**HILL VIEW SCHOOL SCIENCE PROVISION MAP**

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| **BIOLOGY - Year one** |
| **Animals including Humans** | **Plants** | **All living things and their Habitats** | **Evolution and Inheritance** |
| * Know how to classify a range of animals by amphibian, reptile, mammal, fish and birds
* Know and classify animals by what they eat (carnivore, herbivore and omnivore)
* Know how to sort by living and non-living things
* Know the name of parts of the human body that can be seen
 | * Know and name a variety of common wild and garden plants found in and around Floodbrook Clough
* Know and name the petals, stem, leaves and root of a plant
* Know and name the roots, trunk, branches and leaves of the beech tree in our own locality
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| **BIOLOGY - Year Two** |
| **Animals including Humans** | **Plants** | **All living things and their Habitats** | **Evolution and Inheritance** |
| * Know the basic stages in a life cycle for animals, (including humans)
* Know why exercise, a balanced diet and good hygiene are important for humans
 | * Know and explain how seeds and bulbs grow into plants in our school garden
* Know what plants need in order to grow and stay healthy (water, light & suitable temperature)
 | * Classify things by living, dead or never lived
* Know how an ancient woodland habitat provides for the basic needs of things living there (plants and animals)
* Match living things to their habitat
* Name some different sources of food for animals
* Know about and explain a simple food chain
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| **BIOLOGY - Year Three** |
| **Animals including Humans** | **Plants** | **All living things and their Habitats** | **Evolution and Inheritance** |
| * Know about the importance of a nutritious, balanced diet
* Know how nutrients, water and oxygen are transported within animals and humans
* Know about the skeletal and muscular system of a human
 | * Know the function of different parts of flowering plants and trees
* Know how water is transported within plants
* Know the plant life cycle, especially the importance of flowers specifically found in Floodbrook Clough
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| **BIOLOGY - Year Four** |
| **Animals including Humans** | **Plants** | **All living things and their Habitats** | **Evolution and Inheritance** |
| * Identify and name the parts of the human digestive system
* Know the functions of the organs in the human digestive system
* Identify and know the different types of human teeth
* Know the functions of different human teeth
* Use and construct food chains to identify producers, predators and prey
 |  | * Recognise that living things can be grouped in a variety of ways
* Use classification keys to group, identify and name living things
* Know how changes to an environment could endanger living things
* Explore the positives and negatives of human impact on Floodbrook Clough
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| **BIOLOGY - Year Five** |
| **Animals including Humans** | **Plants** | **All living things and their Habitats** | **Evolution and Inheritance** |
| * Create a timeline to indicate stages of growth in humans
 |  | * Know the life cycle of different living things e.g. mammal, amphibian, insect and bird
* Know the differences between different life cycles
* Know the process of reproduction in plants
* Know the process of reproduction in animals
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| **BIOLOGY - Year Six** |
| **Animals including Humans** | **Plants** | **All living things and their Habitats** | **Evolution and Inheritance** |
| * Identify and name the main parts of the human circulatory system
* Know the function of the heart, blood vessels and blood
* Know the impact of diet, exercise, drugs and lifestyle on health
* Know the ways in which nutrients and water are transported in animals, including humans
 |  | * Classify living things into broad groups according to observable characteristics and based on similarities and differences
* Know how living things have been classified
* Give reasons for classifying plants and animals in a specific way
 | * Know how the Earth and living things have changed over time
* Know how fossils can be used to find out about the past, such as the fossils found on Runcorn Hill
* Know about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents)
* Know how animals and plants are adapted to suit their environment
* Link adaptation over time to evolution
* Know about evolution and can explain what it is
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| **CHEMISTRY - Year One** |
| **Everyday Materials** | **Rocks** | **States of Matter** | **Properties and changes in Materials** |
| * Know the name of the materials an object is made from
* Know about the properties of everyday materials
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| **CHEMISTRY - Year Two** |
| **Everyday Materials** | **Rocks** | **States of Matter** | **Properties and changes in Materials** |
| * Know how materials can be changed by squashing, bending, twisting and stretching
* Know why a material might or might not be used for a specific job
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| **CHEMISTRY - Year Three** |
