SURVEY QUESTIONNAIRES FOR PILOT STUDY

Please answer all the questions in the blanks given below.

1. PERSONAL PARTICULARS:

1. Date: ______________________
2. Nationality: ______________________
3. Age: ______________________
4. Sex: ______________________
5. Mother Tongue: ______________________
6. Highest Qualification: ______________________
7. Teaching Experience: ______________________

8. English Language Grade:
   - Lower Primary (Standard 5 exam) (  )
   - Lower Secondary SRP/LCE (  )
   - Upper Secondary SPM/MCE (  )
   - STPM (  )
   - University (  )

   Put a tick (✓) for the appropriate answer.

9. Preferred language use while teaching:
   - Malay Language (  )
   - English Language (  )

10. Stream:
   - Arts (  )
   - Science (  )
11. What was the language medium at each of the following level of education?

Primary level:  Secondary level:
B.M ( ) B.M ( )
English ( ) English ( )

12. What was the language medium of the following level of education?
University:
B.M. ( )
English ( )

13. What language do you use when you talk to other teachers?
________________________________________________________________________
________________________________________________________________________

14. Main language spoken at home________________________

15. During classroom interaction do you alternate between languages?
________________________________________________________________________
________________________________________________________________________

16. Which language do you prefer to use when you explain scientific terminology?
________________________________________________________________________
________________________________________________________________________

17. Why do you code switch?
________________________________________________________________________
________________________________________________________________________

18. What are the problems you face when you teach science in the English language?
________________________________________________________________________
________________________________________________________________________
19. What are the main problems faced by students?
________________________________________________________________________
________________________________________________________________________

20. Do you think the teachers have received enough training to teach science subjects in the English language.
________________________________________________________________________
________________________________________________________________________

21. What needs to be done to ensure the success of teaching science subject in the English language?
________________________________________________________________________
________________________________________________________________________

22. Is the glossary sufficient enough for students?
________________________________________________________________________
________________________________________________________________________

23. Are the schools providing enough teaching materials to teach the science subjects in the English language? If yes, please state what type of materials.
________________________________________________________________________
________________________________________________________________________

24. As an educator, should the Ministry of Education revert the teaching of the science subject to the Malay language? If yes state why?
________________________________________________________________________
________________________________________________________________________

25. In teaching the science subject in the English language, will students become more proficient in the English language? If yes state how?
________________________________________________________________________
________________________________________________________________________

Thank you for your cooperation
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   English Language (   )

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Thank you for your cooperation.
1. A Summary Chart of Questionnaires on Language in Use

<table>
<thead>
<tr>
<th>Fluency of Language</th>
<th>Educators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malay Language</td>
<td>R L</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
</tr>
<tr>
<td>Comprehension</td>
<td></td>
</tr>
<tr>
<td>Written</td>
<td></td>
</tr>
<tr>
<td>English Language</td>
<td></td>
</tr>
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</tr>
<tr>
<td>Comprehension</td>
<td></td>
</tr>
<tr>
<td>Written</td>
<td></td>
</tr>
</tbody>
</table>

F = Fluent  NF = Not fluent

2. Survey of Language Use With Family Members

<table>
<thead>
<tr>
<th>Family Members</th>
<th>Malay Language</th>
<th>English Language</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>O S R</td>
<td>O S R</td>
</tr>
<tr>
<td>Parents</td>
<td></td>
<td></td>
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<tr>
<td>Spouse</td>
<td></td>
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<td>Siblings</td>
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<tr>
<td>Children</td>
<td></td>
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</tr>
<tr>
<td>Relations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

O = Often  S=Seldom  R=Rare

<table>
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<tr>
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<th>English Language</th>
</tr>
</thead>
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<td></td>
<td></td>
</tr>
<tr>
<td>Relations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

O = Often  S=Seldom  R=Rare
3. Survey of Language Use With The Outside Community

<table>
<thead>
<tr>
<th>R (Educator)</th>
<th>Malay Language</th>
<th>English Language</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>O</td>
<td>S</td>
</tr>
<tr>
<td>Employer in school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators in Pusat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tution Jaguh Gemilang</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents of students in school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colleague in school</td>
<td>O= Often</td>
<td>S=Seldom</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>L (Educator)</th>
<th>Malay Language</th>
<th>English Language</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>O</td>
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<td>Colleague in school</td>
<td>O= Often</td>
<td>S=Seldom</td>
</tr>
</tbody>
</table>
Circle the appropriate scale

4. **Subjects’ opinions towards code-switching**

<table>
<thead>
<tr>
<th>No</th>
<th>Opinion</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Code-Switching is a countenance (sign) of language interference.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2</td>
<td>Through the process of code switching students have a better understanding of the subject matter</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>3</td>
<td>Bilingual educators should not alternate in other languages in the process of learning and teaching.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>4</td>
<td>Bilingual educators should alternate between two languages if there is lack of vocabulary during explanation</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>5</td>
<td>Educators teaching the science subject at the secondary level should be proficient in both the Malay language and the English language.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>6</td>
<td>Other opinions</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

1- Strongly disagree  2-disagree  3-not sure  4-agree  5-strongly agree

Tick (✓) the appropriate answer. You may tick more than one.

1. **Why do you code switch between two languages**

<table>
<thead>
<tr>
<th>No</th>
<th>Reason for switching</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To emphasise and to explain scientific terminology</td>
</tr>
<tr>
<td>2</td>
<td>To confirm that the students have understood the subject matter</td>
</tr>
<tr>
<td>3</td>
<td>To encourage students to participate in the lessons</td>
</tr>
<tr>
<td>4</td>
<td>To establish relationship, humour and to have a conducive environment for teaching and learning</td>
</tr>
<tr>
<td>5</td>
<td>To save time</td>
</tr>
<tr>
<td>6</td>
<td>Habitual reasons</td>
</tr>
<tr>
<td>7</td>
<td>Influence of other subjects</td>
</tr>
<tr>
<td>8</td>
<td>Other opinions</td>
</tr>
</tbody>
</table>

If any ____________________________
5. Interview Questions

1. To what extent code-switching motivate the students to converse in English?

2. Does code-switching help the students to understand scientific terminology?

3. Does code-switching help students of different ethnic group to mix together?

4. Does code-switching help increase students’ self-esteem?

Thank you for your cooperation.
chapter on heat transfer/ ok look at this method/ what are the methods of heat transfer?/ for example/ heat can be transferred between two places/ we have different/ temperature that means/ the heat can be transferred from/ hot to cold/ the bigger the difference/ the faster heat is transferred between both places/ for example lets say you heat a rod/ iron road as shown in diagram A/ what happens after 5 minutes/? what will the portion be?/ it will be/ hot isn’t it/ that means this part will resume heat the A part/ and then transfer here/ how to get this transfer?/ last week i already told you isn’t?/

this is for perolakan/

this is called/ what type of flow is this?/ conduction/ what we call?/ conduction/

yes/

conduction/ there is another method we are going to learn call convection ok last week we already learnt about this conduction/

yes/

convection/ ok convection in bahasa what do we call?/

perolakan/

yes perolakan/

ok look at the book/ page two convection/ what is the meaning by convections here?/

process of heat transfer/

ok convection is the process of heat transfer ok/ what is the meaning of fume?/ fume can be a gas or liquid/ boleh jadi
bagai cecair/ so during the movement of hot area to the lack hot area/ for example/ let’s say you heat the water here/ ok first of all which part do you think will receive the heat?/ down or the up one /

U13 S : down/

U14 R : at the bottom part/ will receive the heat first/ then what happens roughly after a few minutes? can the heat be transferred here?/ you see the rotations/ ok/ lets say you just put a small/ tiny leaf for example/ masukkan daun misalnya/ after a while what happens?/ the leave will go up/ and down/ so that means?/ replacement/ dia akan menggantikan tempat yang sejuk/ for example/ how do you feel inside here?/ you feel very hot or very cold?/

U15 SS : very cold/

U16 R : lets say i open the door what happens?/ you will feel very hot or warm?/

U17 SS : very warm/

U18 R : you will feel very hot isn’t it?/

U19 S : no/

U20 R : sini memang panas/ why does this happen?/ ok another way/ you see heat can replace the cold part/ so this part is very cold isn’t?/ so what happens inside here?/ transfer or convection/ aircond for example/ convection can happen such as liquid and gasses/ contohnya macam tadi saya ada kata bahawa kita buka pintu/ kita rasa panas/ itu adalah gas/ the hot balloon how can it rise up?/

U21 S : because of the air/

U22 R : ok/ look at the hot balloon/ after heating up with/ air/ what happens inside here/ once heated up?/ the air will be/ less adalah kurang tumpat kalau you padam api di sini apa akan terjadi?/

U23 S : the air becomes heavier/

U24 R : it will be heavier and the balloon will drop/ bila di
panaskan Ia akan naik ke atas sahaja/ for example/ smoke
cuba tengok bila kertas di bakar/ what happens after a
while you see the smoke going up?/ why the smoke goes
up?/ have you been to Pusat Sains Negara?/

U25  S : yes/
U26  R : ok/ the demonstration about the nitrogen gas/ siapa pernah
tengok?/ siapa pernah pergi ke Pusat Sains Negara?/
U27  SS : pernah pergi/
U28  R : did you see the/ demonstrations about nitrogen gas/ pernah
tengok tak?/ so what happens lets say there are nitrogen
gas? the nitrogen gas is in liquid form/ bermaksudnya
berada dalam keadaan cecair/ so once you open the
container the gas goes down/

U29  SS : yes/
U30  R : why the gas goes down?/ kenapa dia pergi ke bawah?/
biasanya gas akan naik ke atas bukan/ tetapi gas ini akan/
turun ke bawah/
U31  S : heavy/
U32  R : because too heavy/ that means more than/ faham ke if more
than meaning going down/ if less than/ meaning going up/
that’s why once it heats up the air particle will move/ up
wards ia akan bergerak ke atas/ ok another example with
ice/ just take out the ice from the fridge/ we can see
something like smoke/ the air particles will move down/
look at 5.5/ the convectional current is shown in diagram 3/
once you heat up water/ what happens?/ look at the
current/ its going up and down/ this process is called
current/
can you give another example rather than this?/ selain
daripada yang ini/ boleh tak anda bagi satu current yang
menggalir macam/ arus elektrik?/

U33  S : water heater/
U34  R : ok water heater any other examples?/ look in this room/ air
cond this type is called convection lets say you put one glass of water/ inside the freezer what happens after an hour or two?

