

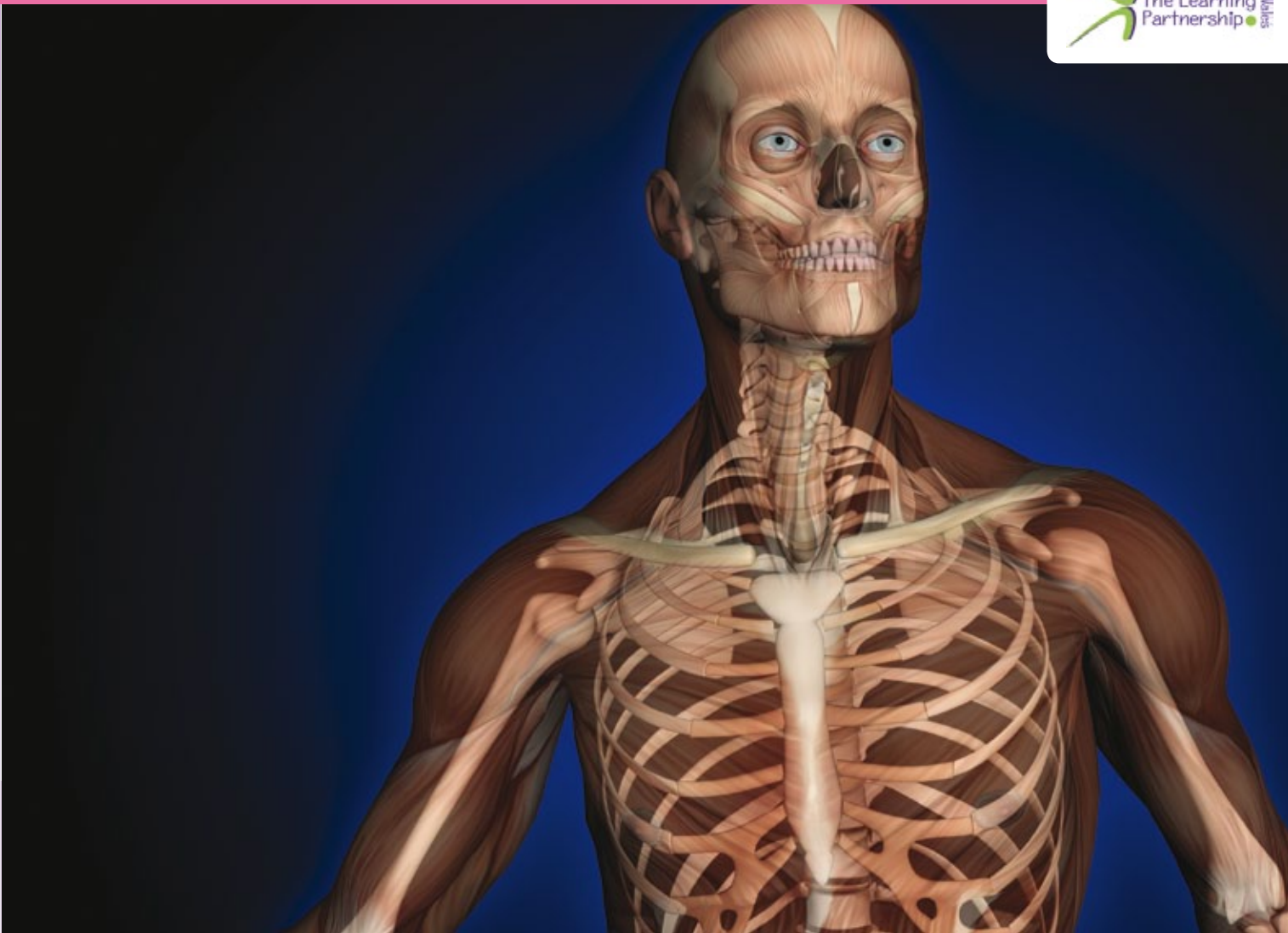
Coverage of Skills - Bones, Blood & Gory Bits

