

SCIENCE SPAZA

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IMPOVA EQINILE!

Panel 1:

AKE LIBUKE LEZI ZIMBALI EZINHLE! NGIYAZITHANDA. NGIFISA SENGATHI KLINGAHLALA KUVINTWASA-HLOBO NJALO NJE!

AAAA-THIIII! AWU NGEKE. MINA NALE MPOVA ASIZWANI NHLOBO. SENGILINDE UKUBA IPHELE.

Panel 2:

INGABE BEWAZI UKUTHI IMPOVA AKWENZEKI IPHELE?

UETHINI?! AAAA-THIIII! UNGAVISHO LEVO NTO!

Panel 3:

PHEPHISA, LOKHU KLINGASE KUBE VIZINDABA EZIMBI NGOKUPHATHELENE NALE MFIVA EKUTHIMULISAYO, KODWA KUVIZINDABA EZINHLE KOSOSAVENSI.

IMPOVA YASEMANDULO IKWAZI UKUSICHAZELA INDELELA UMHLABA OWAWUBUKEKA NGAVO NGALESIYA SIKHATHI.

Panel 4:

IMPOVA INGAKWAZI UKUHLALA IZINKULUNGWANE ZEMINYAKA NGOBA ISIKHUMBA SAYO ESAKHIWA YIMPOVA EQINILE SIQINE KAKHULU.

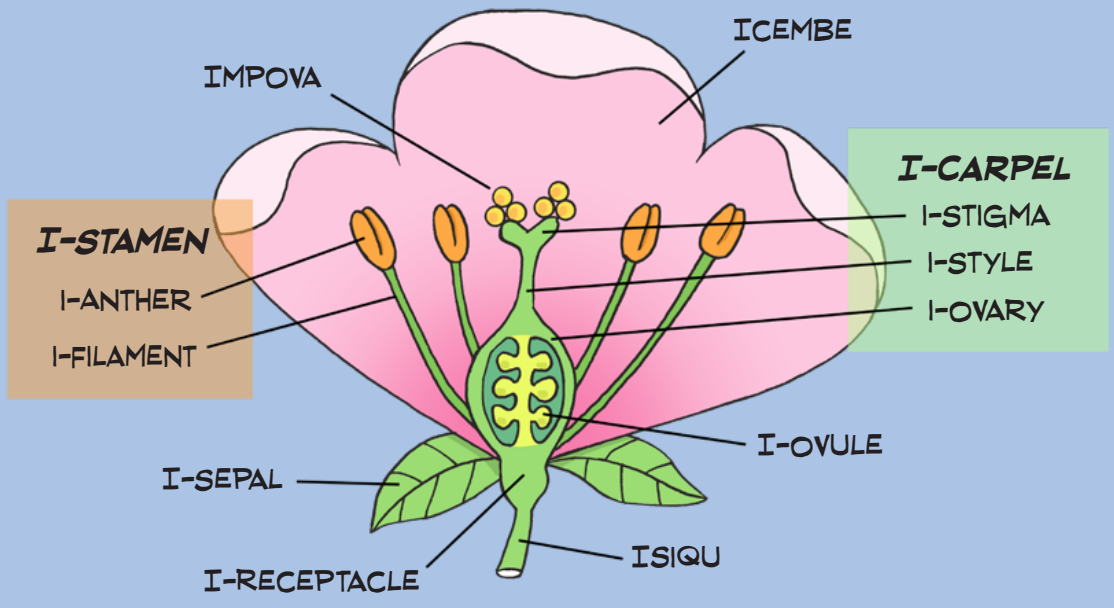
EWU, SIQINE NGAPHEZU KWAMI! AAAA-THIIII!

IMPOVA YASENDULO

Impova iyimpuphu ecolekile ekhiqizwa yizitshalo ezithile lapho zithela.

I-Palynology yisayensi yempova, ikakhulukazi impova eyawela enhlabathini noma emanzini endulo.

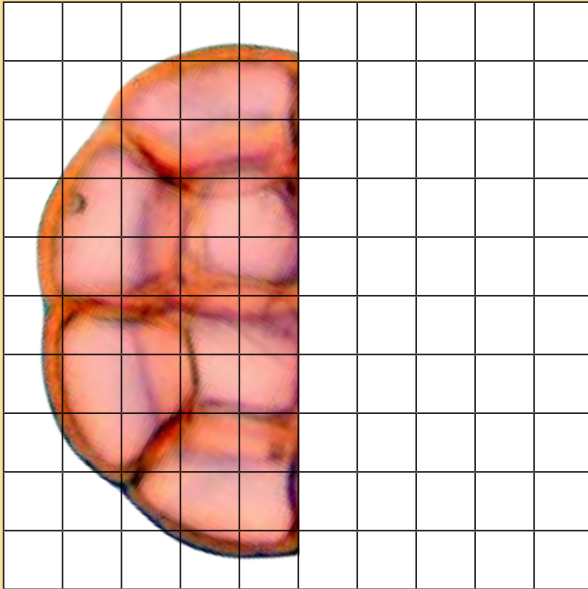
Ososayensi basebenzisa impova ukuze bathole ukuthi indawo yayibukeka kanjani esikhathini esidlule.