U35 S : freeze/
U36 R : it will freeze why?/ explain to me/ lets say in a freezer what happens here this part is very hot or cold?/
U37 SS : cold/
U38 R : very cold/ how heat can be transferred?/ for example heat particles are/ more or less denser/ so less denser/ this part has to replace the space/ akan menggantikan tempat yang/ kosong di situ/ ini adalah satu contoh bagaimana pengaliran air akan berlaku/ ok any other examples?/ why do you open the car door when it is hot?/

U39 S : very hot/
U40 R : something like convection/ the air particles will transmit/ the air flow has to replace/ how do you solve this problem?/
U41 S : leave the window open/
U42 R : you kena turunkan cermin sedikit/ faham tak/ jangan turunkan banyak nanti orang curi/ jangan buka hanya satu tempat sahaja buka dua tempat/ the air can flow easily/ kalau hanya buka satu tempat maksudnya pertukaran gas itu lambat/ very late/ the heat must transmit/ you must open both sides of the door/ cara itu bagaimana kita boleh mengurangkan kepanasan dalam kereta/

U43 SS : faham sir/
U44 R : if you switch the aircond on/ the windscreen boleh jadi pecah/ biasanya kalau kereta terlampau panas pada waktu tengah hari/ cermin depan itu boleh crack/ open slightly/ buka sedikit/ angin boleh masuk dan keluar dengan lebih baik/ look at this experiment to investigate heat transfer by convection/ what is the meaning of radiation or radioactive?/
U45 S : transfer of heat/
R : the word comes from/ radiate dalam bahasa di panggil apa?/

SS : sinaran/

R : radiation is a transfer of heat energy/ from a heat source to its surrounding without the need for a medium for example/ conduction and convections require medium/ how are we going to differentiate with/ convection conduction and radiation?/ radiation does not require a medium to transfer the heat but convection and conduction require/ for example gas particles or salt particles will be in liquid particles/ for radiation they do not require/ for example the heat from the sun/ the heat transfers from vacuum/ our earth has atmosphere/ ok look at the pictures in your book the sun and the earth/ how can heat be transmitted here?/ from sun to earth through vacuum dalam bahasa dipanggil hampa gas/ ok heat which is transferred by radiations is called radiated heat/ radiated heat can be absorbed or/ reflected apa maksud reflect?/ pantul maksudnya lets say you throw a ball and the ball?/

S : bounces back/ reflects/ the same thing bounced/ ok the heat can also/ reflect/ yes girl any questions?/

S : do we use reflection to see sir?/

R : yes how can we see a person beside of you/ the light always reflects/ only then we can see the objects clearly/ if no reflection you cannot see/ for example lets say/ this thing is not reflected/ we cannot see what is reflected outside?/

S : why is it not reflected?/

R : because/ this part is/ transparent maksudnya lutsinar cahaya boleh tembus/ reflection of light you akan belajar dalam tingkatan dua nanti can anyone travel at the speed of light/ students what is the speed of light?/
U55  S :  300 000/

U56  R :  per second yes/ 300 000 kilometer/ per second that means
the light can travel within one second/ how many times
you can go around the world within one second?/ how
many rotations you can make?/

U57  SS :  once/

U58  R :  lapan kali/ kalau bergerak dengan laju macam ini you
boleh memberhentikan pergerakan bumi/ begitu banyak
kuasa yang kamu ada/ lebih berkuasa daripada superman/
tapi superman pakai underwear/

U59  S :  what is time travel?/

U60  R :  Albert Einstein stated this theory time travel/ meaning
back to the past or future zaman dahulu atau zaman akan
datang/ if you travel at the speed of light/ ok we continue
next week/

U61  SS :  thank you sir/
ok we continue from last week/ look at the comparisons between conduction and convection/ ok baca/

the following chart shows the comparison between convection conduction and radiation/ sudah sir/

look at the difference/ this part is the most important/ conduction/ convection and radiation/ look at conduction/ heat is transferred by particle that vibrates and collides with other particles such as in solids/ liquids/ gas but most effective in solid not in vacuum or rapid process/ apa maksud rapid process?/

very fast /

look at convection/ heat is a process of particles move and form convectional current/ like liquids and gas does not occur in/ vacuum its a slow process/ proses ini lebih lambat if compared to conduction/ conduction is fast can any student tell me why?/ kenapa konduksi lebih cepat berbanding dengan perolakan?/ yang mana lebih laju conduction or radiation?/

radiation/

ok/ can you give another example rather than sun?/ bolehkah anda beri contoh yang lain selain daripada matahari dan sebagainya?

sound/

sound is not radiation we are talking about heat only/ for example/ lets say light bulb/ mentol yang ada di situ kalau katakan anda sentuh/ what happens after a few seconds?/ you will feel very hot isn’t it?/ so how the heat can be transferred here? we call the process radiation/ ataupun kamu duduk ditempat yang ada unggun apil/ camp fire
normally you feel very warm/ London for example/ very cold outside and inside/ in the house a heater is installed or fire place/ rumah mereka memang ada unggun api atau heater/ so the heat can be transferred/ this process is called radiation/ apa ini macam budak kecil sahaja/ ok we have already completed chapter seven/ any questions now?/

U10 S : no sir/

U11 R : ok look at the questions carefully B/ kinetic energy is changed into heat energy when water is boiled/ incorrect you know/ electrical energy in a wire/ produce heat energy/

U12 S : answer is B/

U13 R : the question is asking incorrect/ yang mana adalah salah /

U14 S : B wrong sir/

U15 R : what is the answer actually?/

U16 S : B/

U17 R : look at diagram A/ electrical energy in a wire produces heat energy/ electrical wire is what?/

U18 SS : tak tahu/

U19 R : no/ i am asking what is the flow of the heat?/ it is conduction/

U20 SS : yes/

U21 R : they are asking/ which is convection?/ so the answer is?/

U22 SS : we still think its B/

U23 R : kinetic energy will change into heat energy when the water is boiled/ my answer is correct/ once you heat up the water/ particles have to move/

U24 S : yes/

U25 R : so the particles move around/

U26 S : kinetic/

U27 R : so the answer is B/ ok soalan dua siapa mahu baca?/ girl you read/

U28 S : which of the following statement about heat and temperature are not true?/
is not true/ which of the following statement about heat and temperature are not true?/  

B/ heat is measured in celsius/  
what else can be measured in joules?/ next students read the questions/  
figure one shows four figures which of the following is arranged in the order of increasing/ of heat C, I, K, H, J/  
which of the following arrangement is the order of increasing heat?/ I/ K/ H and J/ the answer is?/  
ok which beaker in the following has more heat the bigger or smaller one?/ the biggest will have more temperature/ more heat why?/ the amount of heat in the 500mm water is same/ the answer is A/ cuba tengok lima ratus dengan seratus berlainan/ kalau lima ratus airnya mempunyai tenaga yang lebih banyak/ ok number 6/ increasing temperature maksudnya yang mana adalah bertambah/ ok look at this the size of K/L/M/N/  
iron tube/  
salah/ they are asking about beakers/ ok number 7 which of the following statement is true or false about heat/ and temperature/  
A/  
A/ when a substance of heat/ the heat causes it temperature to rise/ betulkan  
yes correct/  
ok look question 3/ 2000 centimeters of cubic water contain more heat/ the answer is A/ for example/ even though it is the same temperature/ they contain more heat/ because they have more space/ look at this comparison here/maksudnya
macam ini bekas yang mempunyai air yang banyak/
walaupun suhu yang sama/ the rest we continue in the next class//

U44 SS : thank you sir//
R: can anyone tell me what is science?

