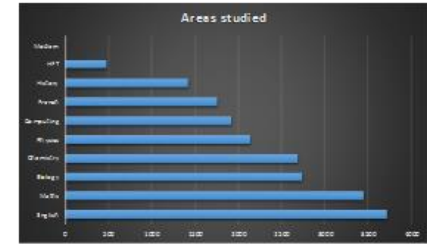


N5 BrightRED
Be Bright Be Ready

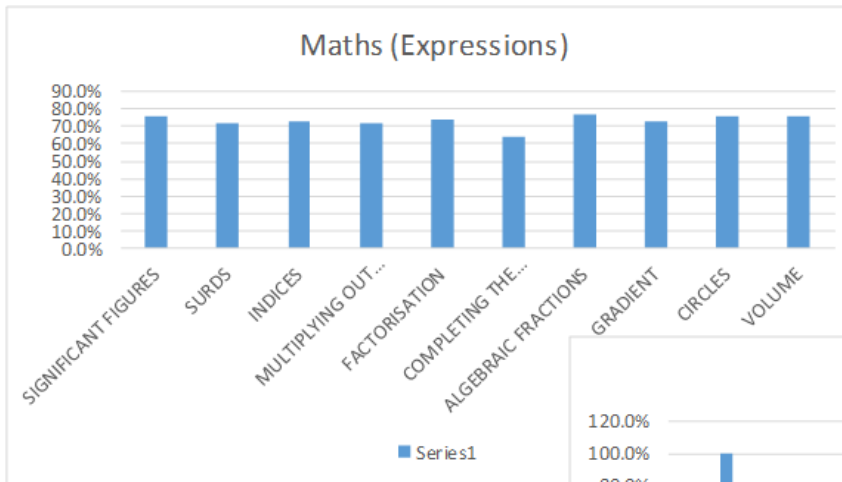
- Home Page
- About Us
- Energy
- Chemistry
- Computer Science
- English
- French
- Geography
- Health & PE
- History
- Maths
- Music & Drama
- Physical Education
- Religion
- Science
- Spanish
- Visual Arts
- Wellbeing

Twitter Facebook LinkedIn

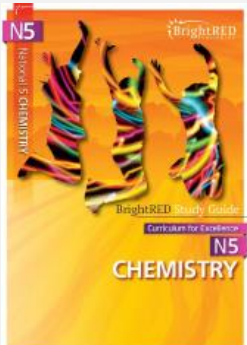
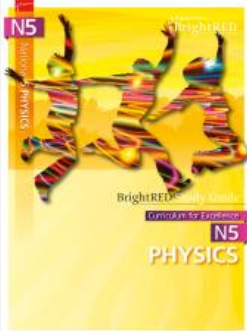
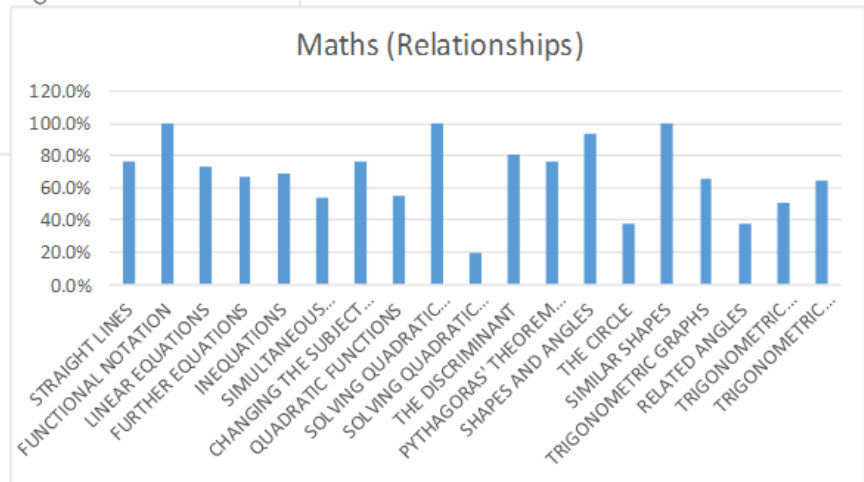
TERMS OF USE HELP CONTACT ACCESSIBILITY



