

MODULE 1 EYE STRUCTURE

OUTCOME	LEVEL	PHASES OF LEARNING
<p>Science Life and Living</p> <p>Students understand their own biology and that of other living things, and recognize the interdependence of life.</p>	<p>Science Life and Living</p> <p>LL 1 The student: Understands that people are living things, have features and change over time. I 2.1 The student: Identifies, given a focus question in a familiar context, some of the variables to be considered. I 2.2 The student: Observes, classifies, describes and makes simple non-standard measurements and limited records of data; and uses independent variables that are usually discrete. I 2.3 The student: Makes comparisons between objects or events observed I 2.4 The student: Comments on what happened and can say whether what happened was expected. LL 2 The student: Understands that needs, features and functions of living things are related and change over time.</p>	<p>Science Life and Living</p> <p>MIDDLE CHILDHOOD Structure and life processes</p> <ul style="list-style-type: none"> • an organism's structure or body system enables it to carry out life processes (eg senses can detect changes in the outside environment; muscles enable movement; lungs or gills enable breathing) • external and internal factors that can impact on living things (eg pollution, diet, diseases) • ways to identify parts of living things (eg magnifier, microscope) • all living things are made of cells
<p>Health and PE Knowledge and Understandings</p> <p>Students know and understand health and physical activity concepts that enable informed decisions for a healthy, active lifestyle</p>	<p>Health and PE Knowledge and Understandings</p> <p>KU 2 The student: Recognises that there are different aspects to personal health and how these contribute to their overall health, safety and physical activity.</p>	<p>Health and PE Knowledge and Understandings</p> <p>MIDDLE CHILDHOOD The focus for learning in this phase is on:</p> <ul style="list-style-type: none"> • health as a balance of physical, mental, emotional and social aspects • concepts related to diet, exercise, rest, harm avoidance and reduction, friendships, self-understanding • appraising active lifestyle components in daily life • personal and group actions that incorporate understandings of influences on health • assessing reliability of personal health information, products and services

		<p>The meaning and dimensions of health</p> <ul style="list-style-type: none">• health has aspects that can be classified into physical, mental and emotional, and social dimensions (eg relationships and friendships are aspects of social health)• people's attitudes towards personal health are varied• people can enhance their health by developing positive attitudes towards it and taking positive action• health is optimised when the dimensions are balanced <p>Ways to keep healthier and safer</p> <ul style="list-style-type: none">• behaviours and situations that can be identified as potentially harmful, risky or hazardous (eg finding a used syringe)• ways to respond individually, or as a member of a group, to harmful or risky behaviour and hazardous or emergency situations (eg removing self and others from danger, alerting others, following set procedures for first aid) <p>Resources and consumer skills</p> <ul style="list-style-type: none">• information, products and services that meet personal health needs (eg deodorants and sanitary items, doctors who cater for young people)• sources of information about health products and services (eg product labels, pharmacist, internet, the media)• ways to assess the reliability of sources of information (eg reflecting on personal experience, seeking opinions of people they trust)• factors that influence an individual's choice of health products and services (eg cost, accessibility, recommendation from a trusted person, belief about the benefits of a product)
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CONTENT

Module 1 – Eye Health.

This would directly link with Health and Science based outcomes through the exploration of the eye, the different types of eye damage that can occur, and the ways in which blindness can be prevented through a variety of simple techniques such as good diet and wearing sunglasses.

Exploration of the eye

- Write a description of the eye and draw a diagram of the eye.
- Learn about the work of Fred Hollows
- Maths – Graph of eye colour, pairs of eyes **WORKSHEET: What is your eye colour? & WORKSHEET: How many pairs of eyes?**
- Guess whose eyes – Using a digital camera take photographs of all the students faces. Print pictures and cut them in half with the eyes on one piece and the rest of the face on the other piece. Students work together to match them correctly.
- Visit an optician.
- Create an opticians corner as a learning centre (eye glasses, magnifying glasses, optical illusions, sizing cards)
- Set up a display table with objects that focus on using the eyes.(pale/dark colours, matt and shiny fabrics, books about eyes, collection of glasses , sunglasses, safety glasses, binoculars, microscope, eye bath, eye patch, kaleidoscope, lights , lava lamps, hologram paper, cellophane.
- Study animal eyes and insect eyes. Find the differences between these and mammal's eyes. Work in groups to write a report on one animal of their choice focusing on the eye. e.g.: animals with eyes at the top, side or front of the head with the different functions they perform, large and small eyes, night vision for nocturnal animals determining distances. **WORKSHEET: My Report Plan & WORKSHEET My Report**
- Study your own eye in a mirror. Draw a diagram of your eye.
- Discuss body language and how it is an important part of social communication. Children break into groups and role play body language for different emotions using the eyes as communication. **WORKSHEET: What Does My Body Language Tell You?**
- Quiz about common knowledge questions about the eye (maze with Morse code?) **WORKSHEET: Can You Crack the Code?**
- Picture study e.g.: tunnel vision, short sightedness, normal vision, far sightedness **WORKSHEET: What Would Things Look like If?**
- How do we depend on light for sight? Complete a number of tasks with the lights out or closing their eyes. They attempt some simple tasks– writing their name, draw a picture, tie laces, eat a sandwich, and clean your tray.
- Pair up and using crayons make a large drawing of partners eyes – include colour, patterns, and parts of eyes – discuss similarities and differences
- How the eyes use light. Pair up and one at a time cover their eyes with their hands. When they remove their hands , the other partner observes the dilation and shrinking of the pupil.
- Eye experiments <http://www.exploratorium.edu/snacks/iconperception.html>
- List all the jobs we do with our eyes. **WORKSHEET: What jobs can our eyes do?**