S: sains ilmu mengkaji

R: correct science is research based you can learn systematic
details/ dan juga mengetahui banyak ilmu events happening
around you what else? What is the meaning of natural
phenomena?/ beri satu contoh?/

S: gunung berapi

S: tsunami

R: tsunami very good/

S: gempa bumi dan tanah runtuh

R: tanah runtuh/ hujan natural/ rainbow apa sahaja yang
terjadi all of this is categorized as natural phenomena/ apa
maksud eclipse?/ gerhana matahari/ formation of lightning/
kilat/ formation of rainbow/ volcanic eruptions

S: gunung berapi

R: yes volcanic eruptions lets try these questions on the
importance of science/ mengapa sains itu sangat penting?/

SS: membabitkan negara menyenangkan hidup kita/

R: yes very good lagi/ banyak perkara berlaku dalam
kehidupan kita bukan why is science useful/ teknologi
kereta motor ada kapal semua benda ada so many things
you know transportation?

S: pengangkutan/

R: construction?/

S: pembinaan/

R: medicine/ communication?/

S: perubatan dan komunikasi/

R: agriculture?/
Pertanian/ industry/ perindustrian/ ini semua kita akan belajar dalam topic pertama/ cikgu apa ini/ field/ maksudnya bidang/ ok look at question two/ science is important to manage nature effectively/ apa maksud nature effectively?/ menguruskan keadaan persekitaran dengan keadaan yang lebih baik/ kalau keadaan terlampau sejuk/ apa you akan buat?/ if you know it is going to rain you will use an umbrella/ this is what we call scientific knowledge/ you are getting prepared/ application/ apa maksud aplikasi teknologi?/ sains mengatakan kalau kita memanaskan satu benda/ benda itu akan jadi panas/ teknologi mesti menggunakan aplikasi sains/ ini semua kita akan belajar later part/ mesin fotostat sebagai contoh/ career and field of science/ katakan nak jadi doctor?/ study medicine/ teacher?/ education/ very good/ construction?/ engineering/ gambar pertama menunjukkan Pelajar tidak mempedulikan keselamatan di dalam makmal sains cari apakah kesalahan–kesalahan itu/ bulatkan perkara perkara yang tidak patuhinya?/ lets look at this topic now/ the varies themes of science/ bidang–bidang/ what are the career?/ maksud disini adalah kalau anda belajar sains apakahkerja yang kamu boleh buat/ as a teacher saya belajar saya boleh ajar kamu any other career?/ now look at the picture a girl is heating the test tube/ tabung uji/ this one salah/ look at the next picture/ budak lelaki itu
memanaskan test tube dia tidak menggunakan penyepit/
tingkatan satu anda akan belajar pengendalian bahan
kimia/ balik rumah dan baca thank you class/

U32 S : thank you sir//
what is the meaning of science?/ it is a systematic study/ maksudnya adalah satu susunan cara belajar of nature/ perkara-perkara yang berlaku di sekitar kita/ and how it affects us maksudnya memberi kesan/ lets say it is raining for a long time/ banjir atau hujan langsung tak turun it affects our earth and our environment/ memberi kesan kepada alam sekitar/ sains is a systematic study of our nature and how it affects our environment/ if you all a cold/ sejuk you balik rumah anda gunakan heater/ washing machine/ mesin basuh/ blender/ bila tiba raya dulu emak saya kisar guna tangan/ last time in the kampung/ nowadays life is simple and effective/ lets look at communication/ dulu orang guna postman/ cermin untuk hantar mesej/ tapi sekarang e-mail/ orang kata dunia menjadi semakin kecil semua technological/ construction/ pembinaan/ building twin towers/ pertanian is agriculture/ mesin untuk mengumpulkan tanah/ masa dulu pokok getah mengambil 7 tahun untuk membesar tapi sekarang 5 tahun sahaja/ ayam daging di KFC 45 days sahaja untuk membesar tapi ayam kampung ambi masa 2 tahun untuk membesar sebab hormone injection saya inject awak you boleh jadi besar/ zaman sekarang kalau anda sakit kepala anda ambil panadol sakit kepala/ sekarang ada berbagai jenis panadol/ look at the development/ discovery of drugs/ sometimes if you have batu karang in the urine dia akan bagi ubat untuk cairkan batu or crystals/ kalau kencing tak boleh sampai dia naik dan keluar dari mulut/ to avoid this problem you have to drink many glasses of water every day at least 7 glasses like the chinese tapi orang India selalunya
tak bawa/ katakan anda sakit kencing manis they have a
dialysis machine to help you/

U2  S : saya ingat kencing manis/ air itu manis/

U3  R : yes/ lets say our kidney does not function you have
kencing manis dan semut menghampiri air kencing anda
selepas kencing/ then finish very dangerous/ balik rumah
nanti cuba/ transportation/ pengangkutan/ nowadays
machine like kapal terbang/ rocket and bullet train/ bullet
train can travel 360 km in one hour/ normal train takes a
longer time/ ok try these questions now/ what are the
importance of test tube?/ you tahukan apa itu test tube/
tabung uji/ to contain chemicals/ and also we have a test
tube holder/ pengepit/ than we have bikar dalam bahasa di
panggil/ glass jar/ to collect the gases example oxygen/
helium/ karbon dioksida/ kalau kita nak sejatkan garam ia
dipanggil penyajatan/ bunsen burner ada saluran paip dan
gas/ bila buka api menyala/ then we have a tripod stand
yang mempunyai kaki tiga/ tripod has to be used untuk
bikar/ retort stand atau kaki retort/ glass tube is also used
untuk menggacau bahan kimia atau cecair/ asid atau
alcohol tapi jangan guna tangan dan kacau nanti tangan
hangus/ tanda- tanda atau simbol-simbol yang ada pada
botol bahan kimia atau lori yang membawa petroleum ada
tanda ini/ apa maksud tanda ini?/

U4  SS : mudah terbakar/

U5  R : anda kena faham kalau ada benda yang ada tanda
macamini/ anda perlu berhati-hati/ i end the class here/

U6  SS : thank you sir/
the first step to science/ we have to find an objective and identify the problem/ investigations/ bila lakukan eksperimen dia ada beberapa langkah/ finding the masalah the scientific method is important and make a smart guess/hypothesis/ or tujuan eksperimen the third step we call plan the experiment/ planning is important/ cara-cara merancang/ langkah pertama/ this part is the most important/ selepas SPM atau STPM apakah rancangan kamu?/ you have to plan for your self/ the next step is to control the variables/ dalam bahasa di panggil pemboleh ubah/ manipulated dalam bahasa dipanggil manipulasi and the last one is called response/ gerak balas/ to find and to collect the data/ once you are doing the experiment you must observe/ katakan anda nak dapatkan maklumat apa anda nak buat?/ memerhatikan apa-apa perubahan/ collect the data observing the experiment/ observe meaning pemerhatian to collect data dalam bahasa di panggil mengumpul data/ step six is to analyse the data and to interpret the data/ make conclusions/ and the last step is to write a report/ there a nine steps/ sembilan perkara/ this is important/ make the conclusion meaning buat keputusan atau rumusan katakan anda buat layang–layang mesti bentuk segitiga/ you have to find out which kite will fly higher/ so you have to make a hypothesis/ planning and variables are important/ manipulated is the shape/ bentuk and response is the ketinggian/ next collect the data/ and you have to look/ memerhatikan layang-layang segitiga terbang tinggi and then analyse the conclusion/ meaning interpret the data/ so your conclusion will not be same/ and
the last stage is doing a report/ in school i am sure you have done a report before your school body/ persatuan-persatuan badminton or football/ so the scientific steps are important and you have to ingat the steps/ problems/ hypothesis/ you have to label it correctly/ so the problems has to be identified and gather the information meaning cari maklumat/ so please follow the steps/ so look at the symbols/ what symbol is that?/

U2 S : flameable/

U3 R : yes mudah terbakar/ and the third one what is that?/

U4 S : radioactive//

U5 R : yes/ what is the meaning of corrosive?/ so the symbols are important and the last one is?/

U6 SS : bahan kimia/

U7 R : kadangkala kita beli barang-barang di farmasi atau beli ubat ada simbol-simbol atau ambil X ray di hospital/ so you must understand these symbols there are very important/ ok we try these questions/ what is the meaning of solid?/ meaning pepejal/ volume meaning isipadu/ so go back home and try these questions/ thank you class/

U8 SS : thank you sir//
TRANSCRIPTION 6

Subject: Form 1 Science | Chapter: 1 (Introducing Science)
Teacher: R | Individual Student: S | Students: SS

U1 R : let us look at the steps when using the science laboratory/ without the teacher do not enter the lab/ do not eat or drink dalam lab/ mengapa?/ sebab ada bahan- bahan kimia bahaya/ do not taste any chemicals/ do not smell any gasses unless instructed by the teacher/ kalau orang kentut pun jangan hidu/

U2 SS : ((laughter))/

U3 R : always read the instructions before conducting any experiments/ katakan anda rasa sangsii/ ask the teacher/ do not ask your friend/ because your friend would not know/ form 1 to form 3 not much experiments/ always use the correct amount of chemical when conducting any experiment/ kalau meletup nanti bahaya/ do not pour any chemical into the botol to avoid any contamination/ maksudnya di sini adalah jangan tuang balik elak pencemaran/ you have to be careful when handling/ hold the chemical bottle by their level/ kena ikut level dan tuang mengapa?/ bila tuang ada sebahagian keluar/ so you have to read the instructions and look at the level/ always use the bottle from the right hand the accuracy will not lari/ if you are left handed its ok/ kalau bahan kimia terkena mata bilas dengan air/ wash any chemical that has poured on you/ tidy up the place after any experiment/ jangan tukar tempat lain then it will be confusing/ report any accident or injury/ kalau apa-apa berlaku/ leave all the doors and windows open/ kalau tertutup you akan hidu bahan kimia/ the air can move freely/ wash your hands after every experiment/ now lets look at the apparatus/ what is a beaker?/ bikar dalam bahasa di panggil/ it is use to
contain liquids/ conical flask if you notice the shape is different/

