



Ka I.P.R., Kum Ka Lad Pynphriang Jingtip
Saian Ka Pynsngew Shaphang



“Ka Pyrthei Phylla Jong Ka Plasma”
Ki Khana Biria, Ka Thup I (Banyngkong)

KI KYRIDAN
JINGLOONG



Jingpynkylly sha ka ktien Khasi
Isabel N Lynrah

Ka Jingmut, Ka
Khana & Ka Jingthoh:
Ravi A.V. Kumar

Stad Dro-dur:
Ansh G. Trivedi

KI KYRDAN JINGLONG

“Ka Pyrthei Phylla Jong Ka Plasma” Ki Khana Biria, Ka Thup I (Banyngkong)

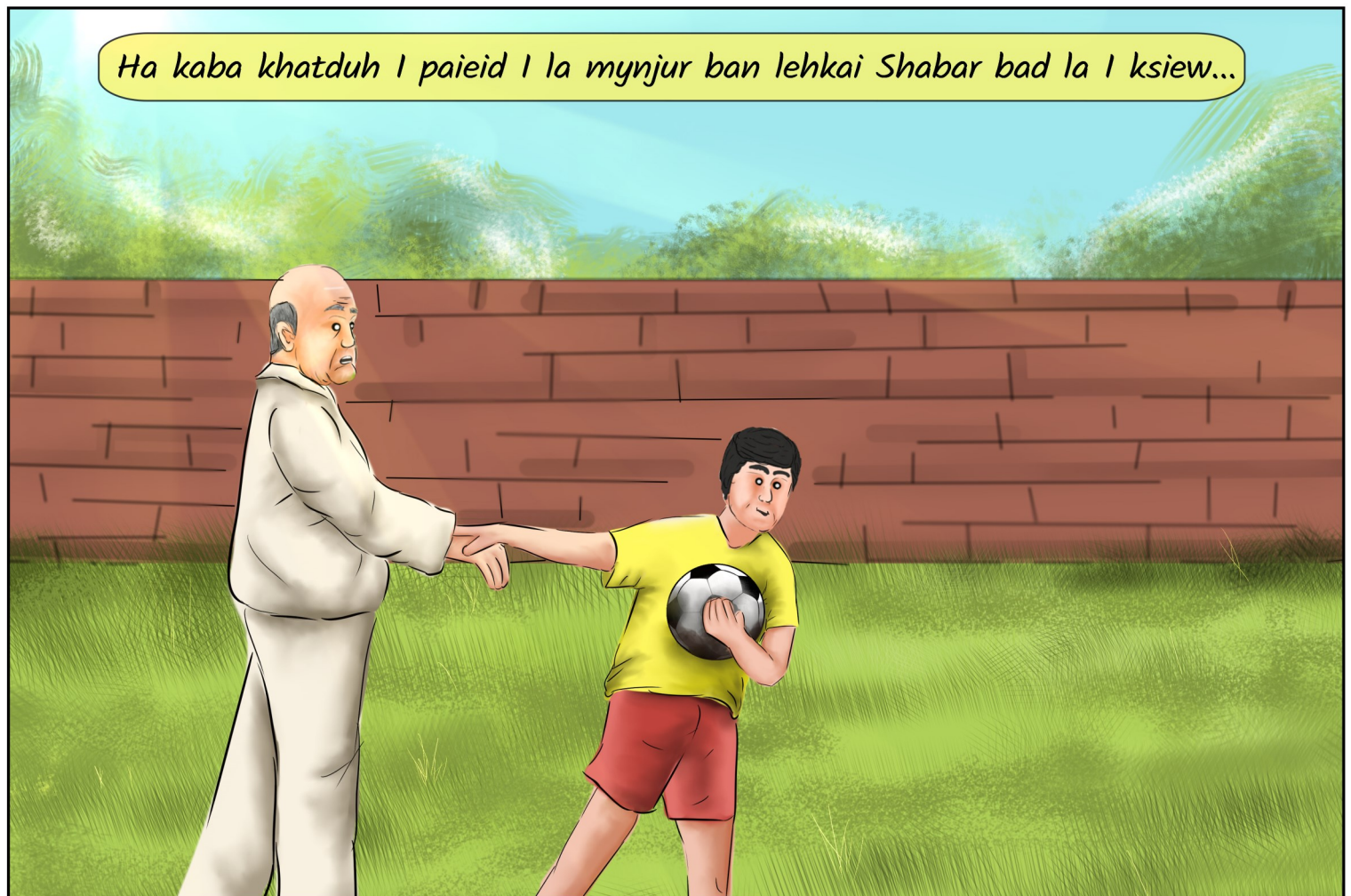
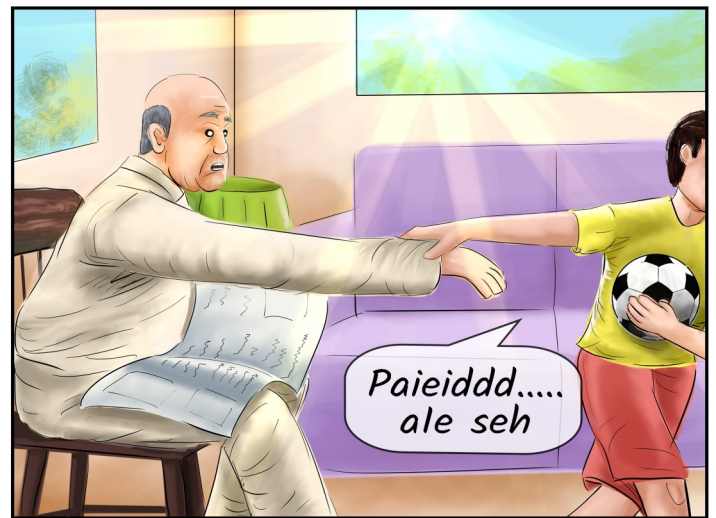
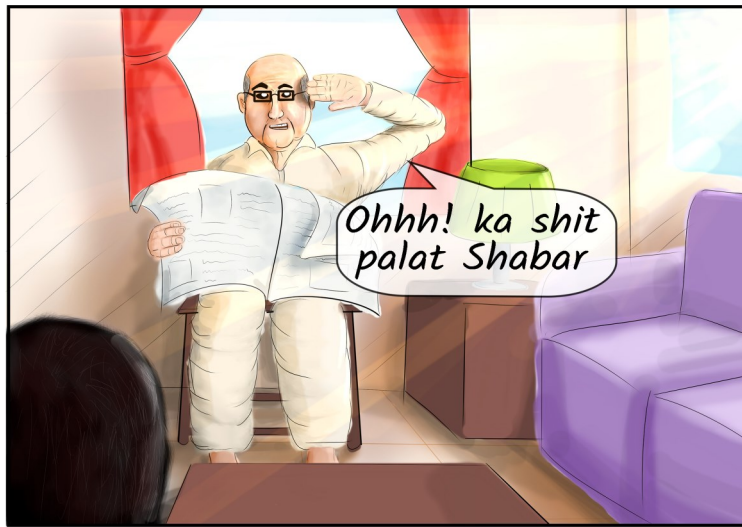
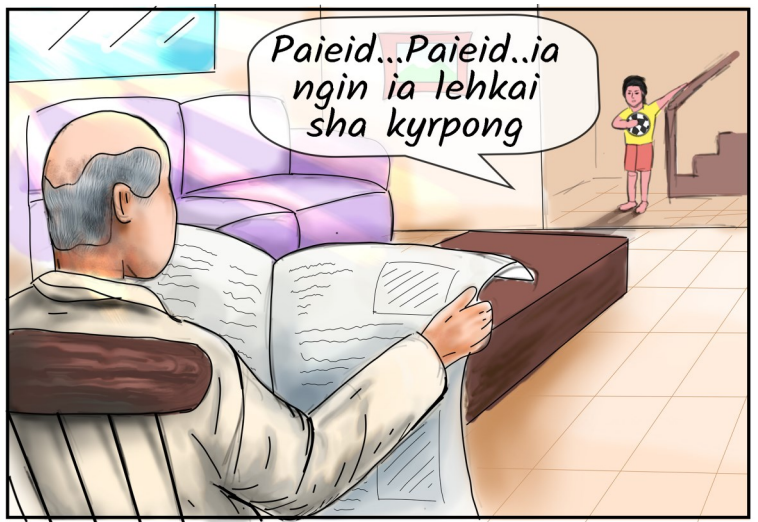
Kane ka Khana Biria ka thew ia ka jingmut jong ka plasma physics, bad ban hikai ia ki khynnah ia ka pyrthei baphylla jong ka plasma bad ki jingpyndonkam ia ka.

