

Iwesokudil: IaThombe
senIndonesia esatbhweretehulwa
iTilos lomkhathili Voyager
ngowe-1979. Imlibala
imringinwe ukucatisa
ebuswewenbilormizulane.
Kwitsinxele: Urndwebo womoya
wenIndonesia, odhvetsihwe uDon
Dixon.

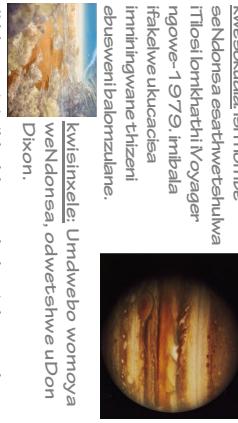
Indonesia tyisiluhuhha ngokuba: iphunga layo
lushintsha ngeqeqeba neqeqeba lomoya
okulona.

ueqebea olukuphiko lunukisa okweNhanzi
ungaba resizindra sejivoloji nomaseMpollo.

Lo moyo awunaphunga. Ngake
kuyakwethusa lokto? urnJwaneneNyengo
Bhutre) awunaphunga. Mbala,
amatwangi egese yokupheka kunezelwa
ngobuyoyi obununa phuukuke abantu
bezokwazi ukukunuka lapho ivuza khona.

IzFundama (Ihwelangga, InKaryiwe,
isAdlawe...), karye noNashabi kanye
naManzi, eminye yerniZwavi engeranuki.

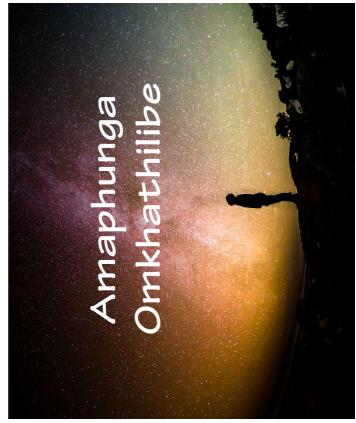
Naside ikhona emoyeni womizulane
iHD189733b. Ayinaphunga, kodwa
ishesa iso lezikhwelela emakhaleni ethu,
okudala ubuhlungu. 9



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Unkhathilibi Ephaketheni Lamini Amaphunga Omkhathilibi



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No. 7
THE UNIVERSE IN MY POCKET

AbuTilos bomkhathi uma benuka
isfanteekiso esisha soThulli weNyanga
bathi lunukisa okomSizi oshile. Kodwua
luthi tungabuyi iswa lapho elvhlabeni.
Akekho owaziyio isizathu salokhu
ukushabalala.

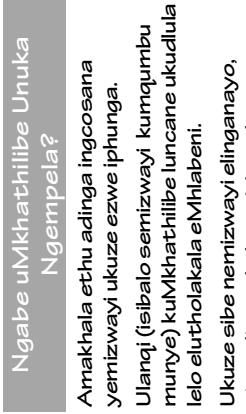
UBuso beNyanya brakhiwe umncwebe
wesihabathi (owalet-hwa iziQhumanyez
ezzamihilizeka ebuswenti beryanya
ernasukwini avo) karye neNsimbip
Umaphane kanye noMggethe. Akukho
ngisho neyodkwa kulezi enukisa okomSizi;
wona owerinze ngovoyizane weteh,
uMcalahle karye nesIBabuli.

Yez singakwazi ukukunuka unkhathilibi
ngqo, siyakwazi ukacabanga ukuthi
unukakarjaningokhonza imizavvi
etholakala kuwo, nokwaka siyavazi
imizavvi ukuthi inuka karkani lapha
emhlaben.

5



Inuka kanjani iNyanga?



**Sazi ngani ukuthi umKhathilibi
unuka kanjani?**

Uma imizwayi emkhathini ishayisana,
iyacala intingilize, iqhikize, bese iyagoba.
Lena iniryakazo ikhiquzva ukuthanya,
ngokuyawayele kwinsiboru nomra
kwinsimagu, lapho khona ibangacuphi
lokukhatya lehuka ngomzwayi.