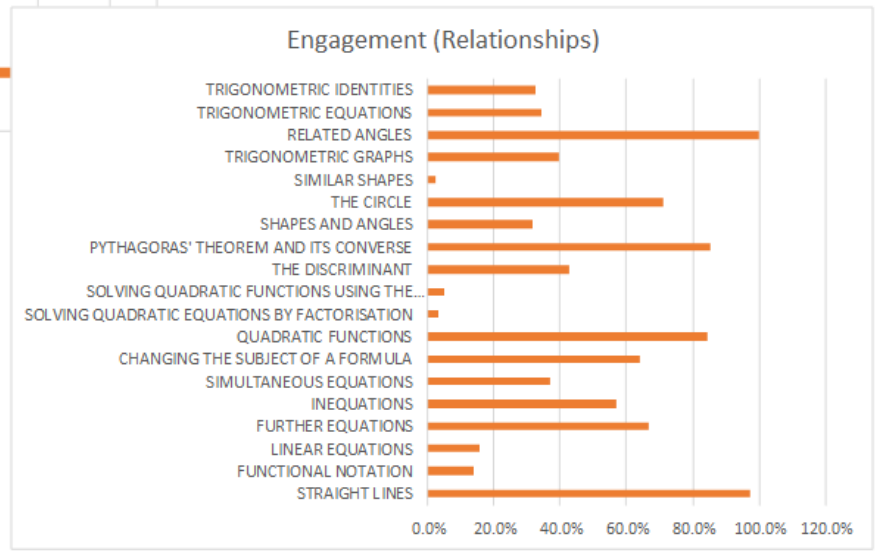
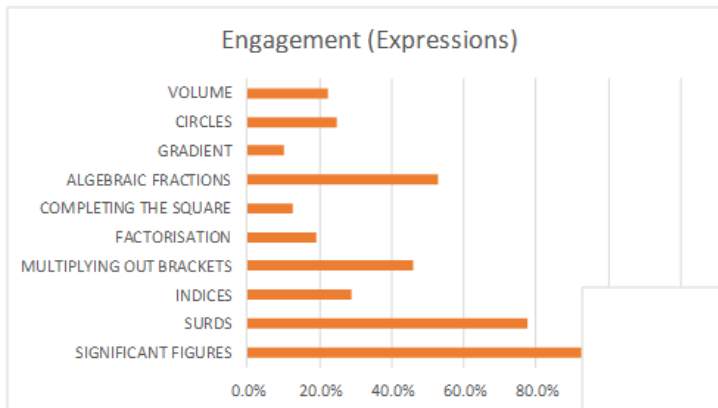
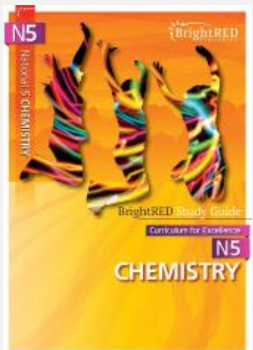
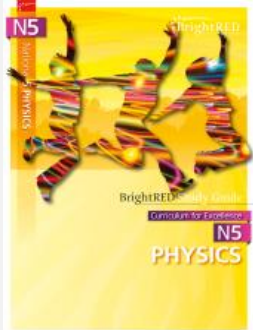
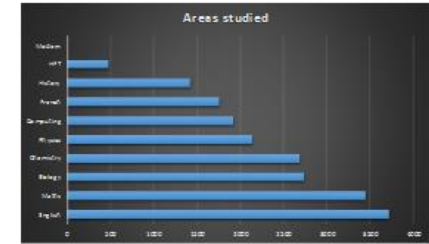
Maths (Expressions)



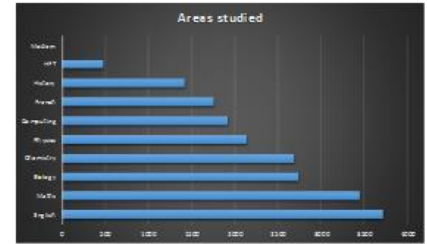
Maths (Relationships)



Engagement (Maths)



The most difficult question ...



THE CIRCLE

[Back](#) Click your answer, then NEXT and END when you are done to find out how you got on!