Eye disease and prevention

- Cooking lesson- carry out food making activities including ingredients that are good for eye nutrition
- Students conduct a search at school library on eye diseases.
- Keeping your eyes healthy- How to work out if I have a problem:? Cant see words properly – i.e. in a book, on the board, eyes are sore or tired, headaches after reading for a while, loosing your place when reading, find it difficult to concentrate on a part of the page, you get words mixed up, colours mixed up & what to do – get eyes checked, tell teacher or parent.

Eye injury and prevention

- **WORKSHEET: How Do I Protect My Eyes?** Brainstorm possible injuries that could occur to the eye. Make a list of potential hazards around the home and at school that could cause potential eye injuries. E.g.: sticks in the playground, corners of buildings, sun , sports equipment, sand, rubbish etc and prevention – wear safety goggles with sport, wear sunglasses on bright days, don't look at the sun, don't wear other peoples glasses, don't rub your eyes especially if something is in them, give your eyes a break if they get sore from reading or watching TV
- List possible ways of prevention of eye accidents in the playground.
- Make an eye safety poster and display around the school on prevention of eye injuries.
- Study different scenario pictures where risk to eye injury is evident. Students identify what they are by circling them and then writing a suggestion to improve the situation. **WORKSHEET: Spot The Hazard**
Garden – insecticides, tools, potting mix, pruning, sharp plants
Home - chemical, kitchen tools, bathroom medicines, sharp corners, scissors, animals, handling of toys
School yard - birds, sun, stick, playground
Beach – salt water, sand , shells, broken glass
- Review first aid.
- Identify the parts of the eye that keep it protected eg: eyelashes , eye socket, tears, eyelids, eyebrows

Diet, Protection, Eye Exercise

- **WORKSHEET: What food is good for my eyes?** Classifying activity – From a collection of magazine pictures, children sort pictures into two categories `Foods that are unhealthy for eyes` and `Food that are healthy for eyes`` . Allow children to explain the reasons for their choices...
- Children watch a collection of food advertising clips of unhealthy and healthy food promotion. (Prepare for this lesson by taping 3 to 5 television advertisements.) Discuss how the advertising companies try to manipulate their viewers to think that their food is healthy. Get the children to work out strategies to critique ads so they can make healthy choices
- Group work - Each group plans and prepares for a simple balanced meal that is beneficial to eye health.
- **WORKSHEET: What patterns can you see?** Make a Kaleidoscope
- Make a flip book – children draw an even like walking across the room, catching a ball etc through repeating images on a `flip` book – discuss how the eyes are tricked into thinking the object is moving

External information links

EXPLORATION OF THE EYE

Web link: (Teacher lesson plans and student guide on eye anatomy and function: Part 1) <http://faculty.washington.edu/chudler/eyetr.html>

Web link: (Teacher lesson plans and student guide on Perception of Movement, Depth and illusions: Part 2) <http://faculty.washington.edu/chudler/eyeper.html>

Web link: (Teacher lesson plans and student guide on Colour vision) <http://faculty.washington.edu/chudler/eyecol.html>

Web link: (Great website on health topics for kids, includes information, movies, quizzes, experiments on eye health) www.kidshealth.org

DIET, PROTECTION, EYE EXERCISE

Web Link: Eye protection tips (Neuro Science for kids) <http://faculty.washington.edu/chudler/eyesafe.html>

Web Link: Merging images – eye activity <http://pbskids.org/zoom/activities/do/thaumatropes.html>

Web link: Moving images – activity <http://pbskids.org/zoom/activities/sci/phenakistascope.html>

Web link: Colour receptors in the eyes experiment <http://pbskids.org/zoom/activities/phenom/afterimage.html>

Web link: Peripheral vision experiment <http://pbskids.org/zoom/activities/sci/peripheralvision.html>

Web link: Build a periscope <http://pbskids.org/zoom/activities/sci/periscope.html>

Web link: Kids health – website for kids with lots of information on eye health <http://www.cyh.com/SubDefault.aspx?p=255>

Web link: Optical illusions <http://library.thinkquest.org/J002330/opill.htm>