



KNES Primary School Course Outline Year 4 Term 2

Science

During this term Year 4 students will learn about:

Circuits and Conductors: This unit introduces students to the fact that electrical appliances contain insulators and conductors that allow electricity to flow in a controlled manner. Students learn to recognise important electrical components and learn to construct simple circuits, using a battery or power supply and a range of switches, to make electrical devices work. Students will understand how to change the properties of circuits, for example, to make bulbs brighter or dimmer.

Scientific enquiry: will be planned into the units and will focus on:

- Applying knowledge gained from observations and enquires.
- Recognising and avoiding hazards and risks.

Keeping Warm: This unit introduces students to ideas about heat and temperature. The students will learn that temperature is a measure of heat, and that temperature can be measured with a thermometer. They will learn about the differences between conductors and insulators and their uses. Students will use the vocabulary related to heat and temperature, including some expression of comparison and words such as insulator and conductor.

Scientific enquiry: will focus on:

- Measuring temperatures.
- Planning a fair test
- Drawing conclusions; comparing and explaining conclusions.
- Collecting and presenting evidence.

Teaching across the curriculum:

Design and Technology, ICT and Art will be integral part as a support to our science class. Research and illustrations will be conducted on a regular basis.

Course Outline for Science

Week	Task/Topic/Area	Learning Outcome. Students will be able to:-
1	Electricity make things work Page 2	<ul style="list-style-type: none"> • Write a list of things that use electricity to make them work and compare their list with other students. • Discuss how electricity is made.
2	Making a Circuit Pages 3-7 Integration with D&T , Art and ICT - design and make a circuit	<ul style="list-style-type: none"> • Make and explain a complete circuit which lights up a bulb. • Name and label the different parts of the circuit.
3	Motor and bulbs as electrical devices Pages 8-9 Integration with Art	<ul style="list-style-type: none"> • Experiment with two devices, motor and bulb making the motor work and move and making the bulb light. • Draw a picture including something that lights up or something that moves using a bulb and a motor.
4	Conductors and Insulators Pages 10-13	<ul style="list-style-type: none"> • Organise materials that are conductors and insulators into a Venn diagram. • Describe characteristics of insulators and conductors.
5	Checkpoint 1 Pages 14-15	<ul style="list-style-type: none"> • Put into practice the content learned by doing the challenges described in the textbook.
6	Making a Switch Pages 16-21 Integration with D&T	<ul style="list-style-type: none"> • Understand the role of a switch. • Experiment with different materials to make a workable switch.
7	Checkpoint 2 Pages 22 Estimate temperature by Touch Pages 2-4	<ul style="list-style-type: none"> • Look at photographs and describe what is needed to light them up. • Select from a selection of items the insulators and conductors and categorise them. • Touch objects and tell if it is warm or cold.
8	Making Own Thermometer and Reading and Using a Thermometer Page 5-9 Integration with D&T to design and make the thermometer.	<ul style="list-style-type: none"> • Make a thermometer out of a plastic bottle. • Read the scales on the thermometer. • Take temperature of different items and record results.
9	Insulators to keep things cold and hot Pages 10-14 Review	<ul style="list-style-type: none"> • Know that insulators are materials that keep the heat out. Work with thermal insulators to keep cold things cold and warm things warm.
10	Exam week	<ul style="list-style-type: none"> • Students will review all content studied in class to be ready for their exams.
11	Remedial work	

Term Assessment Table for Science.

<u>Assessment/ Exam</u>	<u>Description</u>	<u>% of term mark</u>
Assessment: 1.	ICT, Art and D&T link <u>Group Assessment:</u> Electricity and circuits- Designing a circuit (Rubrics to follow)	10%
Assessment: 2	Unit tests	10%
Assessment: 3	ICT, Art and D&T link <u>Paired work:</u> Making a thermometer (Rubrics to follow)	10%
Assessment: 4	ICT and Art link <u>Posters-</u> Insulators and Conductors (Rubrics to follow)	10%
During complete term	Participation in classroom activities and discussions	5%
During complete term	Completion of all Homework	5%
End of term Exam	Final Exam covering all subjects throughout the term	50%