Graphic

4 of 6 [Prev](#) [Next](#) [End](#)

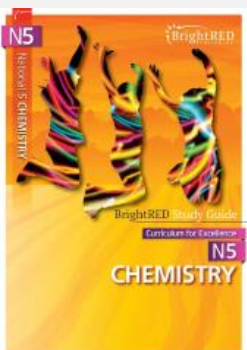
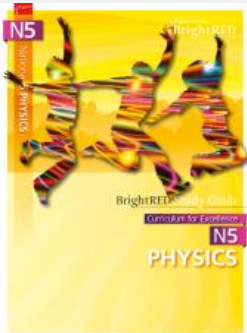
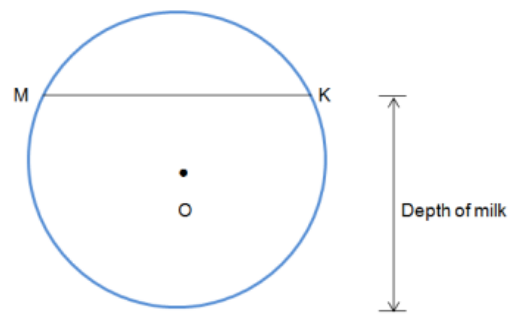
4. Milk is stored in a tank with a circular cross-section as shown below. The centre of the circle is O. MK is a chord of the circle. MK is 1.5 metres. The radius of the circle is 1.2 metres. Calculate the depth of the milk in the tank.

A 1.14 m

B 3.14 m

C 2.14 m

D 4.14 m



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Conclusions



ATOMIC STRUCTURE: THE STRUCTURE O...

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Overview

This section supports pages 14-15 of the BrightRED N5 Chemistry Study Guide which covers the Structure of the Atom. Ancient Greek philosophers originally had the idea that if something was broken down into smaller and smaller pieces eventually it would not be possible to break it down into anything simpler. At the start of the nineteenth century, the English scientist John Dalton (1776-1803) put forward atomic theory to explain his experimental observations. Dalton was the first person to use the word atom, which comes from the Greek word atomus, meaning unsplitable. Atoms are tiny particles that are present in all elements and each element in the Periodic Table has its own atomic number. The atomic number of an element is equal to the number of protons in its nucleus. When learning about the Structure of the Atom, the key topics explored are:

- The History of the Atom
- The Modern Atomic Model
- Atomic Number and Mass Number

Tests

Click a link below to take a topic test.

[The Structure of the Atom](#)

Video link

To see more about basic atomic structure, click on this link and watch the clip - [Link](#)

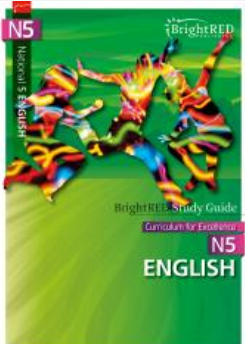
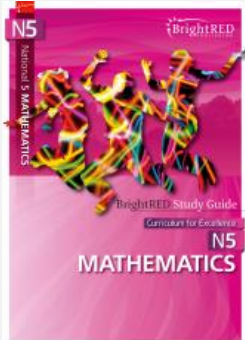
Learn more about the Structure of an Atom by watching this video -



Increase in test-based learning

Increasing Integration with Youtube

Increase enforcing feedback during and after tests



TRANSPORT ACROSS CELL MEMBRANES

[Back](#) Click your answer, then NEXT and END when you are done to find out

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1. The concentration of tissue which surrounds cells is about 1%. If liver cells were placed in a 10% sugar solution, they would...

- A Lose water and become plasmolysed
- B Gain water and become turgid
- C Lose water and shrivel out
- D Gain water and burst

If a solution is 10% sugar, this means that it is 90% water. Water moves from a high water concentration to a lower water concentration.

TRANSPORT ACROSS CELL MEMBRANES

[Back](#) [My results](#)

Score: 25% Fairly good.