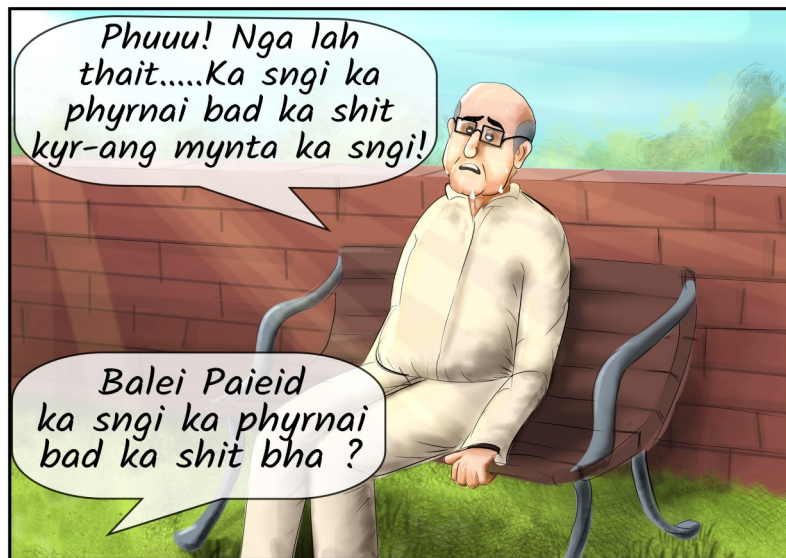
Wat ia ka jingmut bad ka jingthoh jong kane ka Khana Biria ia pynwandur da U Ravi Kumar, hynrei ia ka stad jingdro ia leh da U Ansh Trivedi, U khynnah klass 12 jong ka Eklavya Skul, Ahmedabad

Ngi kyrmen ban wanrah ha phi bun ki phang jong kane ka Khana Biria ban trei kam bad bun jait ki jingiohi jong ka plasma, ki `jingpyndonkam jong ka bad ka bor (energy) na ka nuclear fusion.

Kane ka lad pynphriang ia ka jingstad saian ka long ban rakhe pyndonburom ia ka jingdap 75 snem ka jinglaitluid jong ka ri India.

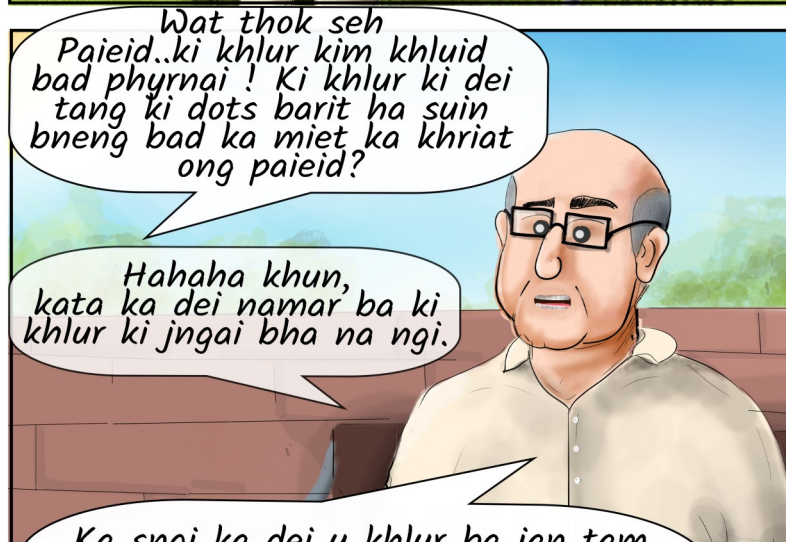






Phuuu! Nga lah thait.....Ka sngi ka phyrnai bad ka shit kyr-ang mynta ka sngi!

