2024/25 ANNUAL TEACHING PLANS: NATURAL SCIENCES AND TECHNOLOGY: GRADE 4
2024/25 PULANE DZA U FUNZA DZA ṄWAHA: SAINTSI YA MUPO NA THEKHINOLOGI: GIREID1 4

basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

2024/25 ANNUAL TEACHING PLANS: NATURAL SCIENCES AND TECHNOLOGY: GRADE 4 (TERM 2)
2024/25 PULANE DZA U FUNZA DZA ṄWAHA: SAINTSI YA MUPO NA THEKHINOLOGI: GIREID1 4 (THEMO 2)

TERM 2 KOTARA 2	WEEK 1 VHEGE YA 1	WEEK 2 VHEGE YA 2	WEEK 3 VHEGE YA 3	WEEK 4 VHEGE YA 4	WEEK 5 VHEGE YA 5	WEEK 6 VHEGE YA 6	WEEK 7 VHEGE YA 7	WEEK 8 VHEGE YA 8	WEEK 9 VHEGE YA 9	WEEK 10 VHEGE YA 10	WEEK 11 VHEGE YA 11
CAPS TOPICS **ṬHOHO DZA CAPS**	**Matter and Materials** **Metha na zwishumiswa**										
	Materials around us **Zwishumiswa zwine ra vha nazwo**		**Solid materials** **Zwishumiswa zwa zwiomate**				**Strengthening materials** **U khwaṱhisa Zwishumiswa**		**Strong frame structures** **Zwivhumbeo zwa fureme zwo khwaṱhaho.**		**Remediation, revision and consolidation** **U lugisa, u vusuludza na u fhata**
CORE CONCEPTS, SKILLS AND VALUES **MIHUMBULO YA MUTHEO,ZWIKILI NA VHUNDEME**	• Solids, liquids and gases • Change of state • The water cycle	• Zwiomate, zwiluḓi na gese • Tshanduko ya mbonalo • Mutevheṱhaḓu wa maḓi	• Raw and manufactured materials • Properties of materials	• Zwishumiswa zwivhisi na zwibveledzwa • Zwitalusi zwa zwishumiswa	Ways to strengthen materials	• Nḓila dza u khwaṱhisa zwishumiswa	• Struts and frame structures. • Indigenous structures	• Thikho na fureme dza tshiimiswa nga magwangwa • Zwiimiswa zwa- po			
RESOURCES TO ENHANCE LEARNING **ZWISHUMISWA ZWA U THUSEDZA U GUDA**	• 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	• Tsumbo ya zwishumiswa na zwithu ri tshi kalela na thanda,tombo, pulasitiki,labi, maḓi, dzhusi, tie, muya, mapfura a u bika na gese ya u bika. • Tsumbo dza zwithu zwo fhambanaho u fana na aisi, boḓoro, wakisi, aisikhirimu na tshokoleti • Zwipiḓa zwa vidio zwi bvaho kha inthanethe	• Examples of raw and manufactured materials to examine the properties, such as glass products, leather, ceramics, fabrics, wooden items and plastic products	• Tsumbo dza zwishumiswa zwivhisi na zwo bveledzwaho u itela u ṱola zwitalusi, u fana na zwibveledzwa zwa ngilasi, mukumba, seramiki, malabi, zwithu zwa thanda na zwibveledzwa zwa pulasitiki.	• Paper, wooden dowels (30 cm × 10 mm) or sticks, sticky tape and paper fasteners to make struts	• Bammbiri, dowele dza thanda (30 cm × 10 mm) kana zwitanda, theipi ya u nambatela na zwithu zwa u nambatedza bammbiri u itela u ita thikho.	• Pictures of frame structures • Paper, wooden dowels (30 cm × 10 mm) or sticks, sticky tape and paper fasteners	• Zwifanyiso zwa zwiimiswa zwa fureme . • Bammbiri, thanda ya tshitendeledzi (30 cm × 10 mm) kana zwitanda, theipi ya u nambatela na zwithu zwa u nambatedza bammbiri.		
INFORMAL ASSESSMENT **U LINGA HU SI HA**	Investigate and write down the properties of solids, liquids and gases • Compare the properties of solids, liquids and gases	• Toḓulusani ni ṅwale fhasi mbonalo ya zwiomate , zwiluḓi na gese. • Vhambedzani mbonalo ya zwiomate , zwiluḓi na gese.	• Explain the difference between raw and manufactured materials • Investigate materials that objects are made from	• Talutshedzani phambano vhukati ha zwishumiswa zwivhisi na zwibveledzwa • Toḓisani zwishumiswa zwine zwithu zwo itwa ngazwo.	• Explore different ways to strengthen paper, e.g. tubing and folding	• Todulusani nḓila dzo fhambanaho dza u khwaṱhisa bammbiri, tsumbo, dzi tshubu na u peta • Todulusani thikho yo khwaṱhesaho ni ole thebulu na	• Explore ways to make a strong structure • Design and make a bridge. It must span a minimum length of 1 m. It must be able to support a load (bags of coins	• Todulusani ndila dza u ita tshivhumbeo tsho khwathaho. • Dizainani ni ite buroho. I fanelal u vha na vhulapfu ha 1m. I fanela u kona u hwala muhwalo (bege dza tshelede dza tsimbi na dzi bugu) • Talusani zwishumiswa		

