**Science Week**

**Year 5** Lesson plan.

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| Year group: Year 5 | | Linked career: **Midwife** | Innovation: Aftercare plan | |
| Previous learning:  ‘Animals including humans’ Y4  Describe the simple functions of the basic parts of the digestive system in humans.  Identify the different types of teeth in humans and their simple functions.  Construct and interpret a variety of food chains, identifying producers, predators and prey | | NC objective this lesson covers:  ‘Animals including humans’ Year 5   * Describe the changes as humans develop from birth to old age. | Future learning:  ‘Animals including humans’ Y6  Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.  Identify and name the main parts of the human circulatory system and describe the function of the heart, blood vessels and blood.  Describe the ways in which nutrients and water are transported within animals, including humans. | |
| Subject knowledge:  (See accompanying sheets)  Misconceptions: Babies develop in the stomach.  -the ‘rope’ of the baby develops last.  -The 6 stages of a human can be placed in a circle to create a human lifecycle. | | Working Scientifically and enquiry types:   |  |  |  |  | | --- | --- | --- | --- | | Enquiry Skills | | Working Scientifically | | |  | Observation: | Screen Clipping | Observing | |  | Identifying and classifying: | Screen Clipping | Making predictions | |  | Testing: | Screen Clipping | Setting up tests | |  | Research: | Screen Clipping | Asking questions | | Screen Clipping | Pattern Seeking | Screen Clipping | Recording data | |  | | Screen Clipping | Interpreting and communicating results | | Screen Clipping | Evaluating | | Key vocabulary:  **Animals including human’s unit**-  Puberty, vocabulary linked to describe a range of sexual characteristics.  **This session**-  Toddler, adolescence, puberty, old age, adult, elderly, reproduction, neonate, foetal, birth, growth, reproduce, growth, personality, lifecycle, habitat, gestation, mammal, bird, amphibian, insect, mammary gland, nutrition, incubation, hatchling, migrate, metamorphosis, chrysalis. | |
| Previous learning or linked learning to this unit: | | | | |
| Objective | | Suggested learning (Resources can be found on Plymouth Science website for the complete unit) | | |
| Describe the changes as humans develop from birth to old age. | | Explore more lifecycles, this includes animals from different countries.  Explore Engage Extend- Growth and development of humans unit of work  [WOW science- interactive map of the body](https://wowscience.co.uk/resource/innerbody/)  [WOW science- interactive tshirt](https://wowscience.co.uk/resource/virtuali-tee/)  [WOW science- build a human body](https://wowscience.co.uk/resource/build-a-body-biology-systems-human/)  Puberty- linked to Sex Ed policy for individual schools. | | |
| British Science Week lesson | | | | |
| Sequence of learning. +WS | Suggested activities linked to the NC objective ‘Describe the changes as humans develop from birth to old age.’ | | | You will need: |
| 1. Lesson 1   2.  3.    4.  5.  6.  7.  8.  9.  10  11  12  13  14  15  16.  17.  18. Lesson 2  19. –  20. Lesson 3  21  22  23  24. Lesson 4  Lesson 5 | 1. Screen ClippingWatch the video clip (slide 2). Children to watch- a nice stimulus about birth of animals and survival (David Attenborough)   1- Have you heard of David Attenborough before? Who is he and what does he do? (don’t give answers as we will explore this through these lessons!)  2- What have your learnt about animals in this clip? (TTYP) What questions do you now have? (5 mins)   1. Revision of Year 4 learning- ‘what do we know about animals including humans?’ (Recap slide 3) Children to use prompts to verbalise the digestive system with their partner. (Slide 4) Label the teeth and recap on function. 2. Slide 5- Animal revision. Write out the following animals on post it notes   Stick a label to the back of each child  (Mammals: dog, whale, human, kangaroo, leopard, mouse, rabbit, gorilla, hedgehog)  (Amphibians: frog, toad, newt, salamander) (Insect: beetle, butterfly, moth, wasp, ant, ladybird, bee)  (Birds: owl, flamingo, ostrich, emu, eagle, robin, swan, goose, blackbird, peacock, penguin)  Ask children what yes/no questions might you ask, then reveal some sample questions for children to refer to.  -Use A4 cards to stick to the walls (different colours for different categories), children to stand according to their animal. Challenge any child who may be in the wrong place- discuss. (Nocturnal/diurnal, predator/prey, carnivore/herbivore/omnivore, mammal/amphibian/insect/bird.  -Children to look at the other animals in their group e.g mammal, amphibian, insect, bird and think about their similarities- why are they all in the same group? Are there any differences (odd one out?) (10-15 mins)   1. Slide 8/9- we will be focusing on how we develop from babies to old age and solving a problem from the NHS. Thank you NHS. 2. Play the ‘who am I’ clip. Can children guess the profession? (2 mins) 3. Children then watch the clip where the midwife describes her role and sets the task- ‘To create a care plan for new families’ (5 mins) 4. (Slide 12) What skills do you think you need to be a midwife? We are looking for you to demonstrate skills during this unit (refer to passports introduced in the assembly) (2 mins) 5. (slide 13) Learning objective and vocabulary. 6. The unit will start with looking at animals. Starting with famous scientists. ‘What is conservation?’ children to discuss.   ‘Conservation: **Conservation is** the care and protection of these resources so that **they** can persist for future generations. ... **Conservation** seeks the sustainable use of nature by humans, for activities such as hunting, logging, or mining, while preservation **means** protecting nature from human use.’  Then share the timeline of developments in conservation. (Taken from SOTSOG PSTT resource)   1. (Slide 16/17) What did people already know? 2. (Slide 18) What did scientists notice? Introduction of Jane Goodall. 3. (Slide 19/20) What question do you think the scientists asked? How do chimpanzees behave? 4. (Slide 21) What did the scientists do? (5-10 mins) 5. What will you do? Children need to use books, video clips and ICT to find out information about a chosen animal. (Can work in small groups with TA/ child reading out information about chosen animal and rest of children capturing the results) 6. They will use the template on slide 24 to find information. Elephant has been modelled on slide 24 and penguin on slide 25. (30-40 mins)   16. Comparing animals- children to play ‘top trumps’ with their animals. How many categories would their animal win? (10 mins)  17. Plenary- what did Jane find out? What did other scientists do? What are current scientists doing? (5 mins)  18. Recap: Compare and contract  -Children will need their animal ‘top trump’ cards.  -Children order their animals from greatest gestation period to the least  -Order animals from greatest birth weight to the least  -Order animals from greatest adult weight to the least  Order animals into the greatest amount of offspring to the least. (10 mins)  19. What are the differences in the lifecycles of a mammal, an amphibian, an insect and a bird?  -Split children into 4 groups (mammal, amphibian, insect, bird)  -Provide children with copies of slides 34-70 (specific slides to each group)  -Children to use the information to make a presentation on large paper to present to the other groups. Teacher can use the slides to share on IWB when children are presenting so all children can see clearly. (30 mins)  -Children then present.  (Slide 70) How to animals reproduce? Teacher to go through these slides. Tis will be recapped in later activity. (10 mins)   1. Critical thinking: Big question: why do we have belly buttons? Watch video clip, children discuss and offer suggestions. (5 mins) 2. Slide 81- children look at the 4 basic stages of human development. Slide 82- children to add in where (death, teenager, foetus and toddler would fit in). (5 mins) 3. Sorting activity (who? What? When? Children cut out all of the labels and match them together. Is there anything else children can add to the labels? Do children have any further questions? (20-30 mins)   23- Plenary- What will you look like when you are old? Download an aging app (FACE App for android is free). Children will have fun with this. Can children look at what has changed and what will stay the same? (10 mins)  24. (slide 86) Recap of learning objective and vocabulary.  25. Can we remember the stages of human life? Children see what they can remember then share the video. (BBC clip)  26. Collect all fruit and veg (poppy seed, grape, lemon, avocado, coconut, swede, lettuce, turnip, papaya, pumpkin. Ask children what they think the fruit and veg represents? (Foetus growth). Select children to collect the fruits and order them from smallest to biggest at the front of the classroom.  (Alternatively this can be done with cards if fruit/veg not available)  Now different children to match their label to the fruit indicating the stage of growth. Share with children this is how quickly a baby grows. (10 mins)  Screen Clipping  Screen Clipping  EXT- You could ask children to plot this on a scatter graph and explain this is what midwifes would do to monitor the growth of a new born baby and foetus) Maths link.  27- Recap of task (slide 90)  28- Start to plan what this would look like. Children to think about the categories that new parents would want to know e.g. Eating, sleeping, crying, midwife checks, developmental stages, common complaints, mental health and wellbeing support, people involved, general care. Children plan out what their project will look like e.g. Power point, app, poster. What sub categories? Children to delegate out the jobs to conduct the research. (This can include asking their parents!) (20 mins) Share next slide for examples.  Plenary- children to share their plans.  Innovation stage  Consider and Create- Children to use this time to research and put together their project. This will take the whole lesson.  (30-60 mins)  Children then think about how they present their findings back to the dentist. E.g. mood board, video, pictures, power point, letter.   * Ensure children answer the design brief.   Slide 93- Well done Year 5. | | | Presentation slides  Screen Clipping  Post it notes  Category cards  Screen Clipping  Screen Clipping  Skills passports  Screen Clipping  Screen Clipping  Screen ClippingScreen Clipping  Screen ClippingScreen ClippingScreen ClippingScreen Clipping  Poppy seed, grape, lemon, avocado, coconut, swede, lettuce, turnip, papaya, pumpkin. + labels  Or cards + labels |
| British Science Week competition:  Screen ClippingPoster competition: Your poster needs to be on ‘Innovating the future’. Inspiration can come from anywhere. These lessons or their own innovation. Entries need to be submitted by 30th April via the British Science Week online entry form. [Poster competition - British Science Week](https://www.britishscienceweek.org/plan-your-activities/poster-competition/)  What are they looking for?  -Creativity in approach- creative interpretation of the theme.  -Content- clear, accurate and informative about a STEM topic.  -Effective communication- presented and communicated in an engaging way  There will be one winner in each category. 2 runners up will go on Facebook vote to win. There are prizes to be won. (See website for full rules)  Poem: come up with an acrostic poem for INNOVATION, what comes to mind when you hear it? You could turn your poem into a jingle share on The British Association Twitter-@ScienceWeekUk use hashtag #BSW21.  Crest Award- this encourages young people to think and behave like scientists and engineers. Children complete 8 activities to achieve a Star or SuperStar Award which includes a certificate and badge. Library.crestawards.org | | British Science Week: Innovating the future ‘I’m a scientist’ activity.  Head to imascientist.org.uk for further details.  Sign up. Click ‘Meet the Scientists’ in the menu bar and read through some of the scientists’ profiles. Prepare 2-3 questions for the scientist in your chat. Sign on at the time for that scientist (see website), click chat at the top of the page to join the session. Ask your questions and chat to a scientist- they’re excited to answer your questions!  Sciencelive.net  Screen ClippingInspiringthefuture.org- helpful ideas for using volunteers. | Plymouth City Council/ Plymouth Science Hub:  Send us your work, photos, videos, research on scientists who have made life changing innovations.  Prizes to be won.   1. Find out about a scientist who has innovated something- make a gallery in your school. Send us a copy which we can display on our website Plymouth Science. 2. Send us your videos/posters as we are running our own competition where prizes can be won. 3. You could feature on our website or on the Great Science Share website.   All entries to be sent to [plymouthscienceteam@gmail.com](mailto:plymouthscienceteam@gmail.com)  Visit our website for all resources under ‘Careers Related Learning’ Plymouthsciencehub.co.uk  You can sign up for FREE, all resources are FREE.  Plymouth City Council - YouTube | |