U4 S : what is mixture?/

U5 R : meaning campuran/ for example/ you campur garam/ gula/ like drinking coffee/ you mix/ campuran/ cork means gabus/ usually there are two types rubber or wood/ pernah tengok botol arak macam itu/ then we have the gas jar they have many types of gases/ gas yang paling ringan sekali apa?/ hydrogen is the lightest gas/ bila kita tengok belon kat majlis boleh naik/ melayang atas/ spatula means sudu/ to transfer chemicals/ test tube holder/ penyepit digunakan it is made of wood/ tripod stand is used to support beaker or flask while heating/ wire gauze is to spread out the heat of flame evenly/ retort stand to hold the apparatus/ bunsen burner for heating/ pipette to measure a fixed volume/ kalau untuk minum ubat dan menyedut ubat/ burette to measure the volume of liquid/ macam paip/ pipette lagi tepat more accurate/ look at the symbols/ you kena tahu semua tanda-tanda/ kalau pergi petrol station unleaded petrol you can see the symbols/ kerosene means minyak tanah/ if you look at bombs/ Hiroshima and Nagasaki in 1945 destroyed Japan/ ok try these questions/ i will continue next class /

U6 S : thank your sir//
saya akan menggunakan dua bahasa untuk mengajar/ i will try to teach in two languages/ PMR is in bilingual dua bahasa/ so in exam the choice is yours either Bahasa or English/ in science and mathematics they have glossary/ ada dalam Bahasa Inggeris dan Melayu/ it is good if you have the book / try to get the book/ siapa tak suka ilmu matematik sebab susah/ for me saya paling benci sejarah/ all subjects are important/ i did not like history because i did not like my teacher/

((laughter))

in the 15 century the society did not accept science/ science is development/ kemajuan/ orang dulu gunakan asap untuk komunikasi/ menggunakan cermin/ mirror the telephone was invented now cell phone/ if we are using our leg is called leg phone/

((laughter))

is science important? yes it is/ look at MEASAT 3 paling tinggi di dunia/ where is it located?/

outer space/

the importance of the satellite is broadcasting/ siaran langsung piala dunia those days you have to read the news paper/ communication you can send email/ communicate invention is also important to mankind/ your notes is also important/ balik rumah dan baca/ science is explanation of action/ discovery/ knowing about living things/ science is the systematic study of the natural phenomena/ you have to do research/ mengkaji you have to plan your research/ mesti jalankan secara sistematik/ ok read the questions below and try it at home thank you class//
this chapter/ if the hypothesis is true we have to make a report/ akhirnya buat satu laporan dan ini boleh jadi satu teori/ you have to get permission from the teacher before entering the science lab/ could be many chemicals in the lab/ students have to be responsible towards their actions/ do not bring food in the lab/ sebab ada racun nampak macam gas drink/ do not breathe any gasses also/ kalau orang kentut pun jangan hidu/

((laughter))/
special chemicals you need special rooms to conduct the experiment/ you have to hold the chemical bottle by their level/ why is this so?/
i do not know sir/
mungkin ada chemical reactions/ so ini adalah mustahak untuk ikut kalau terkena bahan kimia we have to wash our hands with water/ this is very important do not throw anything into the sink hole/ because nanti tersumbat/ so you have to remember all of the instructions do you understand boy?/ peraturan/
yes/
you know the instruments are also important because question comes out for your exams/ kalau anda ingin kacau bahan kimia jangan guna tangan/ guna glass rod / you have to know in detail/ what is a bunsen burner?/
tak pasti sir/
try the questions below/ thank you class//
ok look at the topic on plants/ endoskeletons/ exoskeletons and hydrostatic skeletons exo meaning outer part/ endo inner part/ hydrostatic meaning supported by water/ air memberi sokongan kepada tumbuhan/ two weeks a go i have already given you the notes/ ada bawa tak nota minggu yang lalu/ woody bermaksud tumbuhan berkayu some examples of woody plants?/ yang ada batang yang keras dan tegak seperti pokok durian rambutan dan angasana/ xylem is the most important part/ anda akan belajar xylem ini dalam tingkatan tiga xylem akan membawa air daripada akar ke daun/ to produce the process of photosynthesis/ this is the most important part/ secondary xylem it supports the plant/ kalau anda mengkopek kulit pada batang anda akan nampak bahagian yang ada cecair you can see a liquid form/ this is called xylem/ it not only supports it also gives the shape to the plant/ maksudnya adalah ketegakan sel kalau tumbuhan itu tak ada air apa akan jadi ia akan layu/ non woody plants adalah tanpa batang keras ia akan mencengkam pada tumbuhan itu/ the root of mangrove tree pokok bakau yang biasa ada di kawasan paya ia macam jagung/ akarnya akan menambahkan lagi sokongan pada pokok/ to support/ can anyone tell me what is the longest roots in the world?/ it is about 120 meters/ lets look at the next point/ aquatic plants bermaksud tumbuhan yang hidup di air/ ok secondary xylem enables the plant or tree to stand upright and also gives the plant shape/ so xylem plays an important role tumbuhan yang boleh bergerak di air adalah hydrilla and water lily/ the rest i will continue later/
U2 SS : thank you sir//
in the diagram look at the receptor which are responsible of detecting the following sensations?/ for example the first one movement/ the second one?
U2  S  :  pain/
U3  R  :  the third one/ heat/ the top one?/
U4  S  :  touch/
U5  R  :  touch very good/ write the answer down/ look at the multiple choice questions/ do the questions 1 to 10/ how should researchers ensure a fair test?/ maksudnya kalau dia nak buat satu ujian itu mestilah adil/ what is the SI unit for time?/ seconds/ what is the formula for density?/ mass over volume/ if the volume increases the density will be decreased/ do you think the mass will have any changes?/ mass/ for example/ you heat up the iron bar/ katakan you panaskan satu ketul besi/ mungkin dia akan kembang/ it will expand/ only the volume will be increased/ dia punya isipadu sahaja akan bertambah/ dia punya jisimnya tidak akan bertambah/ in a laboratory a student spills some liquid on his hand what should he do?/ katakan asid terkena pada tangannya/ have to wash with a lots of water/ mesti cuci dengan air/ kalau terkena mata macam mana?/
U6  S  :  sudah buta/
U7  R  :  kalau terkena cepat pergi ke bilik mandi dan cuci/ jangan pergi ambil air tandas kencing nanti susah/ you have to protect your eyes/ bilas dengan air sahaja/ what is the meaning of hypothesis?/ the concrete answer is/ observation maksudnya memerhatikan/ what's the measurement for length?/ panjang/ SI meaning System International/ temperature of instrument is thermometer/
movement does not have the the same speed/ why suddenly it stops?/ the marker pen stops because of friction/ geseran semasa dia bergerak dia akan berhenti/ semasa bergerak kelajuan tidak sama/ look at the questions now/ apakah sifat-sifat yang perlu pada seorang saintis?/ skills should a scientis have/ bolehkah dia tipu/ scientist should be honest/ what are the characters?/ example patience/ dia mesti sabar/ berdedikasi/ disiplin/ write down three difference between two types of flame?/ mana lebih panas?/ B has more heat/ which produces fuse?/ jelagal

U8  S :  A/

U9  R :  the fuse is more dangerous/ ini lebih karbon monoksida/ now look at chapter 4/ list three factors of living things?/ there can move/ breathe/ boleh bernafas/ living organism can grow/ jangan lupa kita boleh membiak/ reproduce/ cars can move but they are not living organism/ because they can’t grow and breathe/ list five endangered animals maksudnya haiwan hampir pupus/ giant panda/ lion endangered/ plants like rafflesia/ let us look at deforestation/ pembalakan secara haram because of development next question/ which substance is element of compound?/ oxygen/ nitrogen and argon compound ialah karbon dioksida/ in hundred cubic of volume of air what is the volume of nitrogen?/

U10  S :  tidak tahu

U11  R : what do you mean?/ the answer is 78/ ok we will continue in the next class/