FOMALA	• Describe and draw the stages of the water cycle • Make a model of the water cycle	• Talutshedzani na u ola zwitepisi zwa mutevheṱhaṋu wa maḓi • Itani tshiedziswa tsha mutevhethadu wa maḓi.	• 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 • Investigating the flexibility of a ruler. Record the results in the table and use them to plot a graph on graph paper • Identify different materials that are strong in tension • Link different materials with the purpose of the object	• Buletshedzani pfaneleo dza zwishumiswa zwivhisi na zwo bveledzwaho • Talutshedzani mbonalo ya zwishumiswa zwivhisi na zwo bveledzwaho. • Khethekanyani zwishumiswa zwivhisi na zwo bveledzwaho. Toḓulusani uri zwishumiswa zwo fhambanaho zwi konḓa hani Toḓulusani mbonalo ya zwishumiswa zwivhisi na zwibveledzwa, u fana na zwino konda na zwi sa kondi, na zwi no pwashea na zwi sa pwashei, na zwino petea na zwi sa petei, na zwo khwathaho zwo kokodziwaho • Todulusani phambano vhukati ha zwishumiswa zwi sa pwashei • Todulusani zwishumiswa zwino no peteyesa kha rula. • Todulusani u petekana ha rula. Rekhodani mawanwa kha thebulu ni dovhe ni a shumise u durowa girafu kha bambiri la girafu. • Talusani zwishumiswa zwo khwathaho nga u kokodziwa. • Tumetshedzani zwishumiswa zwo fhambananaho na ndivho yazwo.	• Investigate the strongest pillar and draw a table and a bar graph of the results. Discuss the results and draw conclusions	bargirafu. Talutshedzani mvelelo ni phendele.	and books) • Identify materials used in traditional homes, e.g. Zulu hut, Xhosa rondavels, etc . • Compare modern and traditional structures and materials	zwine zwa shumiswa mahayani a sialala, eg, nndu dza maZulu, randavhula dza maXhosa na zwinwe • Vhambedzani nndu dza sialala na dza tshi zwino.	
SBA (FORMAL ASSESSMENT) **(ULINGA HA FOMALA).**	• **Practical task/investigation** • **Mushumo wa thoduluso** • **Test** • **Ndingo**								