Thinking across the Curriculum	Engage	Develop	Innovate	Express
Asking questions	X	X	X	X
Activating prior skills, knowledge and understanding	X	X	X	X
Gathering information	X	X	X	X
Determining the process/method and strategy	X	X	X	X
Determining success criteria		X	X	X
Generating and developing ideas		X	X	X
Valuing errors and unexpected outcomes	X	X	X	X
Entrepreneurial thinking			X	X
Thinking about cause and effect and making inferences	X	X	X	X
Thinking logically and seeking patterns	X			X
Considering evidence, information and ideas	X	X	X	X
Forming opinions and making decisions	X	X	X	X
Monitoring progress	X	X	X	X
Reviewing outcomes and success criteria		X	X	X
Reviewing the process/method	X	X	X	X
Evaluate own learning and thinking		X	X	X
Linking and lateral thinking			X	X
Communication across the Curriculum				
Developing information and ideas	X	X	X	X
Presenting information and ideas		X	X	X
Locating, selecting and using information using reading strategies	X	X	X	X
Responding to what has been read	X	X	X	X
Organising ideas and information	X	X	X	X
Writing accurately		X	X	X
Communicating ideas and emotions		X	X	X
Communicating information	X	X	X	X
ICT across the Curriculum				
Finding and developing information and ideas	X	X	X	X
Creating and presenting information and ideas	X	X	X	X
Number across the Curriculum				
Using numbers				X
Measuring	X	X	X	X
Gathering information		X	X	
Using the number system			X	
Using a variety of methods		X		X
Talking about and explaining work		X		X
Comparing data	X	X		X
Recording and interpreting data and presenting findings	X	X		X

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Bones, Blood & Gory Bits

Imaginative Learning Project for Lower KS2 Children



SUBJECT COVERAGE: Bones, Blood & Gory Bits	
ILP Focus Subject	Science
ILP Writing Genre	Explanation & Information
Art & Design	3D
D&T	Modelling
History	Medicine (Significant Men & Women)
ICT	Collating Data & Presenting Information
Maths	Handling Data
PE	Games
PSHE & C	Healthy Living
Science	Interdependence of Organisms

ILP Overview

This project has a science focus and teaches children about the human body including significant organs such as the heart, brain and lungs. At the heart of this project children write explanations to describe biological processes of the human body and develop additional skills using a range of technical and scientific language.

In the Innovate Stage children apply their skills and understanding by creating a friend for Frankenstein's monster using a range of made body parts.

In this project the children will learn:

- About the heart, circulation, the pulse and blood;
- About major organs of the human body and their functions in keeping us alive and well;
- How exercise and a healthy diet keeps the body well and fit;
- About the digestive system;
- How to write explanation texts using scientific language;
- How scientific and medical research has changed over time;
- How to create 3D forms using wire and other materials;
- How to work collaboratively.

1. ENGAGE

Children engage in purposeful and contextualised learning experiences; in and outside the classroom, making best use of partners, experts and the community to provide the stimulus to learn.

- Examine real organs such as lungs, heart, liver and eyeballs! Observe, describe, compare, record and feel them in order to help them appreciate what we are on the inside and how these organs work.
- Invite a local sports team or individual to school to train with the children. Measure pulse rates before and after exercise. Talk about the effects of exercise on the heart and lungs. Children should explain how their bodies feel. Record rates at rest and after exercise using simple graphs and charts.
- Invite a nurse or doctor into school to talk to the children about looking after the heart. Prepare questions to ask and record answers using note taking skills in learning logs. Write a synopsis of the information given. Begin to discuss what else they might want to find out during the project.
- Learn about different parts of blood and blood groups. Understand the role of blood in keeping humans alive. Look at organisations such as Give Blood and the importance of giving blood. Invite a specialist in to talk about blood. Recount key points of information given in a conversation with a partner.
- Visit a medical museum to see the development of medicine and surgery throughout history. Make notes and talk about what is seen.
- Watch medical documentaries about the heart and other major organs of the body. Make notes and mind maps to record important points and further questions to research independently.
- Display information texts and leaflets about the heart and being healthy. Use the Internet to research key facts and record on mind maps and learning logs.
- Display a model skeleton and other working models such as the heart, allowing for them to play, label and investigate. Draw diagrams of the heart, body and muscles.
- Invite a dancer, athlete or sports coach to school to work with the children on preparing their bodies for exercise.
- Go for a run everyday with the children. Make this part of the daily routine. Record times and see if these improve over time. Discuss why.
- Make stethoscopes to hear our internal sounds including our heartbeats. Explore different lengths and bore of tubing, connectors and sizes of funnels to design the most effective stethoscopes.
- Think and write simple explanations about other sounds the body makes! Think about what these noises tell us our body is doing. Write simple explanations for what they think these noises mean the body is doing and research to discover if they were right or not.
- Experiment with the senses using sound, sight, smell, touch and taste. Carry out tests to show the link between smell and taste. Talk about the role of the senses in keeping humans safe.

