

**2023/24 ANNUAL TEACHING PLAN: NATURAL SCIENCES AND TECHNOLOGY: GRADE 4 (TERM 2)**  
**2023/24 ENANETSAMAISO LA SELEMO LA DISAENSE TSA TLHAHO LE THEKNOLOJI LA KEREITI YA BONE (KOTARA 2)**

KOTARA 2	WEEK 1 BEKE YA 1	WEEK 2 BEKE YA 2	WEEK 3 BEKE YA 3	WEEK 4 BEKE YA 4	WEEK 5 BEKE YA 5	WEEK 6 BEKE YA 6	WEEK 7 BEKE YA 7	WEEK 8 BEKE YA 8	WEEK 9 BEKE YA 9	WEEK 10 BEKE YA 10	WEEK 11 BEKE YA 11
<b>CAPS TOPICS</b> <b>DIHLOOHO HO TSWA HO CAPS</b>	<b>Matter and materials</b> <b>Metha le dimateriale</b>										
	<b>Materials around us</b> <b>Dimateriale tse re potapotileng</b>			<b>Solid materials</b> <b>Dimateriale tsa solidi</b>			<b>Strengthening materials</b> <b>Ho matlafatsa dimateriale</b>		<b>Strong frame structures</b> <b>Dibopeho tse matla tsa freime</b>		Remediation, revision and consolidation Tokiso, Boikgopotso, le Pokello
<b>CORE CONCEPTS, SKILLS AND VALUES</b> <b>KGOPOLO YA MANTLHA, TSEBO LE BOLENG</b>	<ul style="list-style-type: none"> <li>Solids, liquids and gases</li> <li>Change of state</li> <li>The water cycle</li> </ul>	<ul style="list-style-type: none"> <li>Solidi, dilikhwiti, (mekedikedi) le dlgeese</li> <li>Phetoho ya boemo</li> <li>Potoloho ya metsi</li> </ul>	<ul style="list-style-type: none"> <li>Raw and manufactured materials</li> <li>Properties of materials</li> </ul>	<ul style="list-style-type: none"> <li>Dimateriale tsa tlhaho tse sa fetolang le dimateriale tse fetotsweng.</li> <li>Makgetha kapa matshwao a dimateriale</li> </ul>	<ul style="list-style-type: none"> <li>Ways to strengthen materials</li> </ul>	<ul style="list-style-type: none"> <li>Ditsela tsa ho tiisa dimateriale</li> </ul>	<ul style="list-style-type: none"> <li>Struts and frame structures</li> <li>Indigenous structures</li> </ul>	<ul style="list-style-type: none"> <li>Distrate le dibopeho tsa freime</li> <li>Dibopeho tsa indejenase/botjha ba</li> </ul>			
<b>RESOURCES TO ENHANCE LEARNING</b> <b>DISEBEDISWA TSE THUSANG THUTO</b>	<ul style="list-style-type: none"> <li>Examples of materials and substances including wood, stone, plastic, fabric, water, juice, tea, air, cooking oil and cooking gas</li> <li>Examples of different substances such as ice, butter, wax, ice cream and chocolate</li> <li>Video clips from the internet</li> </ul>	<ul style="list-style-type: none"> <li>Mehlala ya dimateriale le dintho tse kenyelleditseng patsi, lejwe, polasetiki, lesela, metsi, lero, tee, moya, oli ya ho pheha le kgase ya ho pheha.</li> <li>Mehlala ya dintho tse fapaneng jwaloka leqhwa, botoro, boka, lebejanapo, le tjhokolete.</li> <li>Ditwapollo tsa video tse tswang inthaneteng</li> </ul>	<ul style="list-style-type: none"> <li>Examples of raw and manufactured materials to examine the properties, such as glass products, leather, ceramics, fabrics, wooden items and plastic products</li> </ul>	<ul style="list-style-type: none"> <li>Mehlala ya dimateriale tsa tlhaho le dimateriale tse fetotsweng ho sheba makgetha kapa matshwao, jwaloka, dihlahiswa tsa kgalase, letlalo, bonono ba letsopa, masela, dintho tsa patsi, le dihlahiswa tsa polasetiki</li> </ul>	<ul style="list-style-type: none"> <li>Paper, wooden dowels (30 cm x 10 mm) or sticks, sticky tape and paper fasteners to make struts</li> </ul>	<ul style="list-style-type: none"> <li>Pampiri, dithutswana tsa patsi (30 cm x 10 mm) kapa dithupa, theipi e mamarelang le ditlami tsa pampiri ho etsa distrate</li> </ul>	<ul style="list-style-type: none"> <li>Pictures of frame structures</li> <li>Paper, wooden dowels (30 cm x 10 mm) or sticks, sticky tape and paper fasteners</li> </ul>	<ul style="list-style-type: none"> <li>Ditshwa ntsho tsa dibopeho tsa di freime</li> <li>Pampiri, dithutswana tsa patsi (30 cm x 10 mm) kapa dithupa, theipi e mamarelang le ditlami tsa pampiri</li> </ul>			
