No. 63

SCIENCE SPAZA

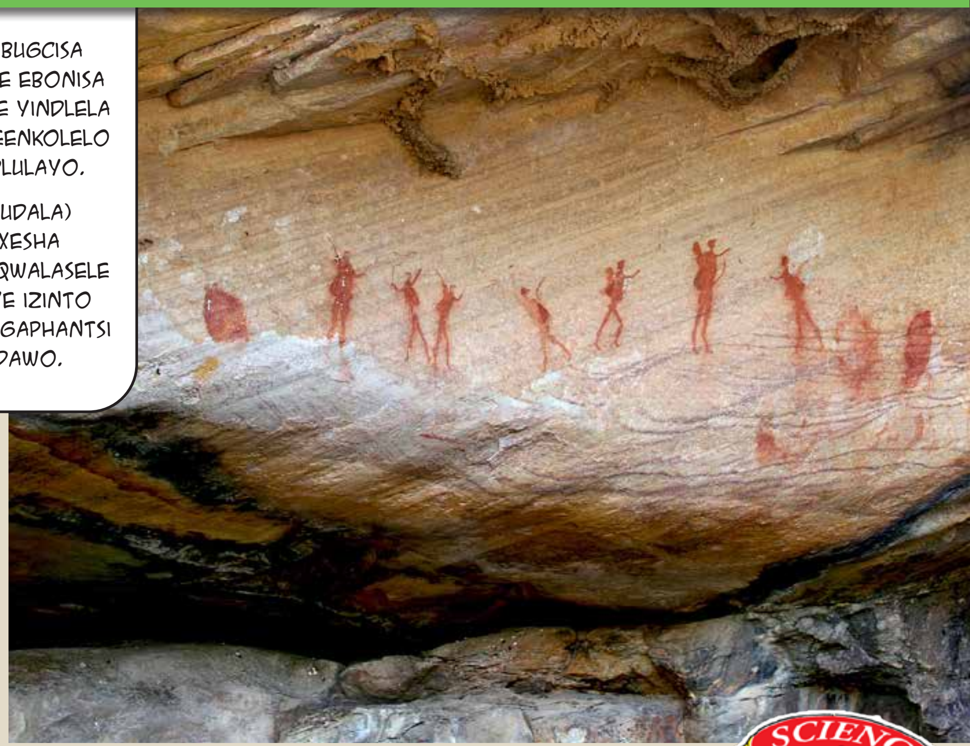
www.sciencespaza.org

ARCHAEOLOGY: UKUMAMELA IXESHA ELIDLULILEYO

INTSHAYELELO NGE NDWALA BUGCISA ESEMATYENI YELOMZANSTI AFRICA

UMZANTSI AFRIKA UNENTAPHANE YEE NDWALA-BUGCISA EFUMANEKA KWIMIQOLOMBA, NASEMATYENI ASELE EBONISA IIMPAWU ZOKHUKHULISEKO NGENZA YOBUDALA. LE YINDLELA ABANTU BABEBONISA NGAYO UYILO KWAKUNYE NEENKOLELO ZABO, AMAWAKA NGAMAWAKA EMINYAKA EYADLULAYO.

II ***ARCHAEOLOGISTS*** (ABEMBI BEZINTO ZAKUDALA) ZINGCALI EZIFUNDA NGEXESHA ELIDLULILEYO NGOKUTHI BAQWALASELE IIMIZOBO KUNYE NEZINYE IZINTO EZATHI ZANGCWABEKA NGAPHANTSI KOMHLABA KWEZI NDAWO.



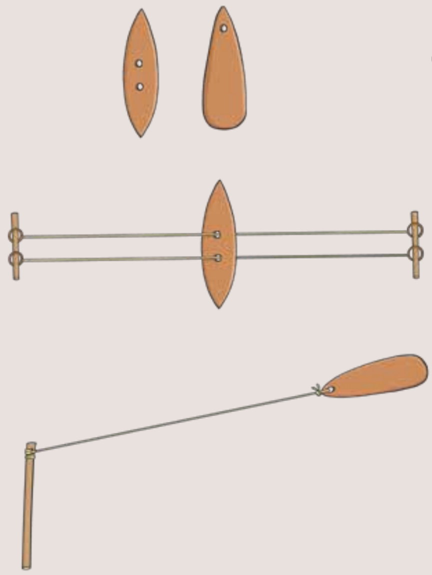
Imizobo yabantu ezotywe kumqolomba okwiintaba ze Cederberg, entshona koloni.
Isithombe ngokufotwa ngu: © Neil Rusch