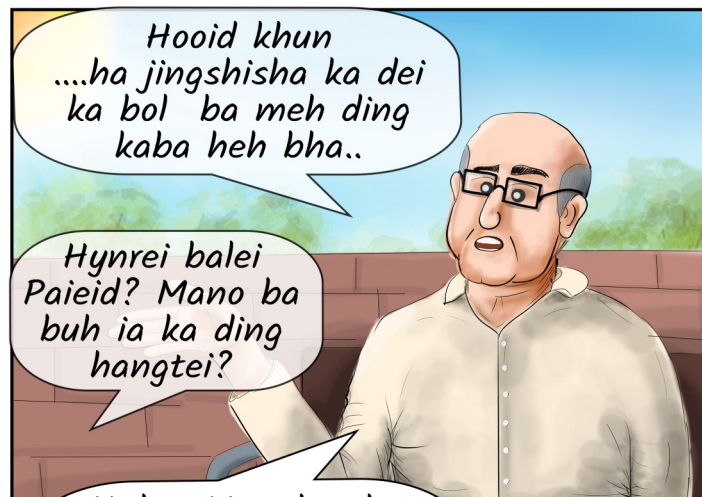
Balei Paieid ka sngi ka phyrnai bad ka shit bha ?



Wat thok seh Paieid..ki khlur kim khluid bad phyrnai ! Ki khlur ki dei tang ki dots barit ha suin bneng bad ka miet ka khriat ong paieid?

Hahaha khun, kata ka dei namar ba ki khlur ki jngai bha na ngi.

Ka sngi ka dei u khlur ba jan tam ha ngi bad ka jingiar ka long 109 shah palat ia ka pyrtnei.Ban pyndap ia ka kan shim haduh 1.3 hajar na ka shihajar jong ka pyrtnei.



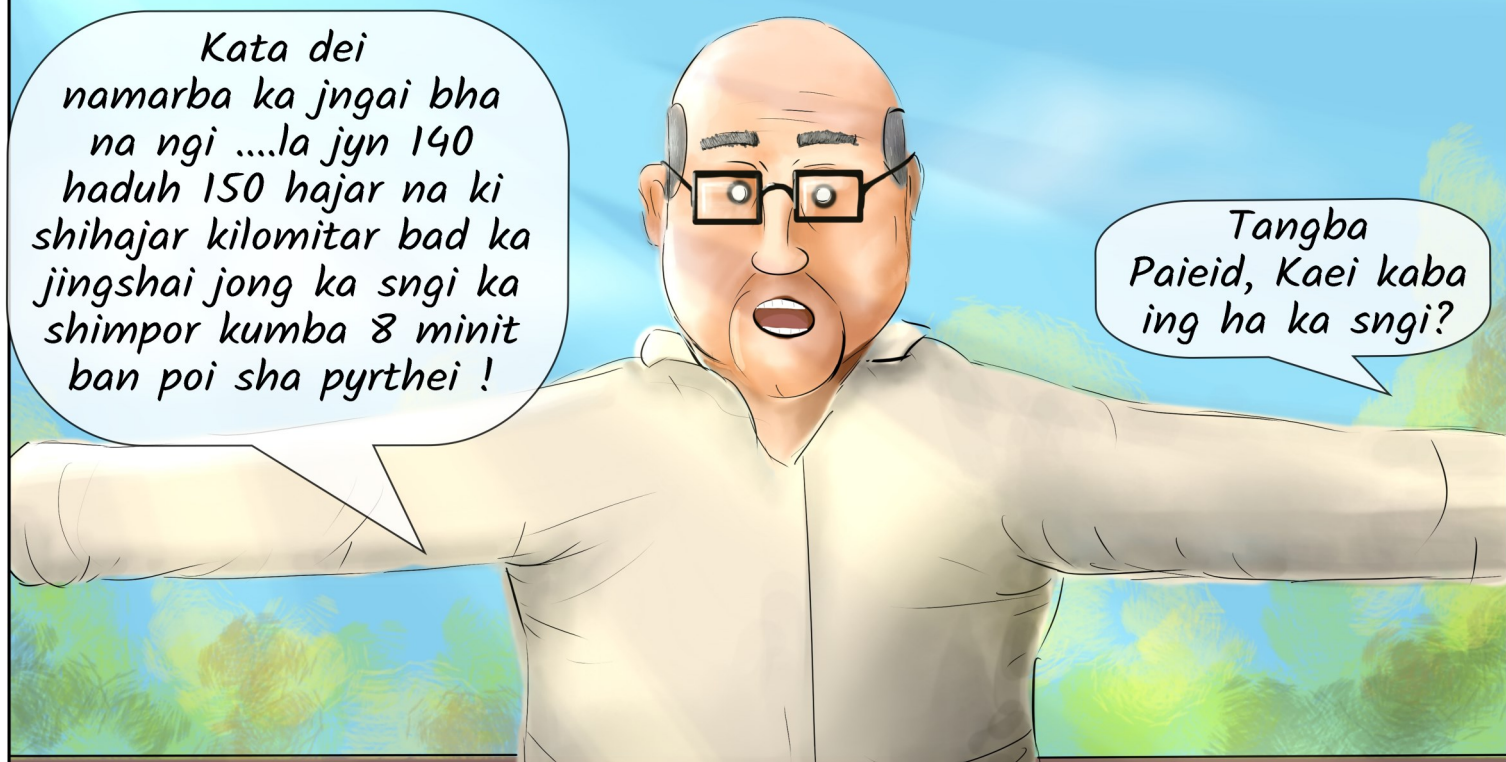
Hooiid khunha jingshisha ka dei ka bol ba meh ding kaba heh bha..

Hynrei balei Paieid? Mano ba buh ia ka ding hangtei?

Haha...Ym don ba buh hangtei khun..Ka sngi ka dei u khlur ba thaba bad ka la don hangtei naduh hyndai..