<b>INFORMAL ASSESSMENT</b> <b>TEKOLO E SENG YA SEMMUSO</b>	<ul style="list-style-type: none"> <li>Investigate and write down the properties of solids, liquids and gases</li> <li>Compare the properties of solids, liquids and gases</li> <li>Describe and draw the stages of the water cycle</li> </ul>	<ul style="list-style-type: none"> <li>Fuputsa o be o ngole makgetha kapa matshwao a disolidi, dilikhwiti (mekedikedi) le digese</li> <li>Sheba phaphano pakeng tsa disolidi, dilikhwiti (mekedikedi) le</li> </ul>	<ul style="list-style-type: none"> <li>Explain the difference between raw and manufactured materials</li> <li>Investigate materials</li> </ul>	<ul style="list-style-type: none"> <li>Hlaolsa phaphang pakeng tsa dimateriale tsa tlhaho le dimateriale tse fetotsweng</li> <li>Fuputsa dimateriale</li> </ul>	<ul style="list-style-type: none"> <li>Explore different ways to strengthen paper, e.g. tubing and folding</li> </ul>	<ul style="list-style-type: none"> <li>Utulla ditsela tse fapaneng tsa ho matlafatsa pampiri, jwaloka, tjhubing le ho mena</li> </ul>	<ul style="list-style-type: none"> <li>Explore ways to make a strong structure</li> <li>Design and make a bridge. It must span a minimum</li> </ul>	<ul style="list-style-type: none"> <li>Utulla ditsela tsa ho matlafatsa sebopoho</li> <li>Rala, mme o etse borokgo. Borokgo bo</li> </ul>			

	<ul style="list-style-type: none"> <li>• Make a model of the water cycle</li> </ul>	<p>dikgase</p> <ul style="list-style-type: none"> <li>• Hlalosa o be o take mehato ya potoloho ya metsi</li> <li>• Etsa setshwantsho sa potolohoya metsi.</li> </ul>	<p>that objects are made from</p> <ul style="list-style-type: none"> <li>• Describe the properties of raw and manufactured materials</li> <li>• Classify materials into raw or manufactured</li> <li>• Investigate the properties of raw and manufactured materials, such as hard or soft, tough or fragile, stiff or flexible, strong in tension, etc.</li> <li>• Investigate how tough different materials are</li> <li>• Investigate material that is the most flexible for a ruler</li> <li>• Investigating the flexibility of a ruler. Record the results in the table and use them to plot a graph on graph paper</li> <li>• Identify different materials that are strong in tension</li> <li>• Link different materials with the purpose of the object</li> </ul>	<p>tse entseng dintho.</p> <ul style="list-style-type: none"> <li>• Hlaloa makgetha a dimateriale tsa tlhaho le dimateriale tse fetotsweng</li> <li>• Hlopha dimateriale ho dimateriale tsa tlhaho le dimateriale tse fetotsweng</li> <li>• Fuputsa ka makgetha a dimateriale tsa tlhaho le dimateriale tse fetotsweng jwaloka hore dithata kapa dibonolo, di tiile kapa dibobebe, ha dikobehe kapa di a kobeha, di matla ha di hulwa, jwalojwalo.</li> <li>• Fuputsa hore dimateriale tse fapaneng di matla ha kae.</li> <li>• Fuputsa ka materiale o kobehang ha bobebe jwalo ka rulara.</li> <li>• Fuputsa hore rulara e kobeha ha bobebe ha kae. Ngola diphetho tsa dipatlisiso ebe o etsa kerafo ho bontsha diphetho</li> <li>• Qolla dimateriale tse bontshang matla ha di hulwa</li> <li>• Amahanya dimateriale tse fapaneng ho ya ka sepheo sa tsona</li> </ul>	<ul style="list-style-type: none"> <li>• Investigate the strongest pillar and draw a table and a bar graph of the results. Discuss the results and draw conclusions</li> </ul>	<ul style="list-style-type: none"> <li>• Batlisisa tshiya kapa pilara e matla ka ho fetisisa mme o take tafole le kerafo ya bar o bontshe diphetho. Qoqa ka diphetho mme o etse qeto</li> </ul>	<p>length of 1 m. It must be able to support a load (bags of coins and books)</p> <ul style="list-style-type: none"> <li>• Identify materials used in traditional homes, e.g. Zulu hut, Xhosa rondavels, etc.</li> <li>• Compare modern and traditional structures and materials</li> </ul>	<p>tlameha ho kwala sebaka (spen) sa bonyane ba 1 m. Bo tshwanela ho tshheheta mojarro (mekotla ya ditjhelete tsa tshepe le dibuka)</p> <ul style="list-style-type: none"> <li>• Tsebahatsa dimateriale tse sebedisitswen g matlong a setso, mohlala, mekgoro ya MaZulu, dirontabole tsa MaXhosa, jwalojwalo.</li> <li>• Bapisa meaho kapa dibopeho le dimateriale tsa sejwalejwale le tsa setso.</li> </ul>	