YENZA I BULLROARER

I ***BULLROARER*** SISIXHOBO ESILULA ESENZA INGXOLO XASIJIKELEZISWA EMOYENI. II ARCHEOLOGISTS (ABEMBI BEZINTO ZAKUDALA) ZIKHOLELWA UKUBA II BULLROERERS NAMANYE AMACWECWE AJIKELEZAYO AFANA NE "WOER-WOERS" ZAZISETYENZISWA NGABANTU ABABEPHILA KWIXESHA ELADLULAYO UKUNXIBELELANA KWIMIGAMA EMIDE, AKUBHENGEZA AMASIKO OKANYE NJE UKWENZA UMCULO!

UZAKUDINGA:

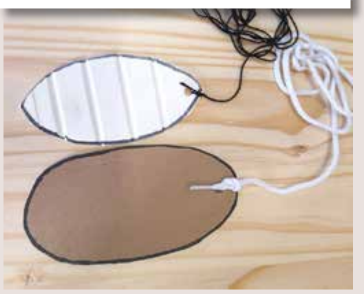
- UNOMINXA WOKUSIKA (ISIKERE)
- IQWAKUQWAKU LEKHALIBHODI OKANYE IPULASITIKI ELIQWAKUQWAKU
- IPENSILE OKANYE UMONGO WOKUBHALA
- ISIXHOBO SOKUGQOBHOZA IPHEPHA OKANYE UMONGO WOKUBHALA OLOLIWEYO
- IRHALI OKANYE INTANJANA EMALUNGA NAMASHUMI AMAHLANU EESENTIMITHA (50CM) OKANYE ISIQINGATHA SEMITHA
- ISINTI SOKUBOPHELELA IRHALI (AYISOSINYANZELISO)



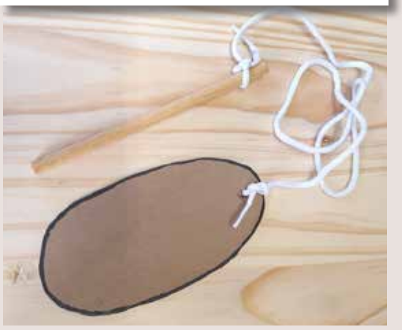
1 ZOBA UZE USIKE, UKHUPHE IKHALIBHODI OKANYE IPULASITIKI EBUMILA OKWEQANDA. INGAMALUNGA NEESENTIMITHA EZILISHUMI UKUYA KWEZILISHUMI ELINESIHLANU UBUDE KUNYE NEESENTIMITHA EZI NTLANU UKUYA KWEZISIBHOZO UKUVULEKA.

2 GQOBHOZA OKANYE UVULE UMNGXUNYA EKUPHELE KWEKHALIBHODI ELIMILE OKWEQANDA.

3 THUNGELA IRHALI KUMNGXUMA WE HKALIBHODI ELIBUMILA OKWEQANDA ZE UYIBOPHE.



4 BOPHELELA IRHALI OKANYE INTAMBO KWISINTI, UKUBA UKHETHA UKWENZA OKO



5 JINGISA I BULLROARER NGAPHEZU KWENTLOKO NANGAPHAMBI KWAKHO. MAMELA UMCULO WEXESHA ELADLULAYO.

KWENZEKA NTONI APHA?

UKUJIKELEZISA I BULLROARER KWENZA INGXOLO NJENGOKO INTO IYE ISHUKUNYISWE NGUMOYA.

UKUMILA KUNYE NOBUNZIMA BAYO LDISKI EJIKELEZAYO ZIZAKUBANEGALELO KWINGXOLO OYIVAYO. ZAMA UKWENZA EYAKHO I BULLROARER IBENOBUNZIMA USIKE ZE UNCAMATHISELE EKWAMILO-NYE NAYO. MAMELA UMAHLUKO KWINGXOLO ETHI IYENZE.

This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.
To view a copy of this license, visit http://creativecommons.org/licenses/by-nc-nd/4.0/.