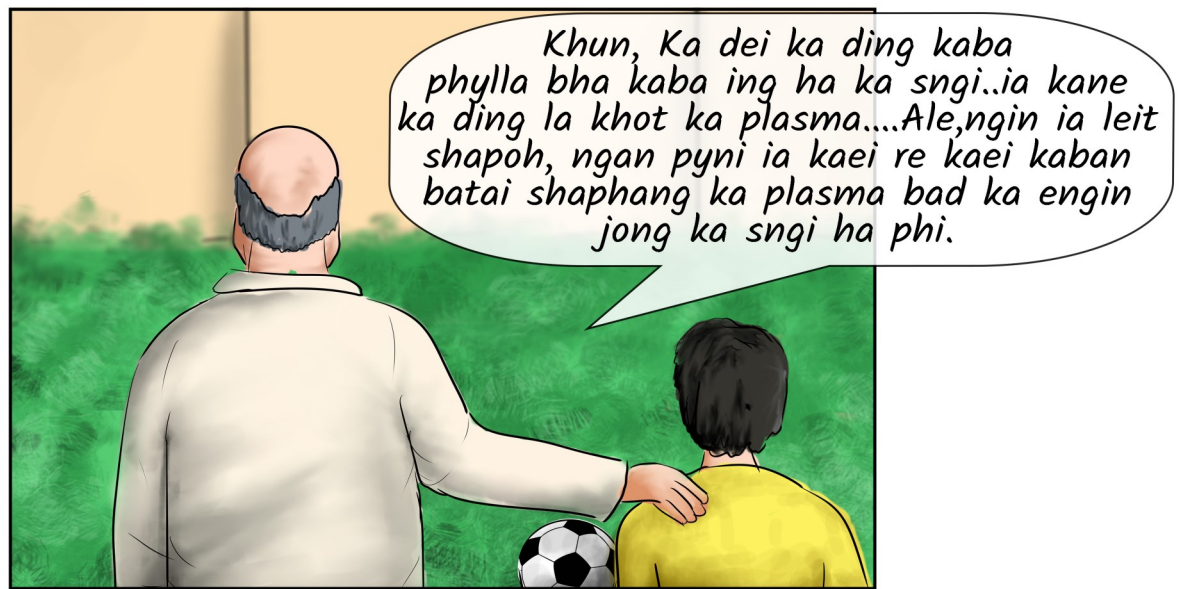


Ohh ka heh bha dei? Tangba ka 1 rit kum ka phutbol !

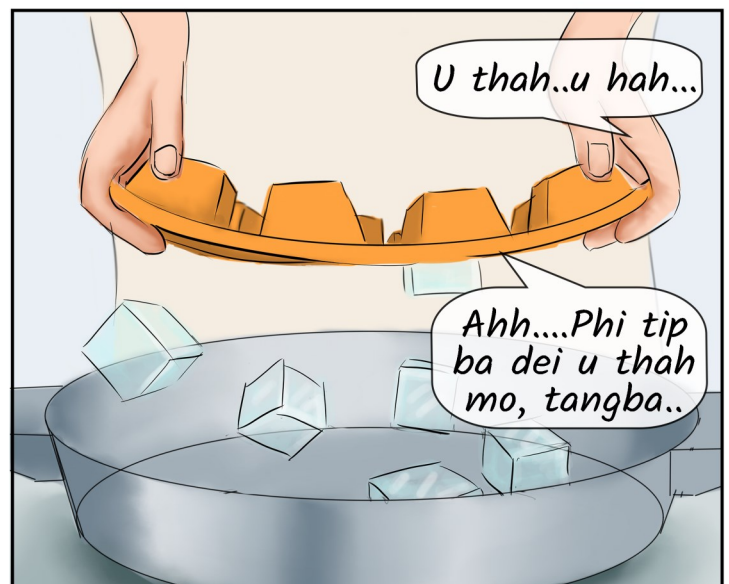
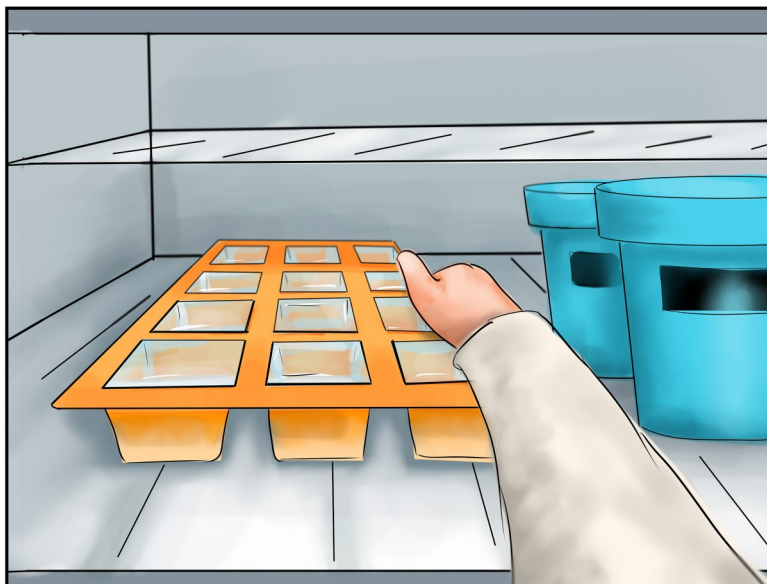


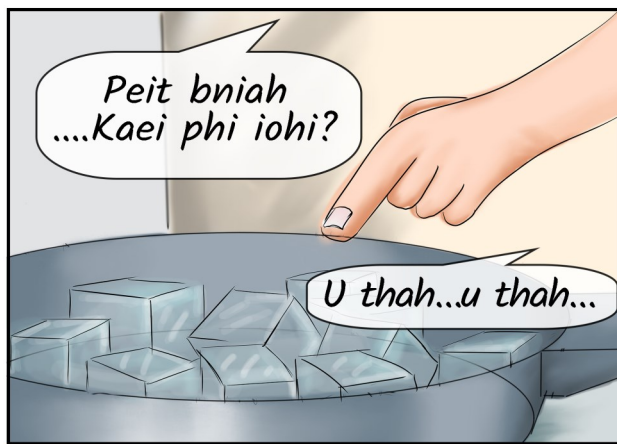
Kata dei namarba ka jngai bha na ngila jyn 140 haduh 150 hajar na ki shihajar kilomitar bad ka jingshai jong ka sngi ka shimpur kumba 8 minit ban poi sha pyrtnei !

Tangba Paieid, Kaei kaba ing ha ka sngi?

