

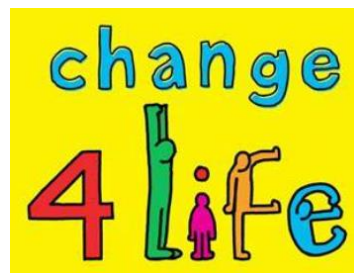
Year 6 – Autumn 2 – 'Humans and Change'

I can present my findings about the effects of drugs and alcohol on the body.

NC Science – 'Animals including humans'

Pupils should be taught to:

- identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
- recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
- describe the ways in which nutrients and water are transported within animals, including humans



I can discuss the impact of sugar on our bodies.

I can investigate the effects of drugs and alcohol on the human body.

Play 'myth or fact' in teams to explore the truths and myths about the effects of drugs and alcohol. Discuss the answers and explain that drugs are substances that cause chemical reactions in the body. Get chn to match the definitions to the drug types: stimulants, hallucinogens, analgesics and depressants (see resource) and share, looking at the long term effects of each.

Research: Chn to investigate the effects of drugs (incl: alcohol and tobacco) on the body, using the recommended reliable websites. Explain that this is to help inform the content of their advertising campaign.

Drugs advert: Chn to create an advertising campaign in the form of a photomontage to raise awareness of the impact that drugs have on the body

The message is entirely up to each gp but it must be a message that incorporates the 'science' of drugs in the form of a slogan (e.g. "just one couldn't hurt... drugs can kill").

Show chn examples to help stimulate their own ideas. They can also use the images provided or find more of their own (in a safe image search) to make their advert.

Look at chn's adverts and discuss their impact (both visually and the message portrayed). Discuss how to deal with pressure or tricky situations when it comes to drugs

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I can recognise the impact of diet, exercise, drugs and lifestyle on the human body

Share food diaries from the week. Do we think they're healthy? What do we think a healthy diet looks like/includes?

<http://www.bbc.co.uk/programmes/articles/1yV5MBtc2Y6pOSWYgR2ly2/what-should-i-be-eating-drinking>

What should I be eating/drinking? Now categorise the food diaries on their tables from most-least healthy and justify why. How much exercise do you think we should do per week? Share results. Show

<http://www.nhs.uk/Livewell/fitness/Pages/physical-activity-guidelines-for-young-people.aspx#moderate>

NHS guidelines. What surprises them? Re analyse their food/exercise diaries. What simple change could they make to improve their lifestyle.

On each table put the following packaging: can of coke, dairy milk chocolate, Haribo, biscuit wrapper, ketchup, beans and energy drink.

PREDICT how much sugar is in each of the items using sugar cubes. Record predictions on a graph in their Science books.

Use the 'Change for Life' app on ipads to scan the labels on the items to find out the actual sugar content.

Compare results with their own. What surprised them most? Which did they get the most wrong?



I can describe the ways in which nutrients and water are transported within animals, including humans

Investigation

Recap previous lesson predictions. Set up jelly snake investigation day before conducting skittle investigation (needs to be left for 24 hours to see results).

PLAN using the Ps - equipment/method/fair test. Pour 100ml of water onto plate of skittles. Observe results. Write down in planning books what they see.

PRESENT results/observations. What process does this represent within our bodies?

Link to how nutrients are absorbed in our bodies. Osmosis happens in small intestines-absorbs nutrients we need.



I can explore the differences between osmosis and diffusion

Watch video to describe difference between osmosis and diffusion.

Chn only need to know that it is the movement of molecules from high to low concentration (osmosis is exactly this but through a semi-permanent membrane and water molecules).

Define each process and draw diagram to represent movement. Make predictions for the jelly worm/skittles experiment. Which will show diffusion? Which will show osmosis? What processes do these mirror within the context of the human body?



NC Working Scientifically (UKS2)

During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments