2023/24 ANNUAL TEACHING PLANS: NATURAL SCIENCES AND TECHNOLOGY: GRADE 4 (TERM 2)

2023/24 TINHLELO TEKUFUNDZISA TEMNYAKA: ISAYENSI YETEMVELO NETHEKNOLOJI: LIBANGA 4 (ITHEMU 2)

basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

TERM 2 **ITHEMU 2**	WEEK 1,2,3 **LIVIKI 1,2,3**	WEEK 4 **LIVIKI 4**	WEEK 5 **LIVIKI 5**	WEEK 6 **LIVIKI 6**	WEEK 7 **LIVIKI 7**	WEEK 8 **LIVIKI 8**	WEEK 9 **LIVIKI 9**	WEEK 10 and 11 **LIVIKI 10 ne 11**
CAPS TOPICS. **TIHLOKO TE-CAPS**	**Matter and Materials Metha no Matheriyeli**							
	Materials around us **Emamethiriyeli latfolakala madvute natsi**		Solid materials **Emamethiriyeli lasolidi**		Strengthening materials **Kucinisa emamethiriyeli**		Strong frame structures **Takhiwo tefreyimu letinemandla**	Remedial work, revision, and consolidation **Umsebenti wekulungisa, kubuyeketa kanye nekuhlanganisa**
CORE CONCEPTS, SKILLS AND VALUES **IMICONDVO LENGUMGOGODLA / LEMCOKA, EMAKHONO KANYE NEMAGUGU**	• Solids, liquids and gases • Change of state • The water cycle	• Lokusolidi, lokusamanti/ilikhwidi, emagesi (tinfto letingumoya) • Kuntjintja kwesimo • Umjikeleto wemanti	• Raw and manufactured materials. • Properties of materials	• Emamethiriyeli emvelo nalakhicitiwe. • Emaphrophathi emamethiriyeli	• Ways to strengthen materials	• Tindlela tekucinisa emamethiriyeli.	• Struts and frame structures • Indigenous structures	• Ema-struts netakhiwo telifreyimu • Takhiwo tendzabuko
RESOURCES TO ENHANCE LEARNING **IMITFOMBOLUSITO YEKUFUNDZA**	• Examples of materials and substances including wood, stone, plastic, fabric, water, juice, tea, air, cooking oil and cooking gas • Examples of different substances such as ice, butter, wax, ice cream and chocolate. • Video clips from the internet	• Tibonelo temamethiriyeli nemasabstensi kufaka phakatsi sigodvo, litje, lipulasitiki, indvwangu, emanti, ijuzi, litiya. umoya, emafutsa ekupheka negesi yekupheka. • Tibonelo temasabstensi lahlukahlukene njengelichwa/i-ayisi, bhotela, i-wax, i-ayisikhilimu nashokoledi • Emavidiyo lavela ku-inthanethi.	• Examples of raw and manufactured materials to examine the properties, such as glass products, leather, ceramics, fabrics, wooden items and plastic products.	• Tibonelo temamethiriyeli emvelo kanye nalakhiticiwe, kuhlola emaphrophathi, njengemikhicito yengilazi, sikhumba, emaseramikhi, tindvwangu, tintfo letakhiwe ngesigodvo kanye naletakhiwe ngepulasitiki	• Paper, wooden dowels (30 cm × 10 mm) or sticks, sticky tape and paper fasteners to make struts	• Liphepha, emadoweli esigodvo (30cm x 10mm) noma tindvuku, itheyiphu lenamatselako kanye netipenedi teliphepha kwenta ema-struts.	• Pictures of frame structures • Paper, wooden dowels (30 cm × 10 mm) or sticks, sticky tape and paper fasteners	• Titfombe tetakhiwo temafreyimu. • Liphepha, emadoweli esigodvo (30cm x 10mm) nobe tindvuku, itheyiphu lenamatselako, kanye netipenedi teliphepha.