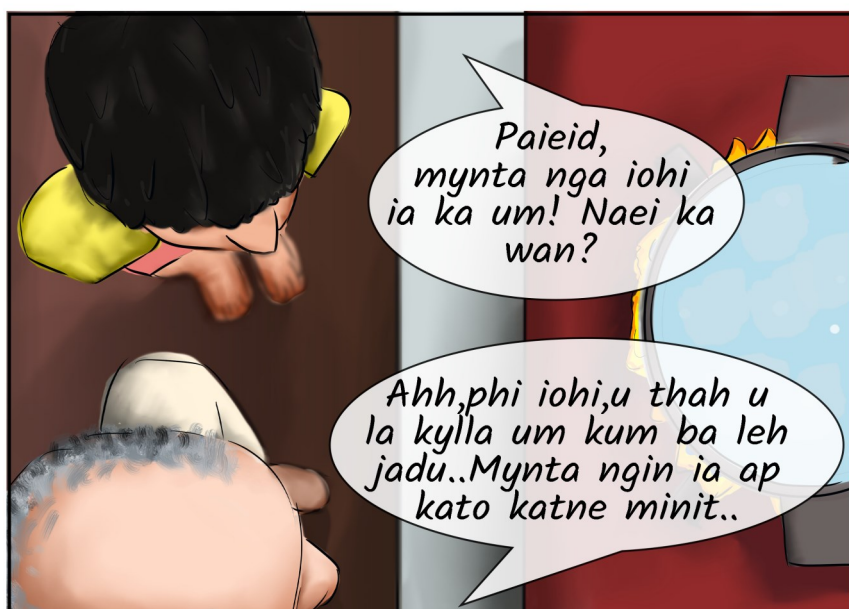


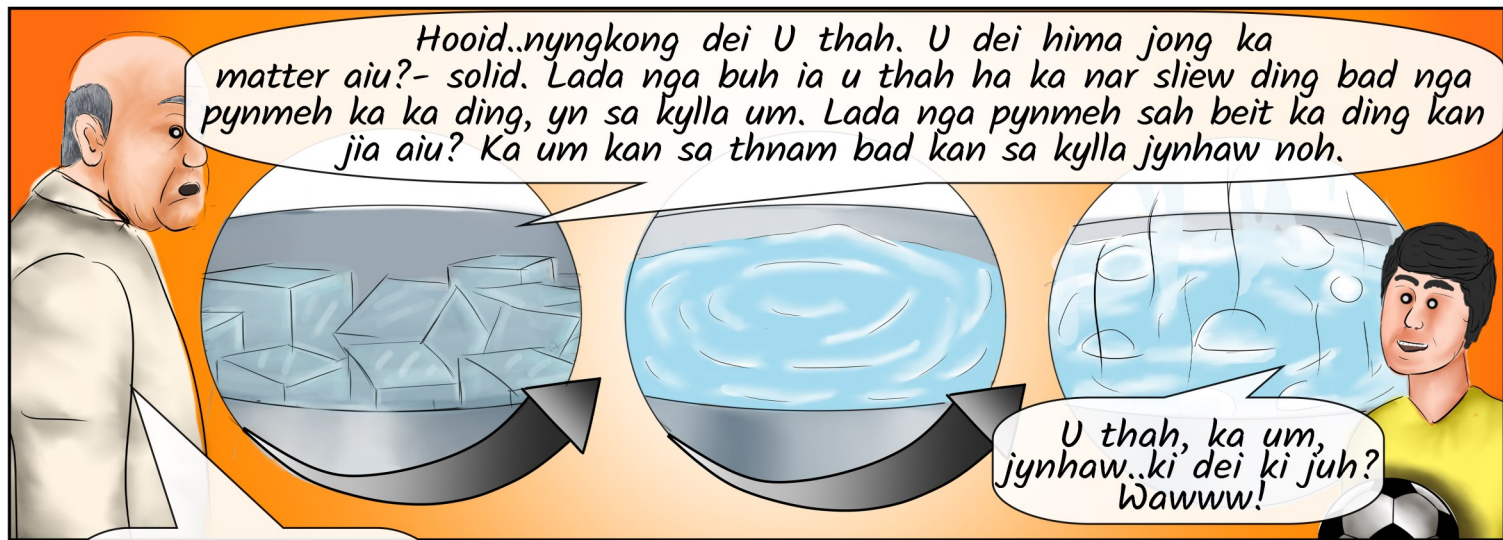
Ki la ia rung hapoh ing..





Hadien kato katne minit

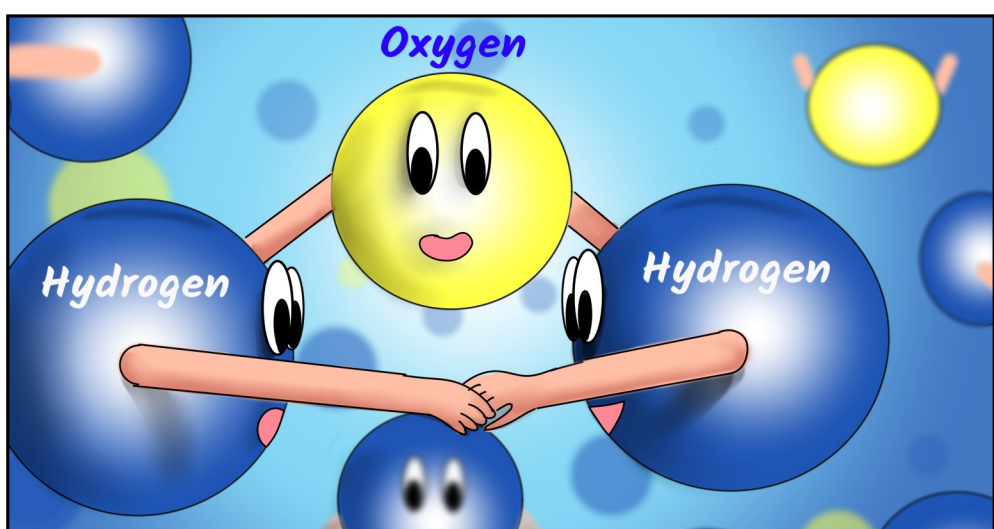




Hooi..nyngkong dei U thah. U dei hima jong ka matter aiu?- solid. Lada nga buh ia u thah ha ka nar sliew ding bad nga pynmeh ka ka ding, yn sa kylla um. Lada nga pynmeh sah beit ka ding kan jia aiu? Ka um kan sa thnam bad kan sa kylla jynhaw noh.