<p><b>SBA (FORMAL ASSESSMENT)</b> <b>SBA (TEKOLO YA SEMMUSO)</b></p>	<ul style="list-style-type: none"> <li>• Practical task/investigation</li> <li>• Test</li> <li>• Mosebetsi wa matsoho/ Phuputso</li> <li>• Teko</li> </ul>								

MAJOR PROCESS AND DESIGN SKILLS	TSHEBETSO E KGOLO LE MORALO WA DITSEBO
<p>The teaching and learning of Natural Sciences and Technology involves the development of a range of process and design skills that may be used in everyday life in the community and in the workplace. Learners also develop the ability to think objectively and use a variety of forms of reasoning while they use these skills. Learners can gain these skills in an environment that taps into their curiosity about the world, and that supports creativity, responsibility and growing confidence. The following are the cognitive and practical process and design skills that learners will be able to develop in Natural Sciences and Technology.</p>	<p>Ho ruta le ho ithuta Disaense tsa Tlhaho le Theknoloji ho kenyetse nshetsopele ya mahlale a fapaneng a tshebetso le moralo o ka sebediswang bophelong ba letsatsi le letsatsi setjhabeng le mosebetsing. Baithuti le bona ba hodisa bokgoni ba ho nahana ka nepo le ho sebedisa mefuta e fapaneng ya ho beha mabaka ha ba ntse ba sebedisa bokgoni bona. Baithuti ba ka fumana ditsebo tse na tikolohong e tsoseletsang tjanjello ho bona ho tseba ka lefatshe, le e tshhetsang boiqapelo, boikarabello le kgodiseho e ntseng e hola. Dintlha tse latelang ke kutlwisiso ya tshebetso le ditsebo tsa moralo tseo baithuti ba tla kgona ho di ntlafatsa ho Disaense tsa Tlhaho le Theknoloji.</p>
<ol style="list-style-type: none"> <li>1. <i>Accessing and recalling information – being able to use a variety of sources to acquire information, and to remember relevant facts and key ideas, and to build a conceptual framework</i></li> <li>2. <i>Observing – noting objects, organisms and events in detail</i></li> <li>3. <i>Comparing – noting similarities and differences between things</i></li> <li>4. <i>Measuring – using measuring instruments such as rulers, thermometers, clocks and syringes (for volume)</i></li> <li>5. <i>Sorting and classifying – applying criteria in order to sort items into a table, mind-map, key, list or other format</i></li> <li>6. <i>Identifying problems and issues – being able to articulate the needs and wants of people in society STATEMENT (CAPS)</i></li> <li>7. <i>Raising questions – being able to think of and articulate relevant questions about problems, issues and natural phenomena</i></li> <li>8. <i>Predicting – stating, before an investigation, what the learner thinks the results will be for that particular investigation</i></li> <li>9. <i>Hypothesising – putting forward a suggestion or possible explanation to account for certain facts. A hypothesis is used as a basis for further investigation that will prove or disprove the hypothesis</i></li> <li>10. <i>Planning investigations – thinking through the method for an activity or investigation in advance. Identifying the need to make an investigation a fair test by keeping some things (variables) the same, while other things will vary</i></li> <li>11. <i>Doing investigations – this involves carrying out methods using appropriate apparatus and equipment, and collecting data by observing and comparing, measuring and estimating, sequencing, or sorting and classifying. Sometimes an investigation has to be repeated to verify the results</i></li> <li>12. <i>Recording