Correct

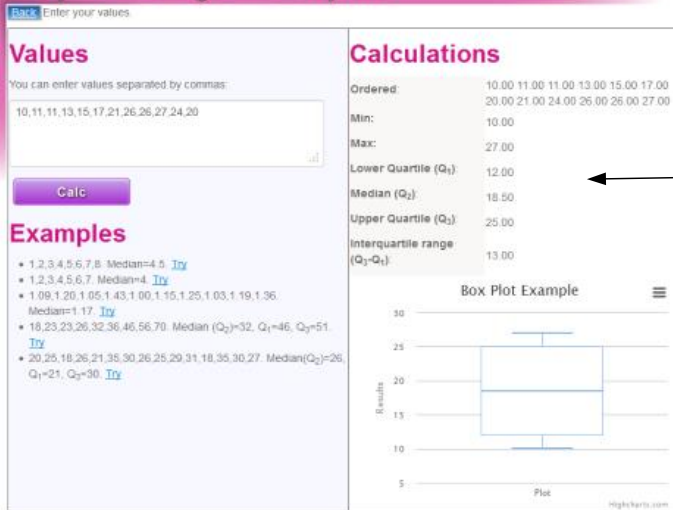
Question	Your Answer	Feedback
The following graph shows the concentration of ions in a pondweed and the surrounding pond water. Which of the ions were taken into the plant by active transport?	Potassium and chloride	

Incorrect

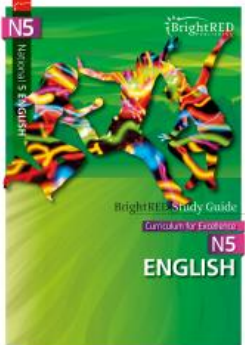
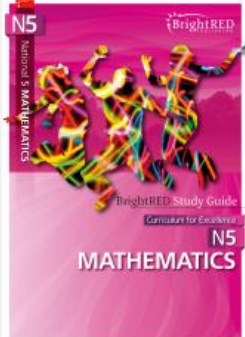
Question	Your Answer	Feedback
Which pair of structures numbered in the diagram are correctly identified?	Phospholipid - 3, Protein - 7	
During diffusion, molecules always move...	Against a concentration gradient from low to high concentration	
The concentration of tissue which surrounds cells is about 1%. If liver cells were placed in a 10% sugar solution, they would...	Gain water and become turgid	



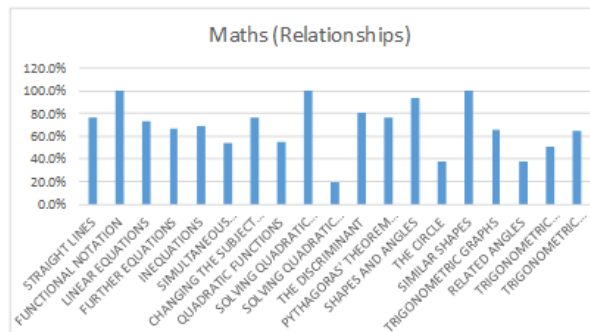
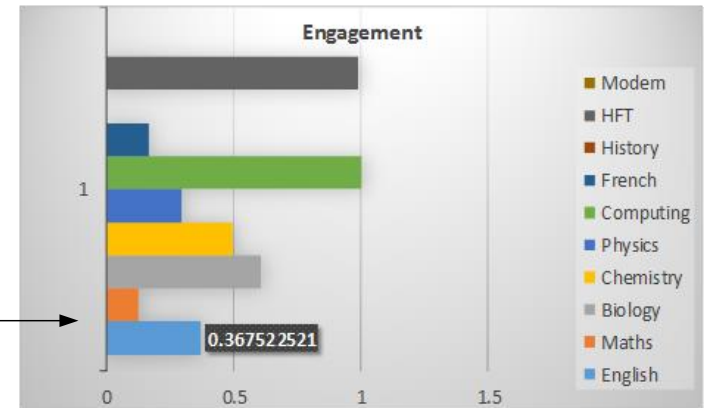
Interquartile Range and Boxplots



Supportive environments with solutions to problems



Knowledge-based subjects have more engagement on testing.
Strong: Modern Studies, HFT, Computing, Biology, and Chemistry.
Weaker: Maths, Physics.



Engagement and grades can vary widely in subjects

N5 Integration

Motivation: Creating engaging and stimulating Web based material

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Prof Bill Buchanan, School of Computing

Twitter: @billatnapier

Web: <http://asecuritysite.com>

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