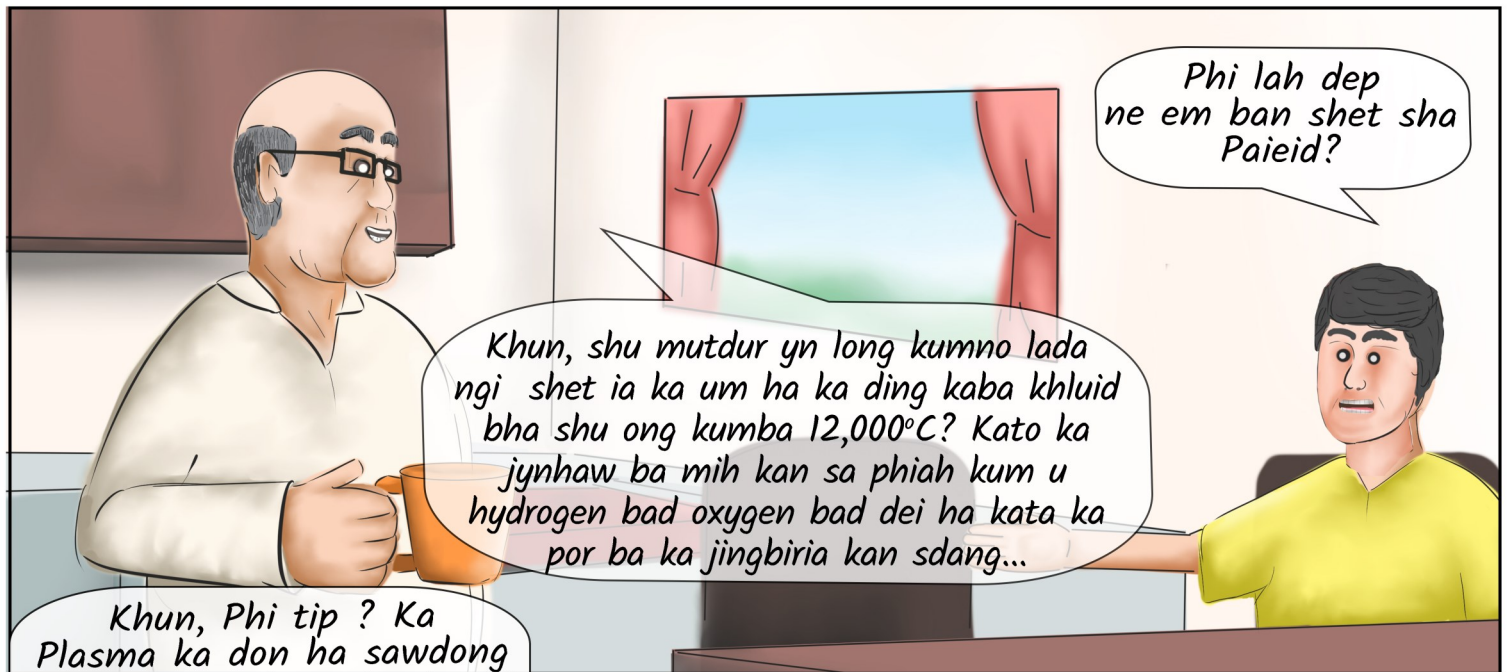
U thah, ka um, jynhaw..ki dei ki juh? Wawww!

Hooi. Ki dei ki juh, uwei oxygen bad ar tylli ki phyrngit hydrogen lah bteng lang, tangba ha la ki jong ki hima. U thah dei u solid, ka um dei liquid bad ka jynhaw dei ka gas. Ki lai tylli ki hima jong ka matter. Da kaba ai ia ka da ka bor ding ngi lah ban shim noh na ka ia ka hima solid sha ka hima gas.



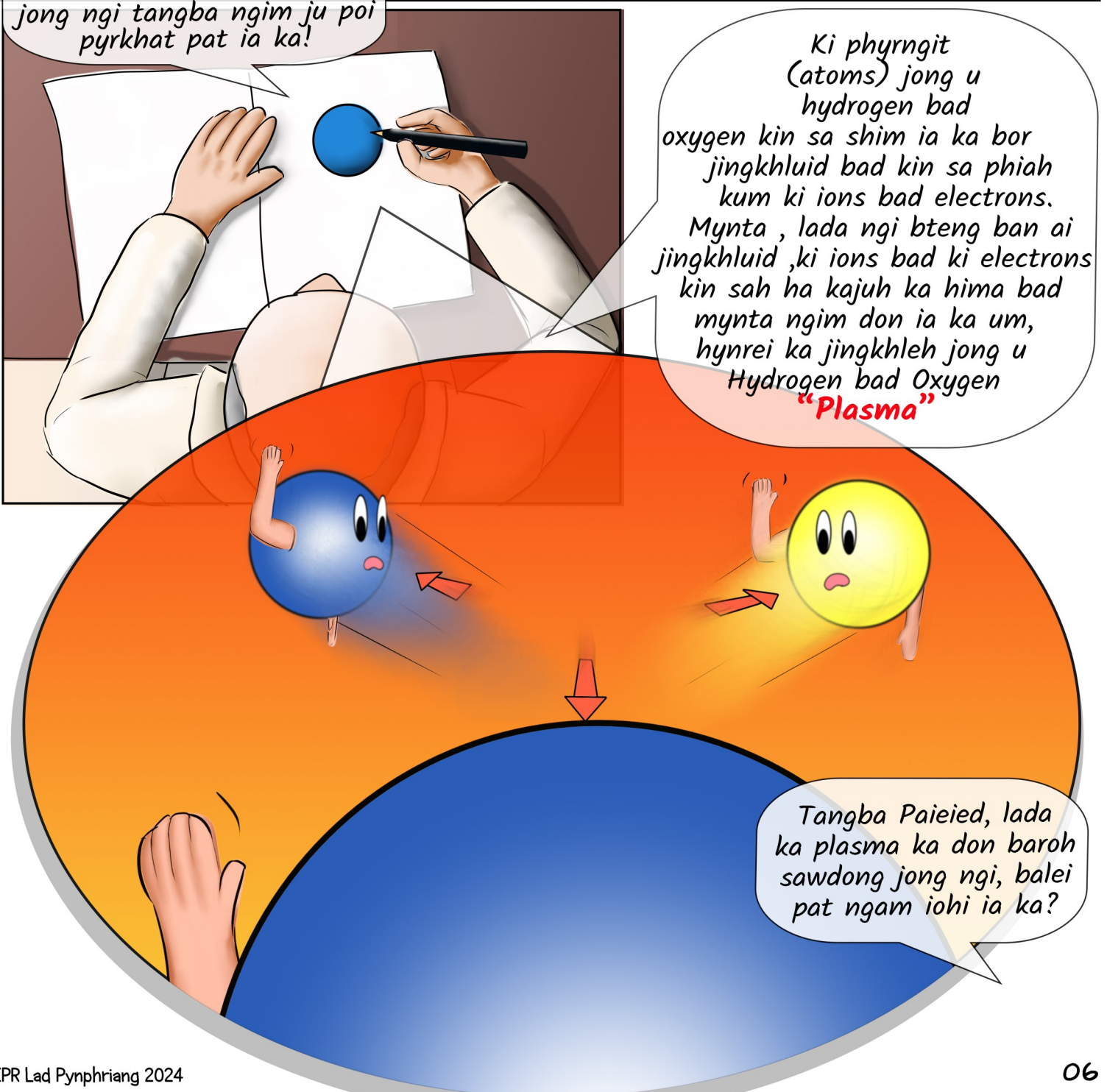
Lah dep ne em ka eksperiment phi Paieid? Mynta shet noh to ka sha..