AMAQHEKEZA WE PHAZILI

Ngamanye amaxesha xa abembi bezinto zakudala bathi babenethamsanqa, ze bavumbulule bafumane izinto ezifana twatse nezi zizotywe emiqolombeni. Kutshanje, umphandi weDyunivesithi i Witwatersrand, uYoshuwa ufumene ii bullroarer kwizinto egronjiweyo e Kapa. Ezizixhobo zomculo zifana twatse nezo ezazotywa ngabazobi bexesha eladlulayo kwimiqolomba ekufutshane.

Izinto zobugcisa zomlambo I Martes.
Ngokufotwa ngu: © Neil Rusch

Ngasentla: u Joshua uyagrumba echwebeni lomlambo I Klasies

U Yoshua kunye nabanye abaphandi be dyunivesithi i Witwatersrand bafunda ngengxolo kunye nomculo wabantu ababephila phambili pha kweli lomzantsi Africa. Uye kwakhona athabathe ixesha eladhulayo alise kwellisezayo nge projekthi i *Open Heritage*. Le projekthi isebenzisa I *software* ukutshintsha ubume, ze ipapashe iindawo zobugcisa zakudala kunye nezinto zobugcisa ukuze zikwazi ukufumaneka zibelulutho nakwinzala yexesha elizayo.

Joshua Kumbani

IMISEBENZI

UNXULUMANO NOKUFUNDWA ESIKOLWENI

- *Izifundo zobunzululwazi kwibanga leshumi (Physical Science):*
  Amaza kunye nemitha, amaza omoya
- *Ibanga lesihlanu Kwizifundo ngentlalo yabantu (Social Sciences):*
  ngabantu ebabephila ngokuzingela-nokuqokelelo kunye nabafuyi basemazantsi eAfrika.

PUZZLE YOUR MIND

LELIPHI IQHEKEZA LEPHAZILI ELIZAKUGQIBELELA LOMFANEKISO? DIBANISA UNOBUMBA OFANELEKILEYO KUNYE KHADI ELILINANA UKUGQIBELELA IXESHA.

ZIQALELE ESAKHO ISIPHAZA SE SCIENCE

Ingaba uyafuna ukuziqalela i club ye science kwisikolo sakho? Sithumelele ezinkcukacha zilandelayo, i science sphaza izakuqhakamshelana nawe.

Isikolo: ____________________

Igama lakho: ____________________

Inombolo yomnxeba: ____________________

Idilesi ye imeyile: ____________________

Idilesi yokuhlala: ____________________

____

Visit www.sciencespaza.org, email info@sciencespaza.org, SMS or WhatsApp us on 076 173 7130 or write to us at PO Box 22106, Mayor's Walk, 3208.

SIFUNA UKUVA KUWE!

science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

Isebe lezobunzululwazi nobugcisa linegalelo kuphuculo nokhuliso lwentlalo ngokusebenzisa iezobunzululwazi, ubuchwephetshe kunye nobugcisa. Ngeenkcukacha ezithe vetshe ndwenwela ikhasi lesebe ku : www.dsi.gov.za

NRF National Research Foundation | SAASTA South African Agency for Science and Technology Advancement

The South African Agency for Science and Technology Advancement (SAASTA) is a business unit of the National Research Foundation (NRF).The NRF is an agency of the Department of Science and Innovation (DSI) which falls within the Ministry of Higher Education, Science and Innovation.

I Open Heritage liqumrhu elizimeleyo elingafumani nzuzo, ogqwesileyo ekutshintsheni nasekulungiseni ilifa lemveli ngokusebenzisa ubuxhakaxhaka banamhlanje. Eli qumrhu selihambe umgama omde ekwakheni ubuxhakaxhaka kuzwelonke kwiinkundla zokuxhumana kwizwekazi le Afrika jikelele, liphinde liqeqeshe, liphakamise, likhulise nezakhono zobuxhakaxhaka banamhlanje ezenza kubelula ukuxhumana emhlabeni wonke jikelele.

OpenHeritage
THE FUTURE OF OUR PAST

Jive Media Africa

Science Spaza is an initiative of research communication specialists Jive Media Africa in partnership with the Yazi Centre for Science and Society in Africa, a registered Non-Profit Company and Public Benefit Organisation.
This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit http://creativecommons.org/licenses/by-nc-nd/4.0/.

YAZI
CENTRE FOR SCIENCE & SOCIETY IN AFRICA