information – recording data from an investigation in a systematic way, which includes drawings, descriptions, tables and graphs</i></li> <li>13. <i>Interpreting information – explaining what the results of an activity or investigation mean (this includes reading skills)</i></li> <li>14. <i>Designing – showing (e.g. by drawing) how something is to be made, taking into account the design brief, specifications and constraints</i></li> <li>15. <i>Making/constructing – building or assembling an object using appropriate materials and tools and using skills such as measuring, cutting, folding, rolling and gluing</i></li> <li>16. <i>Evaluating and improving products – using criteria to assess a constructed object and then stating or carrying out ways to refine that object</i></li> <li>17. <i>Communicating – using written, oral, visual, graphic and other forms of communication to make information available to other people</i></li> </ol>	<ol style="list-style-type: none"> <li>1. <b>Ho fihlella le ho hopola lesedi</b> ho kgona ho sebedisa mehlodi e fapaneng ho fumana tlhaisoleseding, le ho hopola dintlha le mehopolu ya bohlokwa, le ho theha moralo wa mohopolu.</li> <li>2. <b>Ho shebisisa</b> – ho hlokomela dintho, diphedi le diketsahalo ka botlalo.</li> <li>3. <b>Ho bapisa</b> – ho hlokomela ho tshwana le diphaphano pakeng tsa dintho.</li> <li>4. <b>Ho metha</b> – ho sebedisa disebediswa tsa ho metha jwalo ka dirulara, dithemometha, diwatjhe le dipeiti (bakeng sa volumu)</li> <li>5. <b>Ho arohanya le ho hlophisa</b> – ho sebedisa mekgwa e itseng e le hore o hlophise dintho o sebedisa tafole, mmapa wa kelello, senotlolo, lenane kapa mokgwa o mong.</li> <li>6. <b>Ho kgetholla/tsebahatsa mathata le ditaba</b> – ho kgona ho hlalosa ditlhoko le tse batlwang ke batho setjhabeng.</li> <li>7. <b>Ho hlahisa dipotso</b> – ho kgona ho nahana le ho hlahisa dipotso tse amanang le mathata, ditaba le diketsahalo tsa tlhaho.</li> <li>8. <b>Ho lepa/ho bonelapele</b> – ho bolela pele ho phuputso, seo moithuti a nahanang hore diphetho tsa phuputso e tla ba difeng.</li> <li>9. <b>Ho hlahisa kgopolo</b> – ho fana ka tlhahiso kapa tlhaloso e ka bang teng ho hlalosa dintlha tse itseng. Kgopolo e sebediswa e le motheo wa patlisiso e nngwe e tla netefatsa kapa ho hanyetsa kgopolo eo..</li> <li>10. <b>Ho rera diphuputso</b> – ho nahana ka mokgwa wa mosebetsi kapa phuputso pele ho nako. Ho tsebahatsa tlhokeho ya ho etsa phuputso e be teko e senang leeme ka ho boloka dintho tse ding (divariable) di sa fetohle, ha tse ding di fetolwa.</li> <li>11. <b>Ho etsa diphuputso</b> – ho phetha mekgwa ka ho sebedisa disebediswa tse loketseng ho bokella data ka ho shebisisa, ho bapisa, ho metha le ho akanya, ho latelana, kapa ho hlopha le ho hlophisa.</li> <li>12. <b>Ngola fatshe lesedi</b> – ngola fatshe lesedi leo o le fumaneng diphuputso ka tatellano, o kenyeletsa ditshwantsho, ditlhaloso, ditafole(table form) le kerafo (graph).</li> <li>13. <b>Ho hlalosa lesedi</b> – ho hlalosa hore na diphetho tsa mosebetsi kapa patlisiso di bolela eng (ho kenyetse le tsebo ya ho bala).</li> <li>14. <b>Ho rala</b> – ho bontsha (mohlala:ho tshwantsha/ ho taka) hore na ntho e lokela ho etswa jwang, ho nahana ka ditlhoko tsa moralo, dipehelo le di ditshita/ditshitiso.</li> <li>15. <b>Kaho</b> – ho aha kapa ho kopanya ntho ka ho sebedisa disebediswa tse loketseng le ho sebedisa ditsebo tse kang ho metha, ho seha, ho mena, ho phuthela le ho kgomaretsa.</li> <li>16. <b>Ho lekola le ho ntlafatsa dihlahiswa</b> – ho sebedisa tekanyetso ho hlahloba ntho e ahilweng e be ho hlahiswa kapa ho etswa ditsela tsa ho e ntlafatsa.</li> <li>17. <b>Ho buisana</b> – ho sebedisa mekgwa ya puisano e ngotsweng, ya molomo, ya pono, ya sethwantso le mefuta e meng ya puisano ho etsa hore lesedi le fumanehe bathong ba bang.</li> </ol>