

Year 7 Parent Support Evening

Science

Becky Owen
Deputy Leader in Science, KS3 Leader



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Leadership in Science

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About us...

- 14 specialist science teachers.
- 7 lessons a fortnight.
- Differentiated Scheme of work.
- For our science enthusiastic students, we have
 - **Science Club**, every week after school on **Tuesday in G09S**.
 - **STEM Club** every week after school on **Wednesday**



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Themes covered in KS3

Biology	Chemistry	Physics
<ul style="list-style-type: none">• Cells• Organ systems• Reproduction• Ecosystems• Health & disease• Bioenergetics	<ul style="list-style-type: none">• Atoms & bonding• Periodic table• Chemical reactions• Reactivity• Salts• Materials & calculations	<ul style="list-style-type: none">• Energy & states• Forces & motion• Electricity• Waves• Space• Radiation



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How we track attainment?

- **1 hour Assessment** once a term that assesses all content covered to date.
- Following each assessment your son/daughter will be given **formative feedback**/ targets explaining what they need to do to improve and further progress.
- Teachers will also use other types of assessment e.g. practical investigations, presentations, **end of topic quizzes** and **'assessment for learning'** tasks to assess the progress that your son/daughter is making.
- **Homework** will also be set at the end of each topic, marked by teacher and targets set to help them progress further.



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How can you help your child?

- **Pen, pencil, ruler and calculator every day.**
- Coloured pens or highlighters
- **Homework** – help them with spellings, definitions and equations
- Go through **content tick lists** with them so you can identify areas where they are struggling.
- Encourage them to **read around the topics** that they are covering in class-this can be done using the internet, books, magazines and by **watching documentaries** on TV e.g. visit Science section of BBC website
- **Key Stage three BBC Bite size** clips, revision materials, tests.
- You tube clips

All Available on the VLE



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Content tick lists

Target	<u>Lab Safety</u>	In class	DIRT
1	Identify key hazards in a science lab		
2	Describe how to reduce the risk of the key hazards in a science lab		
3	Name the key rules when working in a science lab		
4	Identify and draw key equipment/ apparatus		
5	Describe when to use key equipment/apparatus		
6	Describe the parts of a Bunsen burner and how to use one safely		
7	Describe how to safely clear away hot equipment such as a tripod, gauze and Bunsen burner		
Target	<u>Atoms & Bonding</u>	In class	DIRT
8	Draw and label a diagram of the atom		
9	State the relative mass & relative charge of each sub-atomic particles		
10	Calculate number of protons, electrons and neutrons for first 20 elements.		
11	State maximum number of electrons on the first 4 energy shells/levels		
12	Draw and write electron configuration for first 20 elements		
13	Define the terms element, compound and mixture		
14	Identify substances as an element compound or mixture from particle diagrams		
15	Define the terms solute, solvent, solution, soluble, insoluble		
16	Describe the method for to separate a mixture by filtration		
17	Describe the method for to separate a mixture by distillation		
18	Describe the method for to separate a mixture by chromatography		
19	Identify which separating technique should be used for a named mixture		
20	Identify the number of and which substances are present in a mixture from a chromatogram		



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Homework

DIRT

Achieved (20) Target for B1 = T8

T8) Firstly, a scientist would extract the gene from the bacterium, that specialises in producing toxins, using an enzyme to do so. This gene would then be placed into the maize plant, giving it the ability to produce the toxin too. The maize would then be planted and would sexually reproduce, creating more plants with the same ability.

how? link to the use of enzymes

The advantages of using this genetically modified crop is that it would successfully keep pests from eating the maize. It would also not regularly need to be replanted (eg sprayed with pesticides). However, the disadvantages are that it would not only kill the one type of pest that eat the plant but all insects. Secondly the toxin could potentially harm or make somebody unwell if they ate the crop, therefore I think that genetically modifying crops to produce toxins is very bad. Instead, I think farmers should use pesticides that kill only one type of insect - that destroys the crops and one that could not potentially harm humans.

Targets for B2 = T1, T6

T1) The product of protein digestion is amino acids. Pepsin is produced in the ~~small intestine~~ and the stomach (where the pH is around 2) because it works best in acidic conditions with an extremely low pH.

pancreas + small intestine → pH is alkali due to bile →

Directed
Improvement and
Reflection
Time



Homework

- Set weekly by class teacher.
- Available on connect system
- Includes:
 - Spellings
 - Definitions
 - Equations
 - Content
 - Targets to improve



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Homework

Name: _____ Due: _____

Year 7 - Atoms and bonding

Target: _____

Questions:

- For the three elements below, give the chemical symbol as well as the number of protons, neutrons and electrons:

Oxygen -	Symbol.....	Protons.....	Neutrons.....	Electrons.....	(2)
Magnesium -	Symbol.....	Protons.....	Neutrons.....	Electrons.....	(2)
Sodium -	Symbol.....	Protons.....	Neutrons.....	Electrons.....	(2)
- Complete the table below: (3)

Name of subatomic particle	Mass	Charge	Found where?
Proton			
Neutron			
Electron			
- Draw the electron configuration for: (2)

sodium	chlorine
- Is Mg an element or a compound? Why? (2)

.....
- Is sulfur dioxide an element or compound? Why? (2)

.....
- How many atoms and elements does CO_2 contain? (1)

Atoms..... elements.....
- Complete the word equation (1)

zinc + oxygen \rightarrow

Name: _____ Due: _____

Link back Questions:

- What do these symbols mean? A. B. C. (3)

