



This year's science week will be in line with British Science Week's theme 'Innovating for the future'. We have also linked this with a careers focus. Plymouth Local Authority have asked us to link this with health and social care due to the shortage of people having the skills, understanding or awareness of these jobs and therefore having many vacancies in Plymouth. Also to appreciate the work they do, especially during the COVID19 crisis. This will also focus on career and science skills throughout the week, where children will collect stamps as they display these different attributes.

Overarching aims of the week.

- Excite and motivate children about learning linking and embedding curriculum strong connections between education and the world of work.
- Broaden children's horizons and raise aspirations
- Help children see a clear link and purpose between their learning experience and the future
- Challenge stereotyping that children and their parents often have about jobs and the people who do them.

Science Week

We have designed the lesson packs so that they can be delivered virtually or in class (depending on lock down)

The week will start with a launch assembly (provided in the pack)

'Innovating for the future'

Power point slide 1- One item/ thing to show a different profession. Can children guess what the profession might be?

Power point slide 2- Then show pictures of people doing the jobs- ask what connects these people? HEALTHCARE

Power point slide 3- What do you think we do? (Clips of health professionals giving clues towards their job- can children guess?)

Power point slide 4- Did you know slide (linking to Tina's slide on health care vacancies In Plymouth- can adapt this to make it local to you. )

Power point slide 5- What attributes do these people need to do these jobs? (link British Science Week and career skills to passports). Introduce skills passports and children collecting skill stamps throughout the week. These will be celebrated in the end of the week assembly.

Power point slide 6- Set whole school challenge- **'During the COVID19 pandemic, everyone in the NHS has been working really hard to keep everyone safe and healthy. What can we do to help them to say a massive Thank You'**. Your job is to come up with an invention linked to your science learning in class. (Your teacher will tell you what this is) It will be

based on one of the professions we have looked at earlier in the assembly. When you have come up with your invention, make a short film explaining what it is and how it will help and send it back to me. We can't wait to see what you come up with. We will share these at the end of the unit in the next assembly.

### Teaching

Each year group will be given an objective from the 'Animals Including Humans' unit of the science curriculum (it may be a good idea to teach the whole unit at the same time or this can be done as a standalone).

Children will also 'consider' what is already being done? What could be done?

Each teaching pack will have an introductory video from the professional and their job e.g. dentist. They will then set the task for the children. The children will then have time to create their invention based on the task brief (all lesson plans provided and alternative suggestions). Children need to capture their learning (invention) through a small video clip, explaining what they have done or through photographs of the process or both! Ready to present in an assembly and submit a sample back to us (we will provide permission slips to send to parents including GDPR statement). (All lesson plans provided)

Home learning is also provided, this links to the British Science Week Competitions, design your own poster on the innovation or any home learning innovation and an acrostic poem using the word innovation. This can be linked to health or be more general. There will also be a research project about famous scientists from past and present who has an invention that has changed the lives of others. This can form a 'science in the real world display'. Also information on how you can submit your entries for a CREST Award.

The planning will follow the following stages: Critical thinking, consider and connect and curious and create.

End of the project share: Children's learning should be shared with the other year groups (probably virtually) and we would love to see some of your creations. Children may be eligible for CREST Awards. If children have managed to complete their skills passports then they will receive a certificate, sticker and prize.

### Learning Objectives which will be covered, linked health professional and innovation.

|             | Objective linked to Animals Including Humans module.  | Innovation  | Healthcare Professional          |
|-------------|---|---|----------------------------------|
| Early Years | Understanding the world- The frequency and range of children's personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. | Children to role play call the emergency line and talk to someone if they saw someone in trouble. | Call worker/medical receptionist |
| Year 1      | Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.  | Create a sense test   | Nurse                            |
| Year 2      | Find out about and describe the basic needs of animals, including   | Make own soap or diet plan with a balanced  | Health Care Assistant            |

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|            | humans, for survival (water, food and air)<br>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.  | meal for a specific client. (Global link with foods around the world and nutritional value)<br>Exercise plan to raise heart rate.  |                                 |
| Year 3     | Identify that humans and some other animals have skeletons and muscles for support, protection and movement.   | Prosthetic limbs<br>Assisted equipment<br>e.g. frames.   | Physiotherapist or Radiographer |
| Year 4     | Identify the different types of teeth in humans and their simple functions   | Create own toothpaste  | Dentist                         |
| Year 5     | Describe the changes as humans develop from birth to old age   | After care plan/app  | Midwife                         |
| Year 6     | Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.  | Making medicines (using safe ingredients)  | Pharmacist or Lab assistant.    |
| Year 7- 8  | Evaluating evidence and using that evidence, formulate actions.<br>Demonstrate understanding of the Breathing and gas exchange. Using forces to reduce blood loss.<br>Demonstrate a basic understanding of the circulatory system (KS2).<br>Verbal communication skills. | Children role play activities on arrival at an incident as a first responder. Analysing symptoms and carrying out CPR and treating simple injuries.<br>Brief follow up ambulance crew on actions taken and any information that they need to know that might affect further treatment. | First Responder                 |
| Year 9     | Investigating pure and impure substances.<br>Analysing acids and bases.  | Testing a collection of unknown substances, to determine if they are acids or alkali. Making up a pure solution of citric acid and testing its pH.   | Pharmacist                      |
| Year 10-11 | Students should be able to describe genetic engineering as a process which involves modifying the genome of an organism by introducing a gene from another organism to give a desired characteristic.  | Extraction of DNA for Saliva or Kiwi Fruit.<br>Research how they might separate and re-engineer the DNA to change the characteristics of the plant or animal.<br>Ethical as well as practical issues   | Genetic Engineer                |

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| Year 12-13 | Working scientifically across Biology, Physics, Maths and Engineering to design and model solutions. | Design and fabricate an artificial limb. Study X Rays and models of joints to assist solutions. | Physiotherapist or Radiographer |
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### Primary

- All lessons will have videos to support and lesson plans.
- We will be able to provide some contacts for a FaceTime/Zoom with one of your professionals (time and availability dependent).
- You will have our support through email/Facebook/Face2face support if needed.

### Secondary

- All these activities should be supported with context setting video training, so that students arrive at the activity pre-loaded with knowledge to carry out the necessary actions.
- Research facilities and briefing cards should be to hand to help students.
- H &S requirements must be carefully considered and appropriate precautions taken.

You will receive more information and your lesson plans soon.

Please could you send this link out for your children to complete so we can get a baseline for the project.

There is also one for your staff to complete.

Thank you

Bruce and Carla

(Science Consultants- Plymouth Science in association with Plymouth City Council)