KINFORMAL ASSESSMENT KUHLOLA LOKUNGAKAHLELEKI	• Investigate and write down the properties of solids, liquids and gases • Compare the properties of solids, liquids and gases • Describe and draw the stages of the water cycle. • Make a model of the water cycle	• Hlola ubhale emaphrophathi etinfto letisolidi, letisamanti kanye naletingumoya(emagesi) • Catsanisa emaphrophathi emasolidi, amalikhwidi, kanye nalokungumoya/temagesi. • Chaza bese udvweba tigaba temjikeleto wemanti • Yenta umfanekiso wemjikeleto wemanti	• Explain the difference between raw and manufactured materials • Investigate materials that objects are made from • Describe the properties of raw and manufactured materials • Classify materials into raw or manufactured • Investigate the properties of raw and manufactured materials, such as hard or soft, tough or fragile, stiff or flexible, strong in tension, etc. • Investigate how tough different materials are • Investigate material that is the most flexible for a ruler • Investigate the flexibility of a ruler. Record the results in a table and use them to plot a graph on a graph paper • Identify different materials that are strong in tension • Link different materials with the purpose of the object.	• Chaza umehluko emkhatsini kwemamethiriyeli emvelo nalawo lakhicitiwe. • Phenya ngemamethiriyeli lekwentiwe ngawo ema-objekthi • Chaza emaphrophathi emamethiriyeli emvelo, nalawo lakhicitiwe. • Hlunga emamethiriyeli emvelo kanye nalawo lakhicitiwe • Phenya emaphrophathi emamathiriyeli emvelo kanye nalawo lakhicitiwe, njengalacinile noma latsambile, lalukhuni noma latsambile, langagobeki kalula noma lagobeka kalula, tinemandla ekudvonsweni. • Phenya ngekucina kwetinhlobo letahlukene temamethiriyeli • Phenya ngemamethiriyeli lagobeka malula ekwenteni irula • Phenya lokugobeka malula kwerula. Rekhoda lemiphumela ethebulini uyisebentisele kudvweba/kuplotha igrafu ephepheni legrafu • Khomba emamethiriyeli lahlukene lanemandla ekudvonsweni. • Chumanisa emamethiriyeli lahlukene ngenhloso ye-objekthi.	• Explore different ways to strengthen paper, e.g. tubing and folding. • Investigate the strongest pillar and draw a table and a bar graph of the results. Discuss the results and draw conclusions.	• Hlola tindlela letahlukahlukene tekucinisa liphepha; sibonelo tjubhing kanye nekuligoca. • Phenya kutsi nguyiphi i-pillar lecine kwengca onkhe, khombisa imiphumela yakho ngokudvweba lithebula ne bar-graph. Cocisanani ngemiphumela bese nenta siphetfo.	• Explore ways to make a strong structure. • Design and make a bridge. It must span a minimum length of 1m. It must be able to support a load (bags of coins and books) • Identify materials used in traditional homes, e.g. Zulu hut, Xhosa rondavels, etc	• Phenya tindlela tekwenta sakhiwo lesicinile. • Dizayna wakhe libhuloho. Kumele libe nebudze lobungenani 1m. Kumele likhone kutfwala umtfwalo (tikhwama letimakhoyini noma emabhuku lambalwa). • Khomba tintfo letisetjentiswe kwakha tindlu tendzabuko; Sibonelo. Indlu yesiZulu/yesiSwati, indvumba/irondaveli yesiSwati noma yesiXhosa, nalokunye	
SBA (FORMAL ASSESSMENT) **KUHLOLA LUKUHLELEKILE**	• Practical task/Investigation • **Ithaskhi lephrakthikhali/ luphenyo** • TEST • **SIVIVINYO/LUHLOLO**								