Hahahah... Ap nagn shet shuwa ka sha ynda lah dep ngan sa iathuh ia phi ki



Khun, Phi tip ? Ka Plasma ka don ha sawdong jong ngi tangba ngim ju poi pyrkhath pat ia ka!

Ki phyrngit (atoms) jong u hydrogen bad oxygen kin sa shim ia ka bor jingkhluid bad kin sa phiah kum ki ions bad electrons. Mynta , lada ngi bteng ban ai jingkhluid ,ki ions bad ki electrons kin sah ha kajuha ka hima bad mynta ngim don ia ka um, hynrei ka jingkhleh jong u Hydrogen bad Oxygen **"Plasma"**



Phi iohi ia ka baroh sawdong khun....Ka jingkhluid ba mih na ka ding jong ka stove ka shna ia I plasma barit harud jong ka ding.

Peit shajrong ka sat...U tubelight...Ka don plasma ha u ruh.

Phi iohi ia une gas lighter ...Phi ju lehkai em bad ka bad phi ju ioh shok I barit da kaba phi shon ia ka pyrshah ki shympriah kti jong phi?

Kitei ki ding light ba phi iohi ki ju khot plasma.

Khun, Phi tip ne em ba 99.9% jong ka pyrthei jong ngi ka don ha ka hima jong ka plasma.

Hooiid hooiid...Nga iohi ki ding light hapoh jong ka bad lada nga ktah nga ioh shock.

Woww! Kamut ia nga ruh shna da plasma ?

Hahahah...! Em, Phim dei ka plasma, tangba baroh ki khlur, ka bynta shajrong ka atmosphere jong ngi , ka bynta hapdeng ki galaxies ki dei ki plasma.

Tangba, ha kawei ka liang, baroh kiei kiei ba don ha ka met ka phad jong ngi ka wan na ka plasma, na uwei u khlur baiap ha ki hajar na ki shihajar spah snem mynshuwa !

Wow...Kamut ka plasma ka don lut ha man la ki jaka kum U Blei !

Hurray ! kamut nga dei u "khyannah khlur"

Kamut Paieid, ha u
thah, ka um bad ka jynhaw,ngi lah
ban iohi ia ka plasma?

Ñiuma, phi lah ban iohi
ia ka, tangba ym dei kum ba
phi iohi ia u thah, ka um bad
ka jynhaw. Nga lah dep batai
ia phi ba ka plasma ka don ki
ions bad ki electrons ?

Shi hajar klur jong ki
ions bad electrons ba
laitluid ki khieh bieji kum
ki ngap ba kyrdon

Shuh-shuh, katto-katne
ki plasma ki lah ban khluid
lane katto-katne ki lah
ban shu syaid ruh, ka
shong ha ka jingshna
jong ka !

Katto-katne ki ions kin sa
ia tyngkhuh bad u electron bad kin
sa iasoh pat ban kylla long u phyrngit
(atom) uba long ka jindsdang jong ka.
Haba ki leh kumta, ki pyllait ia ka
bor(energy), katto-katne ha ka rukom
jong ka jingshai, kaba ngi iohi.

Tangba kaei ka
jingiadei jong kine baroh
bad ka sngi jong ngi,
Paieid?

Ahh..hooiid..Map ia
ng...! Nga lah jan klet
shaphang kita baroh !

Kamut hapdeng ka sngi jong ngi,
jingshit ka heh bha haduh ba ka
hydrogen shatei ruh ka kylla **plasma**.

Kane ka plasma hapdeng
jong ka sngi ka khuid bha bad ka
rben bha haduh ba ka iasoh bad
hydrogen ban shna helium, ban
pynseisoh bun bah ka bor (energy).



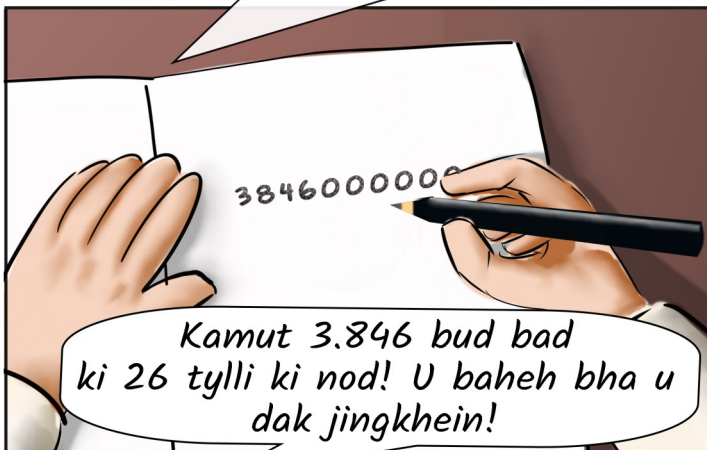
Ka bor

Kane ka kor
(engine) ba heh hapoh
ka sngi ngi la khot ka
"Nuclear Fusion"

Shibun bah ki jingjiahapoh
ka sngi ngi tangba ngim bna
ei ei shaphang jong ka
hangne!

Ñiuma, Khun ,ka dei kajuh ka plasma ba pyniaid
ia ka kor (engine) jong sngi bad kaba pynseisoh ia ka bor(energy) ba
donkam na ka bynta ka sngi bad ki met bneng(solar system)

Ban shna ia baroh kine
ki bor (energy) ,ka sngi jong ngi ka
pyning 600 shihajar klur kg jong ka
hydrogen ha man ka sekend (second)
ban pynmih 384.60 septillion
watts!