U12  S :  thank you sir//
U1 R : we have five senses and the breathing organ is important/ senses ini sangat penting untuk kita that is the eyes/ nose/ skin/ ears/ and sound/ what is important with stimulus?/ maksudnya ialah rangsangan/ object we are looking we get knowledge/ ears for sound/ nose for smell/ semua benda–benda atau bahan kimia yang kita hidu/ skin has five receptors and tongue is important for chemicals/ nose and tongue can detect the chemicals dia akan mengesan cecair walaupun ada bau wangi misalnya udara masuk dia akan tukar reseptor dari gas kepada cecair and transmits the information to the brain/ sama juga makanan yang kamu makan rasa tukar kepada cecair and then it brings to the brain to interpret/ stimulus sense/ i am talking to you you are listening the sound is called stimulus/ we have receptors/ our nerve system dia akan terima rangsangan and the message will be sent to the brain to interpret/ tafsir and pass the message/ katakan you hold the ice for a long time apa akan jadi our brain will say it will harm us the brain memberi tafsiran to protect us/ katakan you pijak benda yang tajam/ the spinal cord will feel it/ the skin is divided into three main layers/ maksudnya ada tiga lapisan utama/ the first layer is called epidermis/ the tiny part on your skin/ if you scratch/ ada nampak kalau kulit yang halus keluar/ yang bahagian atas selapuk atas dipanggil epidermis/ tak nampak receptors/ kalau apa terkena no pain receptor/ from that we know that epidermis is important to protect our skin from the sun shine/ to protect our skin/ dermis maksudnya sel-sel boleh hidup dalam dermis/ we find the pain receptor/ any thing we hold/ the pain receptor
mengesan bahagian kesakitan/ this we call nerve/ the heat receptor/ touch receptor/ cold receptor is nearest to the fatty layer/ kawasan lemak/ cuba pegang kulit kalau tebal banyak lemak/ orang gemuk badan berlemak/ more cholesterol/ look at artic and antartic/ the people there have more fatty areas/ so you have to remember the four receptors/ very important/ kulit mempunyai banyak fungsi/ function/ kulit juga produce vitamin D/ kalau anda berdiri tengah matahari sampai pukul 12 pm anda akan jadi macam saya/ kulit gelap/ our skin protects us/ the sun light has ultra vielot very dangerous/ warna unggu which damages our skin/ kalau kita pergi ke laut boleh guna sun block to protect our skin/ the nose is the sensory organ for smell/ contohnya anda lihat gambar what are the senses you are using?/ the eyes and the ears/ when eating you are using the tongue and nose/ when you jatuh sakit selera/ can you get the real taste eating a piece of cake for example?/ can you taste the sweetness?/ our nose has two channels/ our nose and tongue will be damaged terkumpul banyak mucus/ lender maksudnya dia akan menahan/ all the senses are stuck there/ next week we will learn about the tongue/ lets say people who drink a lot of alcohol/ if you ask them to balance/ cannot balance/ orang yang minum banyak arak/ balancing is important for or hearing system/ the tongue to detect different taste buds/ our nose can detect 300 000 chemicals/ membezakan chemical reactions/ each different part has chemical reactions/

U2  S  :  sir can you draw the diagram?/
U3  R  :  look at the board and copy down/ I will continue next week/
U4  S  :  thank you sir//
we look at the heart beat/ can beat 100 times if we exercise regularly/ the pulse can be found if we touch the wrist/ try to feel your pulse now/ can you feel it/ your heart beat should be normal/ if a student gets 10 A’s in his PMR his heart beat will increase/ lets look at the nose/ what is the importance of our nose?/ smell/ the smell should dissolve in our mucus/ bahagian kimia itu larut dalam mukus/ smell receptors/ katakan masakan di dapur kamu terima bau/ bau itu akan larut dalam mukus/ wood sometimes does not have chemical reactions unless if you paint it/ this is important in our nose/ the nose can detect chemical reactions/ bau dapat dikesan/ cuba tengok bunga teratai atau bunga melur kita dapat mengesan bau itu/ but do not put sharp objects into your nose/ those days drug addicts will sniff glue/ sangat bahaya/ can destroy the brain cells/ platypus menggunakan deria to detect the food/ birds use magnetic field to detect food/ earth ada satu medan/ they can detect/ police use dogs to detect because dogs can mengesan bau 1000 times/ deria bau anjing lebih baik daripada manusia/ haiwan juga dapat mengesan gempa bumi katakan anjing anda sering menyalak/ meaning something is going to happen/ let’s look at the tongue/ we can detect five types of taste in our tongue/ look at the diagram/ ini lebih sensitive/ meaning lebih pekal/ pahit/ bitter/ manis/ sweet/ salty/ sour/ we use our tongue to taste/ the tongue is the most powerful tool in our body/ so sometimes when you use to speak you must be careful/ so when you taste your food the saliva dissolves the food/ dalam bahasa di panggil air liur/ apa sahaja yang dimakan
air liur akan keluar dan melarutkan makanan tersebut/ once dissolve/ our taste buds detect and send the message to the brain/ dia mesti kena dan larut dan mesej di hantar kepada otak/ so do not take food that is too hot/ then it will damage the taste buds/ jangan minum kopi yang terlalu panas/ kalau pergi ke Cameron Highlands/ you can try the tea there but do not use milk/ drink a small cup of Boh tea/ very tasty so the tongue is the most important tool/ saya harap kamu semua faham/ next week we will study the eyes and ears/ now look at the questions i end the class here///

U2  S  :  thank you sir///
U1 R : Let's look at the hearing mechanism in the air or sense of
ear has two functions one for hearing and the other for
balancing/ when you take the lift for example kita naik dan
turun we feel something in our stomach/ look at our nerves/
we have the outer ear/ middle ear and inner ear/ luar
tengah-tengah dan di dalam/ semua haiwan atau mamalia
mempunyai cuping telinga/ haiwan yang mana tak ada?/
burung tidak mempunyai cuping telinga/ haiwan mana
mempunyai telinga yang paling besar?/ gajah why?/ if any
thing enter the elephants ear the elephant can die/ all
sounds has to be directed to our ear drums/ the vibrations/
getaran/ the importance of the ear drum we have the ear
pinna/ auditory canal and eardrum to produce vibrations/
tulang yang paling kecil dalam badan kita/ ossicles/ it is
the smallest bone in our body/ the importance is to magnify
like the volume in our radio the speakers/ untuk
menambahkan ketinggian bunyi it will magnify 20 times/
untuk menambahkan 20 kali ganda/ our hearing system is
connected to our mouth/ tekanan udara mesti seimbang di
luar dan di dalam macam naik kapal terbang/ the higher
you go the pressure is lower/ kurang atau mendaki gunung
Everest the oxygen is less/ the functions are important/ the
oval window connects the liquid in the cochlea/ ada orang
suka korek telinga guna benda tajam ini sangat bahaya/
pitch yang sangat tinggi akan masuk ke sini/ the higher
pitch/ maksudnya gelombong yang mempunyai nada yang
tinggi masuk ke dalam/ cochlea is usually in a liquid form/
the cochlea produces something like minyak form/ do not
use tissue paper to rub because ada habuk/ better use
cotton/ it is very dangerous/ our hearing system is very important/ to us after the cochlea it converts sound vibrations to nerve impulses in to the inner ear/ ini sangat penting/ kalau bahagian ini rosak because of alcohol the nerve cannot balance all this later you will learn in your biology SPM/ this part is very important/ orang yang tua biasa susah nak dengar mengapa?/ biasa orang dewasa the ear drum is very tight/ so you all should know that our ear system is divided into external ear middle ear and inner ear/ i stop here/ go back home and try these questions/

U2 S : thank you sir//
stimulus di dalam bahasa di panggil rangsangan/ stimulus example sound/ smell taste/ light and touch ini semua di panggil stimulus/ can be detected by ear/ light our eyes/ taste is tongue and touch by skin/ all this is called sensory organs/ why is it important?/ because we can detect/ kalau tak ada organ deria kita macam kayu/ there are five sensory organs that can detect anything around us/ it also sends the message to our brain/ message is pass through our nerve or derial/ these organs are important to us to protect/ kalau saya pegang benda panas saya mengelak/ our sensory organs depend on each other/ saling berkaitan/ like watching a movie we use our senses while we are eating our nose/ tongue/ skin we need more than one sensory organ to help us everday/ when we are drinking coffee we must see what we are drinking/ if it is too hot we can taste it/ so senses are important in our daily life/ sensory organs to detect colours/ shape objects/ the tongue is to detect the chemicals/ if you taste our skin is either sour or salty semua benda mesti larut dalam lidah kita/ about the brain/ is there any difference between human brain and animals?/ orang kata haiwan tidak mempunyai perasaan saya rasa ini tidak betul/ Orang Utan paling sayang kepada anaknya/ have you heard of laughing therapy/ if you all are feeling stress out this therapy helps/ the brain and the spinal cord/ tulang belakang saraf tunjang/ this bone is very important you must take care of it/ when ever you sit you must be careful because the nerve is here then the message cannot pass through/ i will continue next week //
<p>| | | |</p>
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<tbody>
<tr>
<td>U1</td>
<td>R : what are the senses used by a blind man?/</td>
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<tr>
<td>U2</td>
<td>S : hearing/ touching/</td>
<td></td>
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<tr>
<td>U3</td>
<td>R : can humans detect ultra violet/ warna unggu dan sebagainya?/ bees can detect the birds have good sensory organs/ lets look at grass hoppers/ they use their antenna to detect/ di panggil mata tumpuan/ for example bats/ kelawar bila keluar dari gua/ they use their hearing system to detect/ different animals have different sensory organs/ faham ke boy?/</td>
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<td>U4</td>
<td>S : faham cikgu/</td>
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<td>U5</td>
<td>R : what is eperdemis?/</td>
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<td>U6</td>
<td>S : it is about the skin/</td>
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<tr>
<td>U7</td>
<td>R : terdapat empat jenis receptor/ if you don’t feel pain something is wrong with your receptor/ all of this receptors are important for our human body/ the pressure receptor is also important/ apakah kepentingan receptor?/</td>
<td></td>
</tr>
<tr>
<td>U8</td>
<td>S : prevent kuman ke atas diri kita/</td>
<td></td>
</tr>
<tr>
<td>U9</td>
<td>R : our skin is also water proof/ kalis air apakah yang keluar dari kulit kita?/</td>
<td></td>
</tr>
<tr>
<td>U10</td>
<td>S : peluh dan habal/</td>
<td></td>
</tr>
<tr>
<td>U11</td>
<td>R : kalau kita kopek kulit daging dan isi akan keluar/ kalau ibu kita beli ayam apa yang keluar adalah daging/ dermis/ bahagian lemak/ fatty layer orang yang gemuk biasa more fatty layer/ the outer layer of the skin is very important/ ok try the questions below//</td>
<td></td>
</tr>
<tr>
<td>U12</td>
<td>SS : thank you sir//</td>
<td></td>
</tr>
</tbody>
</table>
L: attention please/ do not make noise/ today i am relieving sir Raman i was told sir Raman had already started with the last chapter/ heat so i will start by asking some questions to see how far you all have understood/ apa yang you faham dan apa yang you tak faham?/ heat is something which you all have done in primary right?/ pernah buat?/ sekolah rendah you buat tak?/ how many years already mudah lupa/ all young students can forget so easily/ what is heat?/ apa itu heat?/ is haba heat?/ heat is a form of/ energy the last chapter the sources of energy/ did you all study on heat energy or not?/ yes electrical energy converted to heat energy your iron box from electrical energy is converted to heat energy/ your solar heater/ when solar energy is converted to heat energy we get hot water to bathe so heat is a form of energy/ ok heat energy causes an increase in temperature/ say for example this room is cold because of air con/ if i off the air cond and/ i start burning some fire wood here/ we have a camp fire what will happen to the temperature in the room?/