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MAJOR PROCESS AND DESIGN SKILLS	KGOLO TSHEPEDIŠO LE GO HLAMA BOKGONI
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.	U funza na u guda saintsi ya mbvelo na thakinolodzhi zwi katela u bveledza zwikili zwo fhambanaho zwa maitele na u divhadza zwine zwa nga shumiswa kha vhutshilo ha duvha na duvha tshitshavhani na mushunoni. Vhagudi vha dovha vha bveledza vhukoni ha u humbula nga ndivho na u shumisa zwivhumbeo zwo fhambanaho zwa u elekanya ngeno vha tshi shumisa zwikili izwi. Vhagudi vha nga wana izwi kha vhupo vhune ha toda u divha nga ha lifhasi, na vhune ha tikedza vhusiki, vhudifhinduleli na fulufhelo line la khou aluwa. Zwi tevhelaho ndi maitele a u talukanya na u shumisa na zwikili zwa u divhadza zwine vhagudi vha do kona u zwi bveledza kha saintsi ya mlelo na thekhinololdzhi.
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 articulate the needs and wants of people in society* 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 explanation 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 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* 12. *Recording information – recording data from an investigation in a systematic way, which includes drawings, descriptions, tables and graphs* 13. *Interpreting information – explaining what the results of an activity or investigation mean (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 or 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. *U swikelela na u humbula mafhungo – u kona u shumisa zwiko zwo fhambanaho u wana mafhungo, na u humbula mafhungo o teaho na mihumbulo ya ndeme, na u fhata muhanga – rambo wa muhumbulo.* 2. *U lavhelesa- tshithu tshine tsha khou dzhielwa ntha, na tshiitea tsho farwaho.* 3. *U vhambedza- u thogomela u fana na phambano vhukati ha zwithu.* 4. *U kala- u kala hu tshi shumiswa zwishumiswa zwa u ela u fana na rula, themomitha, watshi, (u itela volumu).* volume) 5. *U khethekanya na fhambanyisa- u shumisa maitele u itela u khethekanya zwithu kha thebulu, mepe wa muhumbulo, khii, mutevhe kana tshinwe tshivhumbeo.* 6. *U topola thaidzo na mafhungo- u kona u bvisela khagala thodea na zwine vhathu vha zwi toda kha tshitshavha.* 7. *U bveledza mbudziso- u kona u humbula na u bvisela khagala zwo teaho nga ha thaidzo, mafhungo na zwithu zwa mupo.* 8. *U bvumba- u amba phanda ha thodisiso, uri mugudi u humbula uri mvelelo I do vha ifhio kha thodisiso yeneyo.* 9. *U ita muhumbulo- u vhea nyeletshedzo na thalutshedzo ine ya nga vha hone u itela u talutshedza manwe mafhungo, muhumbulo u shumiswa sa mutheo wa thodisiso yo engedzeaho ine ya do sumbedza kana u hanedza muhumbulo.* 10. *u pulana thodisiso- u humbula nga ha ndila ya mushumo kana thodisiso hu thse nga phanda, u talula thodea ya uta thodisiso uri I vhe mulingo wo teaho nga u ita zwinwe zwithu(zwine zwa shanduka) zwi fana, ngeno zwinwe zwithu zwi tshi do fhambana.* 11. *U ita thodisiso- hezwi zwi katela u ita ndila hu tshi shumiswa zwishumiswa na zwishumiswa zwo teaho, na u kuvhanganya datha nga u sedza na u vhambedza, u kala na u anganyela, u tevhekana kana u khethekana, tshinwe tshifhinga thodisiso I tea u dovholola u itela u khwathisedza mvelelo.* 12. *U rekhoda mafhungo- u rekhoda datha u bva khathodisiso nga ndila yo dzudzanyeaho, ine ya katela zwifanyiso, thalutshedzo, thebulu na girafu.* 13. *U talutshedza mafhungo- u talutshedza zwine mvelelo dz amushumo kana thodisiso dza amba zwone (hezwi zwi katela vhukoni ha u vhala).* 14. *U dizaina- u sumbedza (tsumbo, nga u ola) uri tshithu tshi tea u itwa hani, hu tshi dzhielwa ntha thalutshedzo pfufhi ya u dizaina, zwidodombedzwa na zwithivheli.* 15. *U ita/ u fhata- u fhata nau kuvhanganya tshithu hu tshi shumiswa hu tshi shumiswa zwo teaho na zwi shumiswa zwo teaho na u shumisa zwikili zwi ngaho u kala, u gera, u peta, u tomola na u nambatedza.* 16. *U tola na u khwinisa zwi bveledzwa- u shumisa maitele a u tola tshithu tsto fhatiwaho na u amba kana u ita ndila dza u khwinisa tshenetsho tshithu.* 17. U davhidzana – u shumisa zwo ṅwaliwaho, zwa u amba, zwa u vhona, zwa girafu na dziṅwe zwivhumbeo.zwa vhudavhidzani u itela uri mafhungo a vhe hone kha vhaṅwe vhathu

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2024/25 PULANE DZA U FUNZA DZA ṄWAHA: SAINTSI YA MUPO NA THEKHINOLOGI: GIREID1 4