IMPOVA EBUKEKA KAHLE

Ezinye izinhlobo zezinhlamvu zempova zinezinhlangothi ezimbili ezifana ncamashi. Lokhu kusho ukuthi uhlangothi olulodwa lohlamvu lufana ncamashi nolunye, lezi zinhlangothi zihlukaniswa umugqa omaphakathi. Lo mugqa ubizwa ngokuthi yi-axis of symmetry.

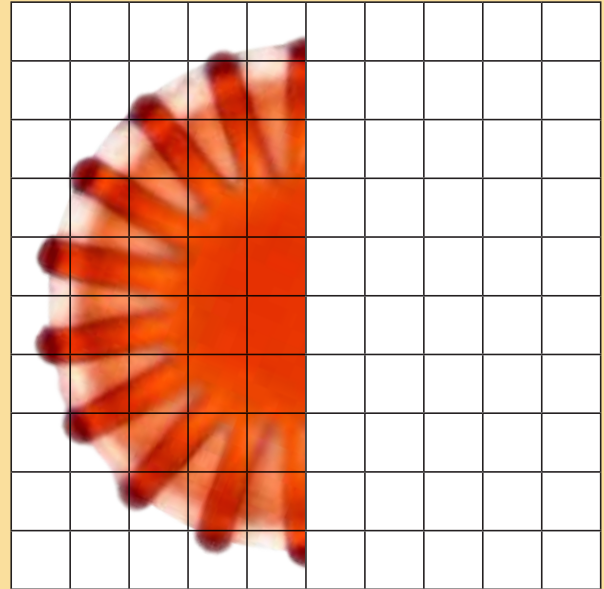
UMTHOLO (ISIHLAHLA ESINAMEVA)



YINI OKUMELWE UYENZE?

Oweba uhlangothi olukwesokudla lohlamvu lwempova. Sebenzisa igridi ukuze ikuqondise ufanise ncamashi uhlangothi lohlamvu lwempova olukwesokudla nolukwesokunxele.

I-POLYGALA (I-SEPTEMBER BUSH)



KUNGANI UMUMO WEMPOVA UBALULEKILE?

I-pollen morphology iwucwaningo oluhlola umumo wezinhlamvu zempova. Impova ingaba yindilinga, ibe unxantathu, ibe saqanda noma ibe nomunye umumo ohlukile.

Isitshalo ngasinye sinezinhlamvu ezihlukile zempova. Ngokuhlola umumo wempova abacwaningi bayakwazi ukubona ukuthi impova ivela kusiphi isitshalo.

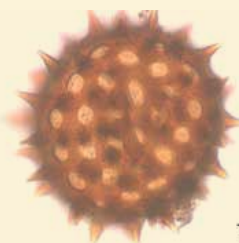
Impova yasendulo isiza abacwaningi babe nombono wokuthi yayinjani indawo abathole kuyo leyo mpova. Lokhu sikubiza ngokuthi yizinkomba. Ngokwesibonelo, impova yombila ingaba yinkomba yokulima endaweni.



I-SPORE SE-FERN ESINOMUMO OYI-TRILETE ENEMIGQA EMITHATHU YOKULIMALA

KHUMBULA, 1 μm USHO UKUTHI THOUSANDTH OF A MILLIMETRE

UHLAMVU LWEMPOVA OLUHLABAYO LWEMBALI I-IPOMOEIA



UHLAMVU LWEMPOVA OLUNOMUMO OYI-TETRAD OLUVELA EMBALINI YOMNDENI WE-ERICA

Izinhlobo ezihlukahlukene zezimbali zezinhlamvu zempova ezinomumo ohlukahlukene. Izithombe: USolwazi T. Hill



ABAPHENYI BEMPOVA

Abacwaningi baseNyuvesi yaKwaZulu-Natali babambisene neNyuvesi yase-Greifswald e-Germany ukuze kwenziwe iphrojekthi ethi "Tracing Human and Climate impacts in South Africa (TRACES).



Njengoba abaphenyi becinga ukuze bathole umkhondo, laba baphenyi baqoqa udaka emachibini nasezindaweni ezimanzi ukuze bafune umkhondo obatshela ngesikhathi sasendulo. Eminye yemikhondo abayiFunayo yimpova.