Lapho sibhekisa khona izipopolo zethu
emkhathini bese siebenzisa izinhola
kukhanya, sikwazi ukubona
iminiingwane enganakekile.

ngokukhanya, futhi sihlole izinhlobo
zamizwayi etholakala emagumbini
amane omKhathilibi.

kwamsaphaphu. Ilamurya linukisa
okwaNhanzi ebolile, kanti umafusini
unukisa okwaGaliga, kanti umelkhapha
unephungo alibi ngempela: ethlanganisa lelc
tilCalig, u-anyanyi, ishaladi, kanye
neklabishe ilibisilive.

Le miZwayi seyatolakala ezindaweni
ezahlukanekuwlkhathilibi, okubalwa kuyo
imizulane, amafu ekudaje kuko izinkaryez,
kanye nobharyanyez.

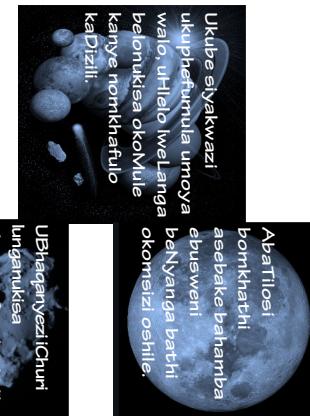


Amakhala ethu adinga ingcosana
yemizwayi ukuze ezve iphunga.
Ulangi (isbalo semizwayi kumqumbu
muyne) kumkhathilibi lunane ukudula
lelo elvhlabokala emhlaben.

Ukuse sibe nemizwayi elinganayo,
omuhulu kumkhathilibi ukudula loyo
osamhlaben, kanti futhi singadinga
ikhala elikhulu impela lapho kuzongena
khora imizwayi.

Ngokwemfundindalo yomkhathi
yasamekisikho uDaniel Tafoya, ukuze
sikwazi ukunka ilamurya elikwitu le
Mpambano-KL, singadinga ukuba
armakhiththa ayi- 1.4 km ubude (ukugcina ubulingani phakathi kwekhala nobude).



U-Mkathhilibbe Ephaketheni Lam No. 7

 Ngaphandle, iNdonesa
 okwamkisa
 okweNhlanzi ebolle.
 um uqhubeka,
 inganukisa
 okwamaQanda
 abolile, mawuduhubeka
 futhi, inganukisa
 etholakala kumkhafulo
 wezimoto-emhabeni



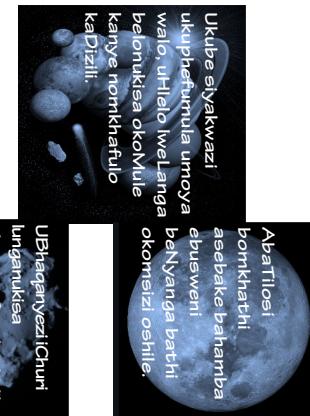
Iphunga

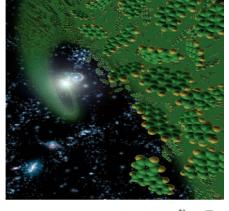
 Inza y yokunuka, njengaleyoyolimi,
 ingeyamakhemkali ngokwendalo,
 kodwa isebenza nasebangeni
 elikude: kuliua ukunuka into
 kunokuyiza ngolimi.
 imizwayi entanta emoyeni ifika
 kumanikanika ethu bese igwinipwa iso
 lamafinyla. Ngapheu
 kwamankana kunesicubu sokunuka,
 ozinza zayo zifana nalezo zoLimi.
 Lezi izicibu zipheleka lapho
 imizwayi yephunga ifinyelela kuzona,
 bese zidumuza lolu uwazi kwizidwa
 zokunuka, okuyizo ezithumele lolu
 uwazi ebuchophwenu. Uma zifika
 ebuchophwenu, zivusa imiza kanye
 nezhloko ezethuhwe
 kuleNcwajana, sicela
 wakasholele:
<http://www.wt.unmp.org>

Bathini abaTilosibomkhathi?