SS: rise/

L: definitely the temperature will rise/ so heat energy causes an increase in the temperature/ what is the unit of measurement of heat?/ unit of measurement is joule/ the sun is the primary measurement of heat/ primary source of heat energy on earth/ day time the sun shines how would you feel?/

SS: very warm/

L: some people like warm weather/ some people like cold
weather/ those who like cold weather you better migrate/ to Alaska and you will be thinking when i can come back to Malaysia/ so nice/ and warm other sources of heat energy apart from the sun?/ where else you can get heat energy?/ combustions of fossil fuel/ what is combustion?/ pembakaran/ combustion meaning pembakaran/ ok pembakaran bahan api fossil fuel/ electrical appliances like heater/ your iron box/ hot spring and volcanic erruption/ all this will provide or produce heat/ why so quiet some students today?/ ok/ the heat energy is important to humans/ maintaining body temperature/ turning a dynamo for generating electricity/ domestic purpose such as heating water or heating a room/ if no energy you have to eat your food raw/ who likes to eat food raw here?/ ikan makan mentah-mentah tak payah masak/

U6 S : bukan saya/

U7 L : ayam makan mentah/ no need to cook/ you like to eat ikan yang mentah/ ayam yang mentah/ suka makan?/ not all vegetables you can eat it raw like cucumber/ salad carrot can/ what is the difference between heat and temperature?/ heat is haba temperature is suhu ada perbezaan atau tidak is there any difference?/ there are differences between heat and/ temperature heat is a form of energy/ where else temperature is the degree of hotness and coldness of an object/ if i say my friend here/ you are running a temperature what does that mean?/ your body is very hot/ he is having a fever/ correct or not about 37 degree celsius?/ meaning having a fever/

U8 S : ((laughter))/

U9 L : now he is ok below 37 degrees/ what is measured in joule?/ heat is measured in joule and temperature is measured in degree celsius/ what is the SI scientific
investigation you read in temperature what are the five basics?/
U10 S : mass/ temperature /time/ length and electric current/
U11 L : good all this part/ don’t forget suppose we are doing
revision/ your first chapter and the second chapter should
be at your finger tips/ ok the reason of heat flow on matter/
how can it affect matter or have an effect on matter?/ how
many forms of matter?/
U12 S : three/
U13 L : three forms/ what is matter?/
U14 S : not sure/
U15 L : anything that has mass and occupies space/ that is matter/
in Malay what is matter?/
U16 SS : jisim/
U17 L : jisim or jirim/ what is jisim?!
U18 SS : mass/
U19 L : jisim is mass/ jirim is matter/ so what is matter?/ matter is
anything that has mass and occupies space and in that
chapter we studied three forms of matter/ what are the three
forms?/ solid/ liquid and gas/ and now we are going to
study the effects of solid liquid and gas what can heat do to
solid/ liquid/ gas ok/ before that heat flows in three
different ways sir Raman taught you all or not?/
U20 SS : yes/
U21 L : heat flows in three/ different ways/ what are the three
different ways?/
U22 S : conduction/ convection and radiation/
U23 L : ok/ conduction convection and radiation/ what is
conduction/ convection and radiation give me an
example?/ what is conduction in Bahasa Melayu?/ pengaliran/ conduction means pengaliran haba how does it
mengalir for example this is a iron rod/ you heat it up here/
so the heat will flow from the/ hot area to the cold area/ this
is what it is meant/ what is convection?/ what is convection? convection is perolakan/ tahu perolakan tak/ example of convection? when you boil water/ boiling water is a classic example of/ convection this your water you boil it what happens to the water?/ at the bottom it will move up/ the hot water particles will move up/ the place will be taken by the/ colder water particles and it can be heated up easily/ ok this is convection apart from boiling water/ other classic examples is sea breeze and land breeze/ you know sea breeze and land breeze?/ bayu laut dan bayu darat pernah dengar?/

U24 SS : pernah/

U25 L : ok/ bayu laut bayu darat/ your sea breeze and land breeze an the last/ method how heat flow is radiated/ what is radiation in bahasa?/ sinaran pancaran/ classic example of radiation of heat is/ the sun/ how do we get the heat from the sun?/ radiated ok/ through radiation/ conduction it occurs in all matter/ but the fasters is solid/ conduction occurs in solid/ liquid and gas ok/ heat is transferred through the vibration of solid particulars that is arranged very closely with one another/ matters are good heat conductors and compared to non matters/ good conductor of heat/ understand students/ different matters conduct heat at/ different levels/ it does not occur in vacuum because the particles that are needed to transfer heat are not/ available/ so conduction requires a medium so vacuum means/ conduction can not happen in vacuum ok/ convection/ heat is transferred by the particles that exist in liquid and gas/ so convection only happens in solid liquid and gas/ your convection only in liquid and/ gas remember heat is transferred by the particles that exist in liquid and gasses it occurs quickly in air/ the heated particles move up and their figures are taken up by the cold particles/ thus
creating a convection/current convection current in a liquid can be shown by the following activity ok/ you read up the activity on convection current in gas we continue next week//

U26 SS : thank you sir//
we continue what we discussed the chapter on heat/ heat is transferred without particles of medium/ radiation do not need medium/ radiated heat travels in straight lines/ or it waves through a vaccum/ radiated heat maybe reflected or absorbed by/ matter it occurs very quickly/ for example light bulb/ put your hand near the light bulb and feel the heat or near the stove/ do not put your hand inside the stove/ the natural phenomena relates to heat flow can be seen in this example/ i have already mentioned land breeze/ sea breeze in the last class/ read up on land breeze and sea breeze/ pernah buat dulu cikgu dah explain/ when does land breeze occur?/night time or day time?

land breeze night time/ sea breeze day time/ when the sun shines/ the land gets hot so the cold air from the sea blows towards the land/ ok at night time/ the sea is still hot/ and the land becomes cold faster/ the land absorbs heat faster and raises heat/ so day time it absorbs heat fast/ the sea will get cold/ so sea breeze at night releases heat faster so it becomes cold/ where else in sea/ the water releases heat at a slow pace/ so its still hot/ so less breeze blow/ so waktu siang sea breeze/

land breeze?/

land breeze at night/ you just remember the points/ try to relate something to make life easier for you to remember/ rather than trying to memorise everything/ in the exam hall suddenly you panic/ everything you memorise gone/ so you relate things into your daily life/ relate things with personalities/ singers actors/ body builders or your
favourite wrestler/ boys like wrestling/ relate events for
your understanding/ buildings with ventilation system a
heat conductor allows heat to flow through it easily this is
all examples of what?/

U6 S : radiation/

U7 L : the application of heat conductors are metal especially
aluminum and copper/ why cooking utensils are not made
from wood?/ or from clay pot but it cooks a bit slower
compared to metal/ but usually cooking from clay pot is
much tastier/ clay pot chicken rice/ so usually cooking
utensils are made from metal/ ok mercury is used in a
thermometer/

U8 SS : yes/

U9 L : metal in a liquid form/ mercury is a good conductor of
heat/ slight rise in your body temperature can be shown in
the reading/ ok copper is used to make metal non metals are
good heat insulators/ what is meant of conductor?/ pengalir
haba/ what are insulators?/

U10 S : penebat/

U11 L : penebat haba/ you must remember the process/ ok effects
of heat on matter/ heat causes various physical changes in
matter/ what is boiling?/ heating up/ in Bahasa Melayu
what you call boiling?/

