Buxton Infant School
Science Knowledge Progression

Topic Area	F.S.	Year 1	Year 2	Year 3
Seasonal Changes	*Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world. *Can talk about some of the things they have observed such as plants, animals, natural and found objects.	*observe changes across the four seasons. *observe and describe weather associated with the seasons and how day length varies.		**See skills doc for BJS**
Everyday Materials	*Beginning to be interested in and describe the texture of things. *Experiments to create different textures. *Understands that different media can be combined to create new effects. *Manipulates materials to achieve a planned effect. *Selects tools and techniques needed to shape, assemble and join materials they are using.	*distinguish between an object and the material from which it is made. *identify and group a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. *describe the simple physical properties of a variety of everyday materials. *compare and group together a variety of everyday materials on the basis of their simple physical properties.	*identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. *find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. **explore and identify absorbent and impermeable/waterproof materials (perfect Buxton rain jacket).*	
Living Things and Their Habitats	*Can talk about some of the things they have observed such as plants, animals, natural and found objects. *Shows care and concern for living things and the environment.		*explore and compare the differences between things that are living, dead, and things that have never been alive. *identify that most living things are suited to their habitat and describe how different habitats	

			provide for the basic needs of different kinds of animals and plants, and how they depend on each other. *identify and name a variety of plants and animals in their habitats, including micro- habitats. *describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. *consider what (features) makes living things perfectly adapted to their habitat.* *to learn, observe and document how polar bears and cacti have evolved to survive in their habitats.*	
Animals including Humans	*Identify and name a variety of common animals found in a particular habitat e.g. farm, jungle, ocean etc. *Identify and name a variety of local minibeasts. *They make observations of animals and explain why some things occur, and talk about changes.	*identify and name (observable features) a variety of common animals including fish, amphibians, reptiles, birds and mammals. *identify and name a variety of common animals that are carnivores, herbivores and omnivores. *describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). *identify, name, draw and label the basic parts of the human body and say which part of the	*to know that animals, including humans, have offspring which grow into adults. *to notice the main changes that animals, including humans go through as grow/age. *find out about and describe the basic needs of animals, including humans, for survival (water, food and air). *describe the importance for humans of exercise, eating a balanced diet and hygiene. *describe how animals, including humans, grow over time (on-going experiment: measuring self, observing changes over time).*	*identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. *identify that humans and some other animals have skeletons and muscles for support, protection and movement.

		body is associated with each sense.		
Plants	They make observations of plants and explain why some things occur, and talk about changes.	*identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. *identify and describe the basic structure of a variety of common flowering plants, including trees.	*observe and describe how seeds and bulbs grow into mature plants *find out and describe plants' needs for survival (water, light and a suitable temperature to grow and stay healthy) and the impact of changing those things. *to understand and observe the changes seeds and bulbs go through as they grow into mature plants. *identify and label the basic parts of a flowering plant.* *to classify plants using a simple key.* *to investigate water transportation in vascular and nonvascular plants.*	*identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers *explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. *investigate the way in which water is transported within plants. *explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
Forces and Magnets			*compare how things move on different surfaces.* *to explore the forces of pushing, pulling and twisting.* *to understand that friction/resistance slows down or stop moving objects.*	*compare how things move on different surfaces. *notice that some forces need contact between two objects, but magnetic forces can act at a distance. *observe how magnets attract or repel each other and attract some materials and not others. *compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.

				*describe magnets as having two poles. *predict whether two magnets will attract or repel each other, depending on which poles are facing.
Electricity			**identify common appliances that run on electricity.* **construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.* **identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.*	
Rocks				*compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. *describe in simple terms how fossils are formed when things that have lived are trapped within rock. *recognise that soils are made from rocks and organic matter.
Light				*recognise that they need light in order to see things and that dark is the absence of light. *notice that light is reflected from surfaces. *recognise that light from the sun can be dangerous and that there are ways to protect their eyes. *recognise that shadows are formed when the light from a light source is

				blocked by an opaque object. *find patterns in the way that the size of shadows change.

**Italicised areas denote B.I.S.-specific areas of Science Knowledge Progression*