A. _____ B. _____ C. _____
- For the following scenarios, write down the appropriate apparatus to use: (1)
 - Measuring a volume of water: _____
 - Used with a tripod to place beakers on: _____
 - Used to heat small quantities over a Bunsen: _____

Required practical Questions:

Using information from the diagram above:

- Give the colour of an ink which contains only one dye. (1)
- Give the colour of an ink which contains three dyes. (1)

The purple ink is a mixture of the red and blue inks.
 (iii) On the diagram above, draw the results you would expect from purple ink. (1)

Q4) What would be the colour of the spot labelled S? (1)

Knowledge Organiser Keywords & definitions:

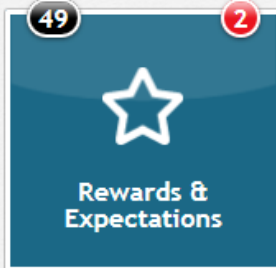
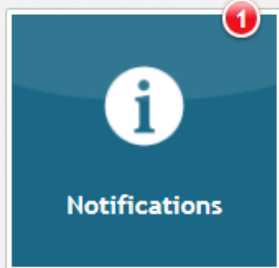
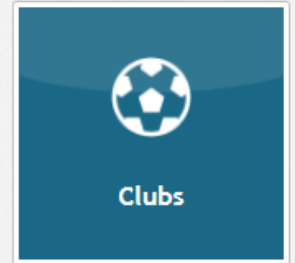
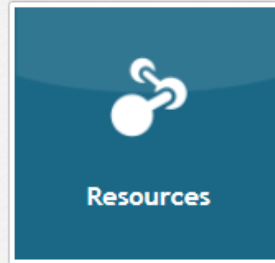
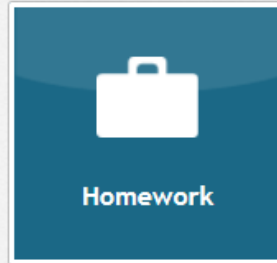
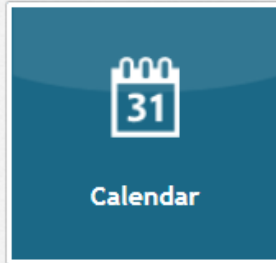
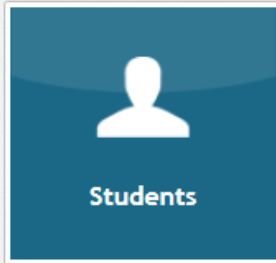
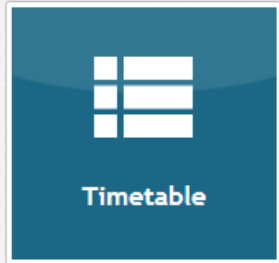
- Atom - smallest particle that makes up everything
- Element - substance containing only one type of atom
- Compound - substance containing 2 or more types of atom chemically bonded together
- Mixture - substance containing 2 or more types of atom not chemically bonded together and can be separated
- Filtration - separating technique used to separate an insoluble solid from a liquid
- Distillation - separating technique used to separate liquids using a solvent and their solubility
- Solute - substance dissolved in a liquid (solvent)
- Solvent - liquid a substance is dissolved in (solute)
- Solution - mixture of a liquid (solvent) and a dissolved substance (solute)
- Soluble - is able to dissolve
- Insoluble - is not able to dissolve



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Resources & VLE



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Resources & VLE



KS4 Biology



KS4 Chemistry



KS4 Physics



Yr 7



Yr 8



yr 9



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Resources & VLE



Resources

Applied Science (GCSEF)

Yr 7



States of matter



Atoms, elements and compounds



Body systems



Cells and microscopes



Diet and nutrition



Drugs and their development



Earth



Ecosystems



Electrical Circuits



Generating electricity



Health and safety



Heat transfer



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Health and safety

Click on 'Menu', then 'Options', if you wish to add a description for students.

✔ This version is currently visible to other users.

Spellings and definitions:

- **Corrosive:** corrosive chemicals can cause damage to metals as well as skin and eyes
- **Flammable:** flammable substances catch fire and burn easily
- **Apparatus:** equipment we use in a laboratory
- **Independent variable:** the variable that is changed in an investigation
- **Dependent variable:** the results collected in an investigation
- **Control variable:** a variable that is kept the same so that the experiment is a fair test
- **Accuracy:** how close a measurement is to the true value
- **Precision:** precise measurements are close to the mean value
- **Repeatability:** where repeat tests of the investigation give the same pattern of results
- **Reproducibility:** where other people doing the investigation have the same pattern of results



1

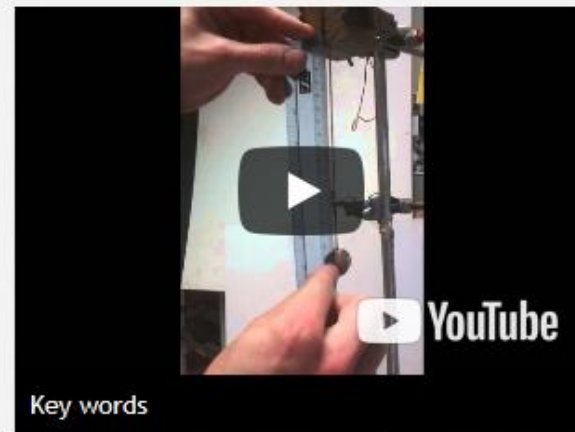


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Safety And How Science Works homework 248 KB

DOWNLOAD



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