 Abatilosisebeke bayo
 umkhathhini bathi
 umkhathhilibbe unukisa
 okwe:



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 Abatilosibomkhathi
 asebekahambaba
 ebusweni
 ukuphetumula umoya
 waloi, uhlalo iweLang
 belonukisa okoMule
 kanye nomkhafulo
 kaDizi;.
 u-Anousheh Ansari: "Unukisa
 okwamathekile enkokhokho
 omchachamhiso".
 uDon Pettit: "Unghikhumbuza
 okwamoya okhafuila iZihiseli
 okungumuzwa omunandi,
 osansimbi futhi omototi".
 u-Alexander Gerst: "Ivange
 Makinatikanye nesTibili
 esetThuthutu saini".
 uReid Wiseman: "kuhle
 kwezingubu eziswakerne emva
 kevin Ford: "kuhle kwephunga
 engingakaze ngilizwe kanti futhi
 engingasozze ngalikhohiwa".

Uhume Lemizwayi Yomcalalah

 Imizwayi eyakkilwengamachwe
 omCalahle asetholakale kuwona wonke
 amagumbi omkathilibe: izicaba
 zomgakamhala, izinkanyez
 azishintshile, iRh ThalakaZi, iRhizlane,
 iNyanya, naKwenzye izindawo.
 amainingi ayakhifa kuwona wonke ilawo
 abizwa ngemilahwanzi emaphanga
 Emhabeni, lena itholakala kwizikhato
 zezimoto kanye nakuThosi. Inukisa
 okwento eshile kanti futhi ziayugisa.
 Kweeskulla:
 Imcalakwanz
 emaphunga awuhume
 lemizwayi emi kuhle
 kwezindandatho,
 Atholakala ciske yonke
 indawo lapo sikhomba
 khonatzopolo zethu zuonkabali.

UMNeal B2 Isintshongo esinesisirindu
 esiphiinde ciske izigidi ezintathathu
 kwestellaga kanti futhi izisindu saso
 esillinganisewle kwi-150
 kwibangakukhanya. Sitholakala kwindeni
 edusa kolmifafasimbe:
 UMNeal B2 ugakethet imizwayi eminlingi
 ehukene. Isibonele, imizwayi eyandulela
 impilo erfana nokhoholo olumtoti
 (ushukela) kantye noTeshwanene olumtoti
 mhlavumle imizwayi yarmadlingozi etholakala
 kulesi isirtshongo leyo vThabatshi eklikzeke
 lapho isimuryu eezintuthane (esitholakala
 kubuthi bezintuthane) inihana noTeshwala.
 Thabatshi linuka kuhle kweThurnu kanti futhi
 iziwakallela owovwokwale. Ekugineni, iphunga
 elimthandil kumkhafuli.

Inyama ethosiwe nom
 umkhafulo weMoto
 KumorCalahle omuningi ukudulu isithave
 khilalo iweLang. Ukube siyakwai
 ukwamunka, ngabe unukisa okonule
 nomra intuthu kadizili ephuna
 emotweni.
 Umduwebo weLang, iRhizlane, iNyanya,
 zayo, uBhaganyeyezi,
 kanye nentHabana
 eyakha uRhelo
 iweLang.
 KwizDangazeli eezondelare
 nezikaryezi ezzilye ngeshewe,
 isibonele kwisidangazeli M2~48,
 iphunga lakhonalingafana nialelo
 leNyama eyosive.
 IsiThombe
 sesiDangazeli esijye
 ngesihove iM2~48.

Kweeskulla: isishono
 iMparadara iRhizlane
 imizwayi yomcalahwanzi
 omaphunga
 Nenzanzist Ethirye
 imizwayi yomcalahwanzi
 okbivalwa kuyo
 inafuthalii kantye ne-
 aratlasini, eritakisa
 yahlonzwa kantu
 kwieshono iPPerseus,
 dishe ama~700
 ebangakukhanya kude
 kungbenkukhulyane.
 Kweeskulla: arnaFulayni
 awuhlebolomcalahwanzi
 Yize kumzina ukwathola
 kuhNorkhukhulyane, asibolilipilli
 kvisigawu somkhati.