3. INNOVATE

Children are given the opportunity to innovate by applying their knowledge, skills and understanding through a challenging provocation, using their own and negotiated ideas.

Example Provocation

In 1818 Mary Shelley published her book Frankenstein. In the story Dr Frankenstein, a scientist, creates a monster from different body parts. The monster comes to life and requests that Dr Frankenstein creates him a friend so that he can be happy like other living beings. You must finish the task Dr Frankenstein never completed by creating a friend for 'It' (the monster).

To be successful in this task, you must:

- Create a standing framework for your monster using sturdy materials;
- Make and locate the major organs of the human body and decide how you will make them look realistic;
- Show how blood circulates around the body;
- Create other body parts such as eyes, muscles, hair, skin and ears;
- Write an explanation of how you made your monster and take photographs to document its creation.

2. DEVELOP

Children develop knowledge, understanding and subject skills required to progress their learning through quality differentiation and focused learning tasks and experiences.

- Study the role of digestion and the digestive system. Using a range of household items and other materials to create a digestive system. Demonstrate the beginning to the end of the process starting with chewing (mastication) and churning (peristalsis). See what happens when lots of different foods are churned together.
- Make vomit and faeces using their made digestive systems. Write an explanation of how their models work.
- Investigate the role of saliva which starts the digestion process - converting starch to sugar. Test saliva's ability to digest a variety of foods and investigate saliva's acidity/alkalinity throughout the day to see how it changes and why? Make predictions and record their results.
- Learn facts about the heart and circulation. Carry out fair tests to measure and record heart rates and investigate how they change during activities. Record and present facts and information using ICT and PowerPoint.
- Learn about and locate other significant organs of the human body including liver, lungs, kidneys and brain. Establish a research carousel to gather information and record facts and data about these organs.
- Investigate the role and components of blood, and understand that there is a network of blood vessels in the body known as veins and arteries. Learn significant facts such as - arteries carry blood away from the heart and veins carry blood back towards it.
- Continue to exercise everyday. Keep an exercise journal. Record distances, times and heart rates. Drink water and have a healthy snack afterwards to re-fuel and re-hydrate.
- Create a timeline of significant medical advances with respect to the heart and other organs. Research significant individuals linked to medical breakthrough including the development of anaesthesia.
- Make a digital portfolio to store information and images as part of the project.
- Solve themed problems and record data using graphs, charts and tables. Carry out investigations and use data to solve problems on the theme.
- Study muscles and muscle groups. Make diagrams and label muscles and muscle groups. Explain how different groups work. Design sequences of exercises to stretch muscles and muscle groups.
- Study x-rays to view bones. Analyse where these show broken bones. Talk about personal experiences of breaking bones and understand how the body repairs itself.
- Develop skills using wire to create human form. Make mini skeletons using wire sculpture - use the work of artists such as sculptor Giacometti to inspire their work.
- Investigate healthy food, including those which provide vitamins, minerals and are a good source of energy. Taste healthy foods and make their own. Make samples for others to taste. Write explanations as to what is in the samples and why they are good for you.
- Learn features of explanation writing and use a range of techniques for setting out information such as headings, subheadings, paragraphing and bullet points. Use a range of texts as an example.
- Learn about significant advances in the treatment of the heart over the past 100 years.

4. EXPRESS

Children express and evaluate their knowledge, understanding and skills, as outcomes of the learning in different memorable forms including using a variety of media and technology.

- Present their explanations (in Welsh and English), models and photographs to an audience. Write a short story to explain what happened after 'Its' friend was created and came to life.
- Review the effectiveness of their monsters - judge strength, character and accuracy.
- Express their learning of the body by making PowerPoint presentations and inviting relevant adults into the classroom such as - an athlete, a doctor, a surgeon, a fitness instructor to hear them. Use scientific and mathematical language and data in their presentations.
- Plan a healthy menu for the week and present to the school caterers for feedback. Evaluate and write reviews of the menus.
- Make and taste different recipes suggested in health plans.
- Create displays around school to showcase the monsters. Display with final copies of the sequel story.
- Analyse and compare a range of leaflets and information booklets. Talk about how effective the information is and suggest how they could be improved and adapted for a younger reader. Make examples of leaflets, posters and booklets for younger children.
- Use circle time to discuss the impact of medical research and development. Consider how and what medical changes might happen in the future and what the impact might be on the human race.
- Plan a regular exercise regime for themselves or the class.