Science Knowledge and Skills Coverage. (Year 3)

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| Content/Knowledge | RocksTo compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. To describe in simple terms how fossils are formed when things that have lived are trapped within rock. To recognise that soils are made from rock and organic matter.  | Animals Including HumansTo dentify that humans and some other animals have skeletons and muscles for support, protection and movement.To 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. | Forces and MagnetsTo compare how things move on different surfaces. I notice that some forces need contact between two objects, but magnetic forces can act at a distance. I can observe how magnets attract or repel each other and attract some materials and not others. I can 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. I can describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.  | LightTo recognise we need light in order to see things and that dark is the absence of light. Light is reflected from surfaces. Recognise that light from the sun can be dangerous and that there are ways to protect your eyes. Recognise that shadows are formed when light from a light source is blocked by an opaque object. Find pattens in the way that the shadows change. | PlantsI can identify and describe the functions of different parts of a flowering plant. I can explore the requirements of plant life and growth. I can investigate the way in which water is transported within plants. I can explore the part that flowers play in the lifecycle of flowering plants including pollination, seed formation and seed dispersal.  |
| Scientific Enquiry | Icon  Description automatically generatedCompare and group materials based on their properties.Icon  Description automatically generated  Classify rocks based on their properties.Icon  Description automatically generatedCarry out comparative tests to rank rock properties.Screen Clipping Research and learn about Mary Anning. Screen ClippingUse research and models to help demonstrate my learning. Screen Clipping I can make careful and systematic observations over time.  | Icon  Description automatically generatedI can identify and classify parts of the skeletal system. Identify bones in the body and the hand. Icon  Description automatically generatedI can identify and classify animals into vertebrate and invertebrates. I can look for patterns in results.Icon  Description automatically generated I can look for patterns in how each part of the hand moves and make adjustments.Icon  Description automatically generatedI can look for patterns and compare nutritional values Screen ClippingI can use secondary sources to find out about muscles. Screen ClippingI can research the nutritional values of foods by reading data. Screen ClippingResearch the bones in the skeletal system. | Icon  Description automatically generated Group and identify forces based on observations  Sort Icon  Description automatically generatedand classify materials into magnetic and non-magnetic.Icon  Description automatically generatedI can carry out a fair test using magnets. Icon  Description automatically generated  I can spot patterns in my drawings and explain what is happening using magnetic fields. Screen Clipping I can use research and secondary sources to aid my explanations.    | Icon  Description automatically generated Screen Clipping I can identify patterns in my results to answer questionsScreen ClippingI can look for patterns Icon  Description automatically generatedin results, I can observe a shadow over time. Icon  Description automatically generatedI can carry out a fair test and control variables.Icon  Description automatically generatedI can compare how different materials react to light. Icon  Description automatically generatedI can look for patterns in the size of the shadows. Icon  Description automatically generatedI can observe what happens over time.  I can spot patterns in results to answer questions.  | Icon  Description automatically generated I can identify parts of the plantIcon  Description automatically generated  I can carry out a comparative test. Screen Clipping.  I can make observations over time. Screen ClippingI can use research and my own scientific knowledge to explain the process. Icon  Description automatically generatedI can look for patternsIcon  Description automatically generated I can identify and classify different seeds.  |
| Working Scientifically | Screen ClippingMake careful observations and identify similarities and differences. Screen ClippingRecord classifications in a table, Venn or Carrol diagram. Screen Clipping  I can record my results in a tableScreen Clipping  Interpret the process of fossilisation using models and pictures. Screen ClippingAsk questions to deepen my learning Icon  Description automatically generatedabout rock formation.   I can set up tests to answer questions.  | Screen ClippingI can answer questions about the uses of our bones.Screen ClippingI can make careful observations to sort animals into groups..Screen ClippingI can use scientific language to discuss ideas.I can record my results in a table.I can record my results in a bar chart.Locate and label the bones in the bodyRecord using labelled drawings and scientific language | Screen ClippingI can observe different forcesIcon  Description automatically generatedI can predict whether materials are magnetic or not.Icon  Description automatically generatedI can plan a fair testI can record my findings using scientific drawingsScreen ClippingI can use models to explain findings. | Screen ClippingI can raise questions when exploring materials and light. Icon  Description automatically generatedI can make predictions based on scientific questions. Icon  Description automatically generatedI can set up practical comparative tests using my own ideas.   Screen ClippingI can evaluate my test and suggest improvements. Screen Clipping I can observe what happens when an object is moved closer to a light source.  |  Screen ClippingI can record my findings using labelled scientific diagrams. Screen ClippingI can interpret my findings using scientific knowledge.Icon  Description automatically generated I can plan a comparative test.Screen Clipping I can explain in detail what pollination is.  .  |
| Ideas. | 1. Recap previous learning. Using chocolate to represent rocks. Rock drama.
2. Classifying rocks based on their characteristics. Rock cycle. Natural and manmade rock.
3. Rock drama- properties of rock. Rock tests (hardest, most durable, waterproof, does not react to acid)
4. Process of fossilisation. Mary Anning’s work. Explore fossils. Make own fossil following the process.
5. How are rocks formed and how do they change? Rock cycle drama. Rock cycle practical. Learn about Geologist and ground investigation engineer.
6. Soils- investigation into what soil is made from. End of unit quiz.
 | 1. Recap previous learning. Introduction to the skeletal system- label bones. 2. Build a skeleton- skeleton relay. Why do we need bones experiment? 3. What does a physiotherapist do? Close drawing of the hand and bones in the hand. Children plan their bionic hand design.4. Children make their bionic hand.5. Children classify animals into vertebrate and invertebrates. 6. Function of the skeleton- investigate how the skeleton protects the organs. 7- How do muscles work? Make a muscle model to explain the process. 8- What do humans need to stay alive? Explore food contents and classify using food wheel.9- Record results in a table regarding how much of a particular category a food contains e.g. sugar. 10- Eat well plate game, balanced and unbalanced plates. End of unit quiz.  | 1. Recap previous learning. Read gigantic turnip, explain friction using rice in bottle. Children observe different forces.
2. Recap on vocabulary, investigate different road surfaces and find out about John McAdam. Use force metres and also recap on Sir Isaac Newton.
3. Explore magnetic and non-magnetic.
4. Explore magnetic materials and children plan their own fair test.
5. Investigate why magnets have two poles. Children will find out about magnetic fields.
6. Focus on the earths magnetic field and children make own compass. End of unit quiz.
 | 1. Pre learning. Read the Darkest Dar as stimulus. Light investigation. Natural and artificial light sources.
2. Investigation into prisms, children to understand why light is reflected. Investigation into which materials reflect light.
3. Why is the sky blue? Investigation into UV light and sun cream.
4. Optical illusions. Investigation into shadows and how shadows change.
5. Investigation into how shadows change depending on where the sun is in the sky.
6. Application lesson making curtains with most opaque materials.
 | 1. Pre learning. Labelling a plant. Functions of the plant. Labelling the male and female parts of the plant.

Plant dissection and drawings. 1. What do plants need to grow? recap. Experiment into the requirements of plant growth using pansys.
2. Investigation on how water and nutrients transport through stem using carnations and celery. Photosynthesis.
3. Recap on sunflower lifecycle and what germination means. Focus on pollination and pollination drama. Why are bees important?
4. Fertilisation and seed dispersal. Focus on the different ways seeds are dispersed. Children make their own seed dispersed by wind.
5. What is a botanist? - children learn about different botanists. Children go on a seed hunt to see what they can find in their environment. End of unit quiz.
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