U12 S : didih/

U13 L : pendidihan/ usually you boil what?/

U14 SS : water/

U15 L : liquid/ ok when you boil liquid what happens?/ once it
reaches its boiling point 100 degree celsius the water
becomes/ steam ok continue application of heat to a liquid
can change the liquid you must understand changes liquid
to/ gas the next point is evaporation/ pernah belajar
evaporation?/

U16 S : pernah/
U17  L : what is evaporation?/

U18  S : penyejatan/

U19  L : penyejatan/ what happens during penyejatan?/

U20  S : liquid change to gas/

U21  L : water or liquid changes to gas/ who can give me an example of evaporation?/

U22  S : dry clothes/

U23  L : when you dry wet clothes in the morning/ by the evening its already dried/ boiling also changes liquid to gas evaporation/ what is the difference between boiling and evaporation?/ boiling we provide continues heat where else/ for evaporation heat from the sun/ the temperature of the surrounding/ so the difference between boiling and evaporation is/ boiling takes place only at boiling point/ evaporation takes place at any temperature not necessarily day time or night time/ what is condensation in Bahasa Melayu?/

U24  SS : kondensasi/

U25  L : kondensasi changes gas to liquid/ example of condensation is when you put some ice cube inside a glass and leave it on the table/ after some time outside the glass wall you can see some liquid water/ where do you get the water from?/

U26  S : the gas/

U27  L : the water vapour which is gas in the air/ changes into liquid form/ kondensasi faham sekarang/

U28  S : yes/

U29  L : now we go into melting/ what do you call melting in Malay?/

U30  SS : pencairan/

U31  L : melting the ice cube/ from solid to liquid/ for freezing what is it called?/ pembekuan/ from liquid the water you freeze becomes ice cube/ solid ok/ the last one is sublimation/ what is sublimation?/ pernah dengar?/
tidak/

*Pemejalwapan* the process of changing a solid substance to a gas by heating it and then changing it back to solid in order to make it pure/ example of sublimation/ moth ball the white colour marble your mother buys and put in inside the wash room/ your cupboard/

cockroach/

cockroaches yes/ once your mother put the moth ball inside the wardrobe/ from a big marble like that/ it becomes small/ and finally it will disappear through the process of sublimation it changes into gas/ doesn’t change to liquid/ it disappears sublimates and becomes gas/ ok we continue in the next class/

thank you sir//
U1      L : ok the summary gives you all the process and physical changes of application expansion and contraction of matter/ use of mercury in thermometer/ the bimetallic strip in the fire alarm/ two types of metal in the/ fire alarm one expands more than the other/ so what happens is after the heat flow the matter bimetallic strip will bengkok/ and it will connect the current to flow/ and your fire alarm will start ringing/ the tracks in the rail way track pernah belajar dulu?/ during hot day the iron rail will expand the rollers in the steel bridge at the end of the bridge will enable the bridge to extend and contract/ and the telephone wires will be loosely fitted/ the electrical cable/ this enable the wires and cable to expand on a hot day and contract on a cold day/ dark and dull objects/ absorb heat better than white and shiny objects/ dark and dull objects give heat better than white and shiny objects/ during day time what colour baju you must wear?/

U2      S : white/

U3      L : that is why your school uniform is white in colour/ so you won’t feel very warm/ white colour shirt will keep you cold/ if you wear a dark colour shirt/ during day time it will absorb more heat and you will feel very hot/ so night time you must wear/ black colour/ but then what is the disadvantage if you walk in the dark nobody can see you/ so stick some lights to your baju/ or show your teeth so remember dark and dull objects absorb heat better than white and shiny objects/ give out or transmit heat better ok the ability of an object to absorb and transmit heat are influenced by several factors/ ambient temperature/ what is
ambient?/ ambient meaning surrounding temperature/ suhu persekitaran your surrounding temperature/ the characteristics of surface of the objects/ the experiment you can read up/ the benefits of heat flow/ the principle of heat flow benefit humans because it can apply to make life easier and more comfortable/ the examples include air conditioners that cools down buildings and rooms/ exhaust fan for better air ventilation in a house/ cooking utensils which are made out of metal and refrigerators to prolong the consumption period of food/ invention of the microwave oven to heat food and cooking/ all this are examples of how heat flow is used to benefit humans/ so we finish the chapter on heat/ masa cuti sekolah tak mahu belajar/ rilek satu dua minggu/

U4 S : tak mahu/

U5 L : so/ goyang kaki duduk depan TV/ tak nak prepare for your form 1/ ok good night see you tomorrow/

U6 SS : thank you sir/
U1  L   : we will attempt the questions/ what is difference between luminous flame and non luminous flame?/ luminous flame dalam bahasa nyala berkilau/ and non luminous flame nyala tak berkilau/ mana satu lebih panas?/

U2  SS  : non luminous flame/

U3  L   : non luminous is very hot compared to luminious this is warna kuning/ and non luminous warna biru/ figure 2 shows the measurement of volume of a piece of cork/ or gabus what is the volume of the cork?/ what is the name of this method?/

U4  S   : water displacement/

U5  L   : water displacement method/ and what is the volume of the cork?/ first the volume of water is 40 cm/ after putting the stone in it the volume increases to 75 cm and the volume with the cork is 80 cm/ so what will be the volume of the cork?/

U6  S   : 5/

U7  L   : you are actually calculating the volume of the cork and the stone/ figure 3 shows an organism structure X paramecium?/

U8  SS  : paramecium/

U9  L   : it is called pseudopodium/ it helps in movement/ next question characteristics of a cell/ one has nucleus and the other does not have nucleus/

U10 SS  : yes/

U11 L   : which one does not have nucleus?/

U12 S   : red blood cells/

U13 L   : red blood cells does not have nucleus/ white blood cells
has/ white blood cells is different from red blood cells/ which of the following structure can be found in a onion cell/? onion cell is a plant cell it has cell wall membrane/ which of the following shows the function of the white blood cells?/ white blood cell produces antibody actually it helps you fight bacteria and viruses/ your body dijangkiti kuman/ which of the following organ is needed to digest the food/?/ ovary lungs stomach or penis?/

U14 S : stomach/

U15 L : stomach is one of the organs/ when you study the human digestive system you will know/ from where the digestion starts/ firstly from your mouth when you chew your food/ your saliva/ air liuh contain enzyme which starts the digestion after that it goes through your esophagus/ and stomach the food goes through your small intestine/ usus kecil/ and later enters your large intestine/ usus besar/ the digestion process stops at your small intestine/ in your large intestine only absorption of water takes place/ the rest i continue in the next class/

U16 SS : thank you sir/
U1  L  :  we continue from the last class/ the human digestive system/ the pancreas produces pancreatic juice which helps in the digestion process the pancreatic juice contain enzymes/ what cell is this?/ amoeba/ question 16 kalau murid dapat salah sayal ketuk kepala awak/ i am going to bang your head with a big hammer/ question 17 which of the following is the smallest cell in the human body?/ the answer is sperm cell it is the smallest/ the ovum is the biggest cell/ just remember sperm cell is the smallest/ ovum cell is the biggest/ for your PMR examination you need to study 27 chapters/ questions can come out from any of the 27 chapters/ i think you all will have 5 to 8 subjective questions from 8 chapters/ which of the following carries out photosynthesis/ only plants carry out photosynthesis/ what is the definition of matter?/ matter is anything that has mass and occupies space/ lets try the next question/ which of the following is not made up of petroleum/ kerosene/wax or printed circuit board?/

U2  S  :  printed circuit board/

U3  L  :  correct answer/ petroleum is crude oil minyak mentah/ it goes through the process of fractional distillation many products are produced at different temperature example kerosine wax and plastic/ in your subjective question teachers do not penalise students for their grammatical and spelling error for their PMR exams/ i think you all are given until 2007 or 2008/ some students tend to mix up their answers in English and Malay when answering the subjective question/ the rest i will continue in the next class/
U4 SS : thank you sir//
students *jangan risau* / i will use two languages to teach all of you / because i know you all studied your UPSR in Malay / form 1 you have 7 chapters / the first chapter / what is science? / *apa itu sains*?/

study about natural phenomena and living objects/

science is a systematic study about the nature through what?/

observation and experiment/

your subjective question will ask you what is science? / what is natural phenomena? / *gempa bumi* / earth quake / *letupan gunung berapil* / volcanic eruptions / tsunami is a natural phenomena / *pelangil* / rainbow / formation of *pancultan air panas* / kolam air panas from the *rekahan dari bumi* from the earth crust / anything due to nature / *gerhana matahari* is all natural phenomena / *banjirl* / *bayu laut bayu darat* is called sea breeze and land breeze in English / they might be a question in bahagian B give 3 examples of natural phenomena / *kelahiran bayi* is also a natural phenomena / growing from small to big is natural / what is not natural phenomena? / invention of the television / is man made / traffic jam is not natural / man made / in Kuala Lumpur so many cars / the road system is not good / *kemudahan jalan raya tidak memuaskan* so traffic jalan / so please remember all of this / science helps us to understand nature in a better way / to improve our living standard / *barang-barang untuk memperbaiki kehidupan kita* last time zaman dahulu tidak ada posman / guna burung untuk hantar mesej / sekarang rekaan computer melalui *e mail* dalam beberapa saat mesej sudah di hantar / sangat cepat
even transportation has been improved/ LRT and 
kemudahan/ we even have aircond bila panas ada kipas 
juga kehidupan kita semakin selesa melalui ciptaan/ we 
must also know the bidang-bidang the fields/ biology study 
about living things/ if you want to become a doctor you 
must do biology/ kena ambil biology and engineering your 
mathematics is very important/ ok try the questions below/ 
i end here/