Impova iqinile kangokuthi ukwazi ukuyibona ngisho nangemva kwezinkulungwane zeminyaka.

Lokhu kuvumela ithimba le-TRACES ukuba lithole ukuthi hlobo luni lwezitshalo ezazimila ngesikhathi impova iwela odakeni, lihlole nokuthi izindawo zishintshe kanjani ngokuhamba kwesikhathi.

Abacwaningi be-TRACES bathatha amasampula odaka echibini e-KZN. Isithombe: USolwazi T. Haberzettl

IMISEBENZI: HLANGANA NESAZI SEMVELO (ECOLOGIST)



Salona Reddy

Emaxhaphozini, emihlumeni nasezindaweni ezimanzi, **uSalona Reddy** uhlale ekulungele ukuya kulezo zindawo! Ukufunda kwakhe isayensi yezemvelo nocwaningo alwenze ku-palaeoecology lumsiza akwazi ukubona izitshalo neziwane ezisengozini futhi abone nezinhlolo zezinto eziphilayo eziqhwaga indawo yezinye.

Uma uwuthanda umsebenzi kaSalona, ungacabangela umsebenzi kule mikhakha:

- Geography (Umumo Womhlaba)
- Geology (Ukwakheka Kwamatshe)
- Botany (Isayensi Yezitshalo)
- Melissopalynology (ucwaningo loju lwempova)
- Aerobiology (ucwaningo lwezinto ezincane eziphilayo ezisemoyeni)
- Forensics (Umphenyi)
- Palynostratigraphy (ukuhlolwa kwe-petroleum)

I-Palaeoecology ucwaningo oluhlola isimo semvelo yasendulo.

IILINKI ZEZI ZIFUNDO

Life Sciences FET Gr 10-12

- Umlando wokuphila emhlabeni: ukuqonda izinsalela zezilwane nezitshalo zasendulo
- Izinhlobonhlobo zezitshalo: izimbali ziyakwazi ukuzala

Natural Sciences SP Gr 7-9

- kuzala ku-Angiosperm: Impova

Mathematics IP Gr 4-6

- UkuFana

Knowledge is Ncah!



YIBA UMPHENYI WEMPOVA

IMPOVA



I-Protea



Utshani

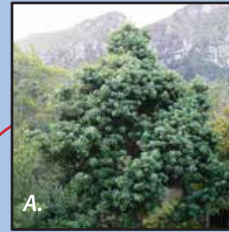


I-Yellowwood



Umbila

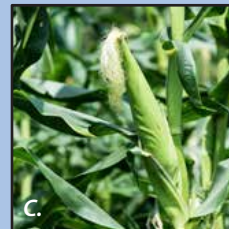
ISITSHALO



A.



B.



C.



D.

UHLOBO LWESIMILA



1. I-Fynbos



2. Ihlathi



3. Indawo enotshani



4. Ipulazi

FANISA UHLAMVU
NGALUNYE
LWEMPOVA
NESITSHALO OLUVELA
KUSO FUTHI ULANDELE
UMUGQA UKUZE
LIFUNDE UKUTHI LESO
SITSHALO SIYINKOMBA
YANI.



Izimpindulo:
I-Protea - B - 1
Utshani - D - 3
I-Yellowwood - A - 2
Umbila - C - 4

QALA EYAKHO I-SCIENCE SPAZA

Ingabe uyafuna ukuqala iklabhu yesayensi esikoleni sakho? Skena ikhodi ye-QR ukuze ubhalise **MAHALA** i-Science Spaza Club yakho ku-inthanethi.

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noma usibhalele kuleli kheli PO Box 22106,
Mayor's Walk, 3208.



SIFUNA UKUZWA UKUPHAWULA KWAKHO!

SINGATHANDA UKUBONA
IZITHOMBE ZEMPOVA YAKHO
ENHLE. THUMELA IZITHOMBE
ZAKHO NGE-WHATSAPP KU
076 173 7130.



Leli khasi lomsebenzi limelela inhlanganisela yemizamo yababambiqhaza esikoleni sasehlobo se-Train-ME 2023. I-Train-ME iyisinyathelo sokuqeqesha esisungulwe yiphrojekthi eyenziwe ngokubambisana phakathi kwe-Germany neNingizimu Afrika ethi "Tracing Human and Climate impacts in South Africa" (TRACES), okuwukubambisana kwabacwaningi abavela emazweni nasemikhakheni ehluahlukene exhaswa ngaphansi kohlelo oluthi "Science Partnerships for the Adaptation to Complex Earth System Processes" (SPACES II) lwe-German Federal Ministry of Education and Research (BMBF).



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