MAJOR PROCESS AND DESIGN SKILLS	INDLELANCHUBO LEBALULEKILE AND NEMAKHONO EKUDIZAYNA
The teaching of 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.	Kufundzisa nekufundvwa kweSayensi Yetemvelo neTheknoloji kufaka ekhatsi kutfutfukiswa kwemakhono lahlukahlukene endlelanchubo kanye nekudizayna langasetjentiswa ekuphileni kwemalanga onkhe emmangweni nasemsebentini. Bafundzi baphindze futsi batfutfukise likhono lekucabanga ngendlela lecondzile futsi basebentise tinhlobo letehlukahlukene tekucabanga ngesikhatsi basebentisa lamakhono. Bafundzi bangawatfola lamakhono endzaweni lekhutsata lilukuluku labo ngekwati ngemhlaba, futsi lasekela kucamba tintfo letinsha, kutibophelela kanye nekukhula kwekutetsemba. Lokulandzelako emakhono ekucabanga endlelanchubo lephrakthikhali kanye nemakhono nekudizayna lawo bafundzi labatawukhona kuwatfutfukisa/ kuwatfola kuSayensi Yetemvelo neTheknoloji.
1. *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.* 2. *Observing-noting objects, organisms and events in detail.* 3. *Comparing- noting similarities and differences between things* 4. *Measuring-using measuring instruments such as rulers, thermometers, clocks and syringes (for volume)* 5. *Sorting and classifying- applying criteria in order to sort items into a table, mind map, key, list or other format* 6. *Identifying problems and issues- being able to articulates the needs and wants of people in society. STATEMENT(CAPS)* 7. *Raising questions- being able to think of and articulate relevant questions about problems, issues and natural phenomena* 8. *Predicting- stating, before an investigation, what the learner thinks the results will be for that particular investigation* 9. *Hypothesising- putting forward a suggestion or possible explanations to account for certain facts. A hypothesis is used as a basis for further investigation that will prove or disprove the hypothesis.* 10. *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.* 11. *Doing investigations- this involves caring out methods, using appropriate apparatus and equipment and collecting data by observing comparing, measuring and estimating, sequencing, or sorting and classifying. Sometimes an investigation has to be repeated to verify the results.* 12. *Recording information- recording data from an investigation in a systemic way, which includes drawings, descriptions, tables and graphs* 13. *Interpreting information-explaining what the results of an activity or investigation means (this includes reading skills)* 14. *Designing- showing (e.g. by drawing) how something is to be made, taking into account the design brief, specifications, and constraints.* 15. *Making/Constructing-building or assembling an object using appropriate materials and tools and using skills such as measuring, cutting, folding, rolling and gluing* 16. *Evaluating and improving products- using criteria to assess a constructed object and then stating and carrying out ways to refine that object.* 17. *Communicating- Using written, oral, visual, graphic and other forms of communication to make information available to other people.*	1. *Kufinyelela nekukhumbula lwati – kukhona kusebentisa imitfombo leyehlukahlukene kutfola lwati, kanye nekukhumbula emaciniso lafanele kanye nemibono lebalulekile, kanye nekwakha luhlaka lwemcondvo.* 2. *Kubuka – kucaphela ema-objekthi, tilwane kanye netehlakalo ngekwemininingwane.* 3. *Kucatsanisa – kucaphela lokufanako nalokwehlukile emkhatsini kwetintfo* 4. *Kukala – kusebentisa ema-instrumenthi ekukala lafana nemarula ematemometha, emawashi kanye ne sirinji (yevolumu)* 5. *Kuhlunga nekuhlukanisa – kusebentisa indlela yekuhlunga tintfo kulithebula, imephu yengcondvo, sikhiya, luhlu noma lenye indlela/ifomethi.* 6. *Kubona tinkinga netindzaba – kukhona kuveta tidzingo netifiso tebantfu emmangweni.* 7. *Kuphakamisa imibuto – kukhona kucabanga nekuveta imibuto lefanele mayelana netinkinga, tindzaba kanye netehlakalo temvelo.* 8. *Kubiketela – kusho, ngaphambi kweluphenyo, kutsi umfundzi ucabanga kutsi imiphumela itawuba yini kuloluphenyo lolutsite.* 9. *Kucabanga – kubeka siphakamiso noma inchazelo lekhonakalako yekulandzisa emaciniso latsite. Umcabango usetjentiswa njengesisekelo seluphenyo loluchubekako lolutawufakazela noma luphikise umcabango/umbono.* 10. *Kuhlela luphenyo – kucabanga ngendlela yemsebenti noma luphenyo kusengaphambili. Kubona sidzingo sekwenta luphenyo lube sivivinyo lesifanele ngekugcina letinye tintfo (letigucukako/ema- variables) tifana, kantsi letinye tintfo titawehluka* 11. *Kwenta luphenyo – loku kufaka ekhatsi kwenta tindlela ngekusetjentiswa kwema-apharethasi lafanele kanye nemishini, kanye nekubutsela ndzawonye idatha ngekubuka nekucatsanisa, kukala nekulinganisa, kulandzelana, noma kuhlunga nekuhlukanisa. Ngalesinye sikhatsi luphenyo kufanele luphindzwe kute kuciniseki swe imiphumela.* 12. *Kurekhoda lwati – kubhala phansi lwati loluvela eluphenyweni ngendlela lehlelekile, lefaka ekhatsi imidvwebo, tinchazelo, emathebula kanye nemagrafu.* 13. *Kuhumusha lwati – kuchaza kutsi imiphumela yemsebenti nobe yeluphenyo isho kutsini (loku kufaka ekhatsi emakhono ekufundza)* 14. *Kudizayna – kukhombisa (sibonelo. ngekudvweba) kutsi intfo letsite yentiwa njani, kucatjangelwa nebhrifi yedizayini, kucaciswa kanye nemikhawulo/nencindzetelo.* 15. *Kwenta/kwakha – kwakha noma kuhlanganisa i-objekthi usebentisa tintfo letifanele kanye nemathuluzi kanye nekusebentisa emakhono lafana nekukala, kusika, kugoca, kugicita kanye nekunamatselisa.* 16. *Kuhlola nekutfutfukisa imikhicito – kusebentisa indlela yekuhlola intfo leyakhiwe bese usho noma wenta tindlela tekuhlobisa leyo ntfo.* 17. *Kukhulumisana – kusebentisa tindlela tekuchumana letibhalwe phansi, temlomo, letibonakalako, lokuvetwe ngemfanekiso kanye naletinye tindlela tekukhulumisana kwenta lwati lutfolakale kulabanye bantfu.*