| **Everyday Materials** | **Rocks** | **States of Matter** | **Properties and changes in Materials** |
|  | * Compare and group rocks based on their appearance and physical properties, giving reasons
* Know how soil is made and how fossils are formed
* Know about and explain the difference between sedimentary, metamorphic and igneous rock
* Understand the importance of sandstone to Runcorn
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| **CHEMISTRY - Year Four** |
| **Everyday Materials** | **Rocks** | **States of Matter** | **Properties and changes in Materials** |
|  |  | * Group materials based on their state of matter (solid, liquid, gas)
* Know the temperature at which materials change state
* Know about and explore how some materials can change state
* Know the part played by evaporation and condensation in the water cycle
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| **CHEMISTRY - Year Five** |
| **Everyday Materials** | **Rocks** | **States of Matter** | **Properties and changes in Materials** |
|  |  |  | * Compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, [electrical & thermal], and response to magnets
* Know and explain how a material dissolves to form a solution
* Know and show how to recover a substance from a solution
* Know and demonstrate how some materials can be separated (e.g. through filtering, sieving and evaporating)
* Know and demonstrate that some changes are reversible and some are not
* Know how some changes result in the formation of a new material and that this is usually irreversible
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| **CHEMISTRY - Year Six** |
| **Everyday Materials** | **Rocks** | **States of Matter** | **Properties and changes in Materials** |
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| **PHYSICS - Year One** |
| **Seasonal Change** | **Forces** | **Light** | **Electricity** | **Sound** | **Earth and Space** |
| * Name the seasons and know about the type of weather in each season
* Track the impact of the seasons on Floodbrook Clough
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| **PHYSICS - Year Two** |
| **Seasonal Change** | **Forces** | **Light** | **Electricity** | **Sound** | **Earth and Space** |
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| **PHYSICS - Year Three** |
| **Seasonal Change** | **Forces** | **Light** | **Electricity** | **Sound** | **Earth and Space** |
|  | * Know about and describe how objects move on different surfaces
* Know how a simple pulley works and use to on to lift an object
* Know how some forces require contact and some do not, giving examples
* Know about and explain how magnets attract and repel Predict whether magnets will attract or repel and give a reason
 | * Know that dark is the absence of light
* Know that light is needed in order to see and is reflected from a surface
* Know and demonstrate how a shadow is formed and explain how a shadow changes shape
* Know about the danger of direct sunlight and describe how to keep protected
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| **PHYSICS - Year Four** |
| **Seasonal Change** | **Forces** | **Light** | **Electricity** | **Sound** | **Earth and Space** |
|  |  |  | * Identify and name appliances that require electricity to function
* Construct a series circuit
* Identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers)
* Predict and test whether a lamp will light within a circuit
* Know the function of a switch
* Know the difference between a conductor and an insulator; giving examples of each
 | * Know how sound is made, associating some of them with vibrating
* Know how sound travels from a source to our ears
* Know the correlation between pitch and the object producing a sound
* Know the correlation between the volume of a sound and the strength of the vibrations that produced it
* Know what happens to a sound as it travels away from its source
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| **PHYSICS - Year Five** |
| **Seasonal Change** | **Forces** | **Light** | **Electricity** | **Sound** | **Earth and Space** |
|  | * Know what gravity is and its impact on our lives
* Identify and know the effect of air and water resistance
* Identify and know the effect of friction
* Explain how levers, pulleys and gears allow a smaller force to have a greater effect
 |  |  |  | * Know about and explain the movement of the Earth and other planets relative to the Sun
* Know about and explain the movement of the Moon relative to the Earth
* Know and demonstrate how night and day are created
* Describe the Sun, Earth and Moon (using the term spherical)
* Know how scientists in both the past and present understand our solar system through a visit to Jodrell Bank
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| **PHYSICS - Year Six** |
| **Seasonal Change** | **Forces** | **Light** | **Electricity** | **Sound** | **Earth and Space** |
|  |  | * Know how light travels
* Know and demonstrate how we see objects
* Know why shadows have the same shape as the object that casts them
* Know how simple optical instruments work e.g. periscope, binoculars, mirror, magnifying glass etc.
 | * Compare and give reasons for why components work and do not work in a circuit
* Draw circuit diagrams using correct symbols
* Know how the number and voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer
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