

Concord Junior School Science Overview

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---------------|--|--|--|---|--|---|
| Year 3 | Scrumdiddlyumptious Animals including humans Balanced Diet | Urban Pioneers Light Shadows | Tremors Rocks Classification of rocks Fossils | Predators Animals including humans Skeletons and muscles | Mighty Metals Forces and Magnets Magnetic materials | Tribal Tales Plants Functions Life Cycles |
| Year 4 | I Am Warrior Working scientifically | Playlist Sound | Burps, Bottoms and Bile Animals including Humans Digestive System Teeth | Potions States of Matter | Blue Abyss Living things and their habitats Classification | Road Trip USA Electricity |
| Year 5 | Beast Creator Living things and their habitats Life Cycles | Alchemy Island Properties and changes in materials Reversible and irreversible changes | Off with her Head! Working scientifically | Stargazers Earth and Space | Scream Machine Forces Gravity and Air resistance Levers, Pulleys/ Gears | Time Traveller Animals including Humans |
| Year 6 | Darwin's Delight Living things and their habitats Classification Evolution and inheritance Adaptation/Variation | Tomorrow's World Electricity Circuits | Blood Heart Animals including humans Heart Circulatory System | Hola Mexico! Light Light sources Reflection Shadows | WW2 Working scientifically | ID Evolution and Inheritance Investigation of characteristics |

Science

Year 3 - All units must include a high level of practical experiment and investigation

PLANTS

- Can you explain what different parts of the plant do?
- Can you explain their structure and function?
- Do plants make their own food?
- What does a plant need to grow?
- What happens if they do not get light?
- How do plants get water? How can you find out?

ROCKS

- How do rocks change overtime?
- Can you explain how fossils are formed?
- How are fossils different and similar?
- How are fossils formed?
- How are rocks similar and different?

LIGHT

- Can you explain what happens when light reflects off a mirror?
- Is it safe to look directly at the sun? Why?
- Can you explain how shadows are made?
- What happens to shadows when the light source moves or the distance between the light source and the object changes?

FORCES AND MAGNETS

- Can you predict which magnets will attract and repel each other?
- Which materials are not attracted to a magnet?
- Can you explain and demonstrate which forces do not need contact?

ANIMALS INCLUDING HUMANS

- Can you describe a balanced diet and why this is important?
- Can you describe and name the parts of the human skeleton?
- Can you plan a healthy meal using appropriate food groups?
- What do our pets eat and what animals eat similar food/different food?

Science

Year 4 - All units must include a high level of practical experiment and investigation

LIVING THINGS AND THEIR HABITATS

- How does your local habitat change throughout the year?
- Can you clarify vertebrate animals?
- Can you make a garden for local living things?
- Can you group plants into different categories?
- How do humans impact on the environment?

ANIMALS INCLUDING HUMANS

- Can you explain how the digestive system works?
- Can you label a diagram of the digestive system?
- Can you explain simple functions of the basic parts of the digestive system?
- Can you identify different types of teeth in humans?
- Can you construct and interpret a variety of food chains?
- Can you identify producers, predators and prey?

STATES OF MATTER

- Can you give examples and describe a solid, liquid and a gas?
- What happens when materials are heated and cooled? Investigate
- At what temperature do materials change state?
- Can you explain the water cycle and the part played by evaporation and condensation?

SOUND

- How can you make different sounds? Explore
- Can you name a variety of sources of sound?
- Can you explain what happens as you stand in different parts of the playground when the bell goes?
- Where is the best place to put the bell in school?
- How is sound made?
- Can you investigate how can you change the pitch and volume of sounds?
- Can you investigate which material provides the best insulation?

ELECTRICITY

- Can you construct simple series circuits with different components?
- Can you use the circuits to make simple devices?
- Can you draw and label a circuit?
- Can you explain what a current is and what voltage means?
- Investigate how you can make a bulb brighter and explain
- Which materials conduct electricity?
- Which materials do not conduct electricity?

Science

Year 5 - All units must include a high level of practical experiment and investigation

LIVING THINGS AND THEIR HABITATS

- Can you describe the difference in life cycles between mammals, amphibians, insects and birds?
- Can you raise questions about the local environment about life cycles?
- Can you find out about the reproduction of flowers and animals? (sexual/asexual)
- Can you compare local plant life cycles of animals and plants with those around the world?
- Can you grow a plant from different parts of the parent plant?

PROPERTIES AND CHANGES OF MATERIALS

- Can you compare and group materials according to properties? (hardness, solubility, transparency, conductivity) – (electrical, thermal, magnetic)
- How do you define a solution?
- Do you know a range of ways to recover a substance from a solution?
- Can you experiment with filtering, sieving and evaporating to decide how mixtures might be separated?
- Can you experiment with solids and liquids to demonstrate reversible changes?

EARTH AND SPACE

- Can you describe the movement of the earth and other planets?
- How does the earth move relative to the sun and the solar system?
- Can you map the movements of the moon relative to the earth?
- Can you describe sun, moon and earth as spherical bodies?
- Can you explain day and night in relative to the earth rotation?

ANIMALS INCLUDING HUMANS

- Can you describe the changes as humans develop to old age?
- Can you draw a timeline to indicate stages in growth and development of humans?
- What are the changes experienced in puberty for girls and boys?
- Can you compare gestation periods of other animals compared to humans?

FORCES

- What effects air resistance?
- Can you set up an experiment to explore gravity?
- Can you explore resistance in water?
- What is friction? Can you explore the impact of friction on an object?
- Can you experiment with mechanisms that allow a smaller force to have a greater effect?

Science

Year 6 - All units must include a high level of practical experiment and investigation

LIVING THINGS AND THEIR HABITATS

- Can you describe how living things are classified?
- Can you take part in experiments with micro-organisms?
- Can you sub divide animal/plant groupings into smaller groups? (e.g. invertebrates (insects, spiders, worms, snails)
- Can you give reasons for classification groupings?
- Can you explain why classification is crucial for scientists?

EVOLUTION AND INHERITANCE

- Can you recognise how living things have changed over there?
- Can you investigate fossils and understand how they provide information about living things millions of years ago?
- Can you explore how living things produce offspring?
- Can you understand that normally offspring vary and are not identical to their parents?
- Can you consider puppies from dogs from different breeds?
- Can you take part in experiments to explore adaptation?

ELECTRICITY

- Can you build a working electrical circuit with bulbs and switches?
- Can you experiment with the brightness of bulb/volume of buzzer with voltage of circuit?
- Can you give reasons for variations in how components function?
- Can you translate a physical circuit into a symbolic diagram?

ANIMALS INCLUDING HUMANS

- Can you identify and name the main parts of the human circulatory system?
- Can you describe the functions of the heart, blood vessels and blood?
- Can you recognise the impact of diet, exercise, drugs and lifestyle on our bodies?
- How are nutrients and water transported within animals?
- Can you label skeletal and muscular parts of the body?
- How does the digestive system work?

LIGHT

- Can you explore how light behaves including light sources, reflection and shadows?
- Can you predict what happens to light as it moves through objects?
- Can you explain how mirrors work?
- Can you explain how the eye works when observing light?
- Can you investigate shadows to explain how light travels in straight lines?