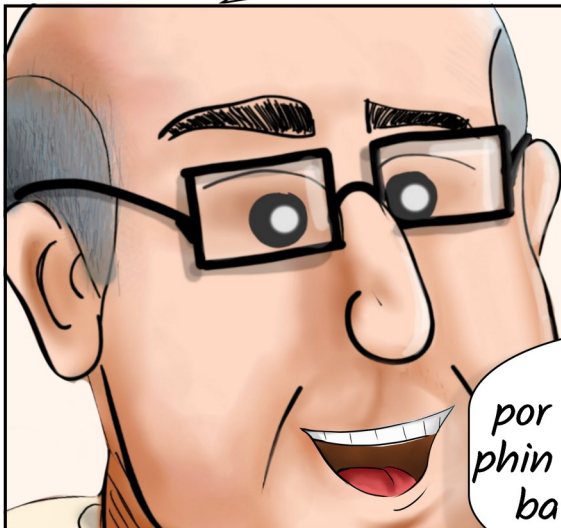


Kamut 3.846 bud bad
ki 26 tylli ki nod! U baheh bha u
dak jingkhein!



Ohhhh...Hooiid..U
baheh bha u dak
jingkhein !! Nga lei
ngam tip re ki dak
jingkhein palat na u
shispah(100)!

Em
Paieid...!Ngan
sum da ka um
na jiw
long(normal)



Ale noh khun, lah dei ka
por sum jong phi...bad mynta ka sngi
phin sum da kaba pyndonkam da liquid
ba khluid **Dihydrogen Monoxide***
HAHAHA!!!

*H₂O (ka um)

**KA
JINGKUT**

Ki Plasma Physicists Ba Pawnam



KI JINGSHISHA BA SNGEWTYNNAD SHAPHANG KA PLASMA

99.999% jong ka pyrthei ba ngi tip ka don ha ka hima jong ka plasma

Ki 'lur dii duma (comets) bad ki planetary rings ki don ki plasma kiba bthuh

Ka plasma ba seng nongrim ds ki ion-engines ka lah ban rah ia ka lieng suiñ na ka pyrthei sha u Mars hapoh 40 sngi

Plasma can exist at temperatures very close to absolute zero to more than 5 trillion degrees C

Ngì iohi ia ka plasma ha kylleng jong ngi: ha u lei'lieh, jingthaba phylla ha suin (aurora), fluorescent tubes, ka ding, ki ding ilektrik bad kumta ter-ter.

Ha man la ka shi sekon la kumba lkg jong ka plasma ba dait thah ka phet na ka atmosphere jong ka pyrthei.

Ka Plasma ka ialeh kylliang bad ka bor bakhlain jong ka electric bad magnetic field bad kumta ka shah pyniaid ha ki.

Ka magnetic field barit jong ka pyrthei ka lah ban iada ia ngi na ki jingma jong ki charged particles ba wan na ka sngi.

Ka plasma ka don bun ki jingpyndonkam ha ki liang jong ka agriculture, engineering, electronics, medicines, textiles, waste treatment, aerospace bad kumta ter-ter.

Ki plasma ba daithah ki long ki anti-bacterial agent ba treikam bha bad ki bym pynmysaw ia ka snieh doh jong ngi.

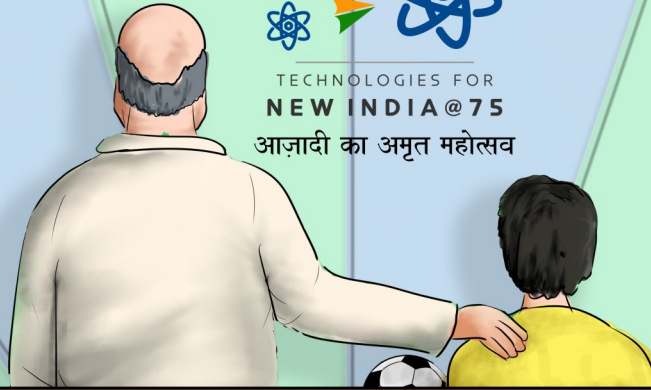
Ka Plasma ka lah ban pynmih ding ilektrik kham bha ban ia ka rynnong.

Iwei 1 lei'lieh barit 1-lah ban pynmeh ia 1 bulb light ba 60W haduh 6 bnai

Ia ka plasma ki ju pyndonkam ha ki nuclear fusion machines ban pynmih jingshit palat ia 15 sien ka jingshit kaba don ha dohnud jong ka sngi.

"KA PYRTHEI PHYLLA JONG KA PLASMA" KI KHANA BIRIA, KA THUP I (BANYNGKONG)

Ka Hok Longtrai : Institute for Plasma Research, Gandhinagar (2024)



Ka Institute For Plasma Research (IPR) ka don harud ka wah Sabarmati, hajan ka Indira Bridge, Gandhinagar, Gujarat. La sengi a ka ha u snem 1986, lah iasoh lang bad ka R&D institute hapoh jong ka Department of Atomic Energy(DAE), Jong ka Sarkar India. Kane ka Institute iatrei kam ban seng Nongrim bad ban pyndonkam ha ki jingwad bniah(research) jong ki Plasma Sciences bad Technologies da ka jingkhmih ban roi ka jingtbit bad ki technologies na ka bynta ka Nuclear Fusion kum ka thymmei jong ka bor(energy). Kane ka Institute ka don jingwad bniah (research) programme kaba I shongkhia bad kaba kynthup bun jait ki experiments ki barit, bad artylli ki Tokamak experiments kiba heh bad ki jingpule shaphang ki theoretical bad ki computational ha bun jait ki jaka jong ka Plasma physics. Ka Tokamak experiments ki kynthup U Tokamak banyngkong eh ba pynmih na ka ri India jong ngi, "Aditya", ba lah pynmih ha u snem 1990. Uba ar u dei u Steady State Superconducting Tokamak.(SST-1). IPR ka dei ka Indian nodal agency ia ka jingshim bynta ha ka International fusion mega-project ba la khot ka ITER kaba lah thaw ha France. Katkum ka rukom pynbeit, kane ka Institute ka la sdang ka programme ka ba heh ha kaba iadei bad ka jingroi jong ki technologies ba iadei bad ka Fusion.

Ka IPR ka dei ruh kawei na ki Institutions bai a shim bynta ha ka LIGO-India gravitational wave project.



Ka Prokram JIngpynpnhiang ia ka jingstad Saian da ka 'Institute for Plasma Research' ka long ban rakhe pyndon burom ia ka jingdap 75 snem jong ka ri India.



Ka Jingmut. Ka Khana & Ka Jingthoh:
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