U6     SS  :  thank you sir/
U1 L : introduction is an easy chapter i told you before/ what is science?/ science is an important subject to mankind sains adalah satu mata pelajaran/ studying about nature/ natural phenomena/ science is a systematic study of the nature/ natural phenomena through observation and experiment / please give me examples of natural phenomena? tsunami/ earthquake anything that happens due to the nature/

U2 S : sir formation of rainbow//

U3 L : lightning and thunder/ guruh dan petir day and night/ siang dan malam/ sea breeze and land breeze/ bayu laut dan bayu darat/ all of this natural phenomena happens due to nature/ letupan dan letusan gunung berapi is a good example of natural phenomena/ not natural phenomena/ like traffic jam/ if you go out of Country Homes you can see the the traffic jam/ in Batu Arang/ Rawang/ if many cars on the road number of houses are increasing because of development/ man made problems/ invention of the television/ man made what is natural phenomena?/ and what is not natural phenomena?/ they are many fields in science/ fields means bidang dalam sains/ biology/ physics and chemistry/ if you study geology/ study of stones under chemistry/ so you have to know the names of the field/ in your exam these questions will come out/ my notes are not sufficient enough/ so you have to read other references/ if you are rajin you will read more/ what are the career/ meaning kerjajaya if you want to be a doctor you must study biology/ engineer/ computer programmer/ your science teacher is related to the subject of science/ all of this is very important/ your ambition has to be related to
your field/ so please understand all of this/ try the questions below/

U4 SS : thank you sir//
last week we studied about the introduction to science/natural phenomena/kejadian semula jadi sebagai contoh/draught/kemarau/banjir/gunung berapi/ and not natural/bukan disebabkan oleh alam tapi ciptaan manusia/pelancaran roket/ launching of the rocket/we also studied the bidang–bidang dalam sains the fields/we also studied careers in science/kerja dalam sains kerjaya yang ada kaitan dalam bidang sains/ this week we are going to study about science laboratory/makmal sains/kerja banyak eksperimen dijalankan di makmal sains/ the rules and regulations/peraturan/ we are also going to look at the apparatus/peralatan/ and to study hazardous symbols/why is this important?/sebab banyak bahan-bahan di makmal sains ada simbol ini/ flammable faham ke?/

we have to handle the chemicals with care/kalau kena akan terhakis/ you have to be able to identify the symbols/ahli-ahli sains menggunakan bilik khas untuk buat kerja ini dipanggil lab/ experiment can only be carried out with the permission of a teacher/you have to get the teachers permission/handle the apparatus properly/peralatan dijaga dengan rapid/what is the meaning of forbidden?/tak boleh buat dilarang lari dan bermain di dalam makmal/tak dibenarkan bawa makanan dan minuman/kenapa?/

bahaya ada bahan kimia/

try the questions below/read the instructions while answering/

thank you sir//
L: you have to identify the apparatus/ in your exam they will ask you this question/ when they show the picture of a test tube/ or bunsen burner/ if you see a girl you must know her name/ kalau tak kenal mana boleh tak cinta/

SS: ((laughter))/

L: kenal peralatan dan fungsi perlatan tersebut/ faham ke /
the gas jar is to collect gas/ round bottom flask/ buntutnya bulat/

SS: ((laughter))/

L: the name comes from the shape/ what is volume in bahasa/?

S: sukanatan/

L: volume is isipadu/ pernah belajar sukanatan/ volume is measured through measuring cylinder/ understand or not/?

S: yes/

L: it is all about accuracy/ all of this equipment is important in the science lab/ what is a filter funnel/ corong penapis/ pour a mixture of solid and liquid/ example water mix with sand/ when you pour the sand will remain in the filter paper/ dekat rumah pun ada penapis correct or not/ like kelapa/ parut santan/ will come out the kelapa parut will remain here/ penapis/ understand try the questions below/}

SS: thank you sir//
U1 L : ok today we continue with this chapter simple machines/ simple machines is our last chapter/ i have already discuss the questions on pages 107 till 110 next week we will do one full model paper objective question/ the following week subjective paper/ before cuti Rayal cuti Deepavali/ cuti sekolah / PMR/ esok mula/ which of the following machine use the same lever system?/

U2 S : scissors/

U3 L : first one is wheel barrow/?

U4 SS : kereta sorong/

U5 L : *kereta sorong betul* first class or second class wheel barrow/? ok to recall first class meaning what is in the centre?/ i am going to kill you fellows if you say/ fulcrum in the centre first class/

U6 S : load/

U7 L : load in the centre/ third class/ semua pandai sekarang lepas kata saya cekik baru jadi pandai/ all this while sleeping/ once i kejutkan baru bangun jadi pandail masa periksa siapa nak kejutkan you kalau sudah tidur?/

U8 SS : cikgu/

U9 L : cikgu kena datang/ susah jadi cikgu/ kena kejutkan murid lever is first class because the fulcrum is in the centre/ wheelbarrow is second class because the load is in the centre/ how about paper cutter?/

U10 S : second/

U11 L : second class/ paper cutter load is in the centre/ how about broom?/

U12 S : third/

U13 L : broom is third class/ if you can identify the process that
means you are good in this chapter/ which of the following work in lever system?/ mana yang ada lever system?/ cutting a piece of paper by using scissors/ or riding a motorcycle/ the answer is B/ next question which of the following are examples of second class lever?/

U14 S : C for Chelsea/

U15 L : chelsea one seri/ sea saw is what class?/sea saw is jongkang-jongkit first class because your fulcrum is in the middle/ nut cracker the answer is c/ number 5 the information below shows the characteristic of a lever/ the load is between the fulcrum and effort/ the load is fulcrum and effort meaning the load is in the middle/ so what class is that?/

U16 SS : second class/

U17 L : ok question 6 which of the following is not a simple machine?/

U18 SS : train/

U19 L : train is not a simple machine/ what is the force that is required to balance the load?/ times the distance of effort from the fulcrum/ next question the formula is potong/ lapan puluh bahagi 16 belas/ dapat 5 Newton/ that is the answer?/

U20 SS : 5 Newton/

U21 L : yes 5 Newton/ who cannot answer this question i knock your head/ many students not in class/ kenapa cuti puasa?/ i continue in the next class/

U22 SS : thank you sir//
we continue from the last class/ which of the following shows the correct pairing of tools/ bottle opener?/

second/

second very good/ human arm is third class/ fishing rod is third class/ figure 2 shows a man trying to lift a load/ calculate the distance between the small rod and the effort/ what is meant by moment of force?/

tak tahu sir/

figure 3 shows someone trying to lift a load/ calculate the distance between the small rod and the effort/ 100 Newton of force where is your fulcrum?/ you must identify the fulcrum/ the small stone is the fulcrum/ ok he is trying to lift the big stone using the small stone/ calculate the distance and the effort if he applies 100 Newton/ just find the distance/ what is the distance?/ 0.5 meter/

yes/

yes/ your distance is 300 multiply 0.5 divide by 100/ the answer is 1.5 meter/ figure 4 shows a special design of an iron rod cutter/ at which point is the iron rod to cut with minimum force acting on the machine?/

the answer is C/

what is the disadvantage of a third class lever?/ the disadvantage is a small load is using a large effort/ ok that’s the answer fishing rod/ for example you just want to catch a small fish so u have to use a large effort/ because of the length/ students you need to be mentally challenged to attempt this question/ if you are not grown mentally than i have to send you all to the mental hospital/ to get your brain tighten/ pergi ke Tampoi dan Tanjung Rambutan dulu
baru masuk kelas sains ini/ what is the meaning of equilibrium?/ tahap keseimbangan/ jangan takut dengan kiraan/ tengok calculation sajer sudah kembang dan kecut/
some people are allergic/ tensed up when seeing calculation
phobia to calculate/ question 16 which of the following are
used in construction?/

U10 S : the answer is wheelbarrow/

U11 L : yes/ broom you do not need in construction/ pembinaan
why do you need a broom?/ unless if you want to sweep the
cement or dust/ maintenance will clean up/ figure 6/ human
arm is what class?/

U12 S : third/

U13 L : third class what must be in the middle?/

U14 S : effort/

U15 L : where is your load?/

U16 S : P/

U17 L : p is your load so the answer is a/ which of the following is
not a lever?/

U18 SS : A/

U19 L : a calculator is not a lever/ figure 5 shows a claw hammer/
it is used to pull out a nail what is the function of the nail?/

U20 SS : load/

U21 L : the nail is the load/ very easy question in this chapter
simple machine/ the rest i continue in the next class/ thank
you class/

U22 SS : thank you sir/
we continue from the last class/ lever is a simple machine that makes our life easy/ to make our work easier to handle/ ok the names of simple machines as shown in figure 1 what is P?

paper cutter/

paper cutter/ very good in identifying things/ what is Q?

nut cracker/

nut cracker/ anybody got a nut cracker at home? please bring i need it because there are lots of loose nuts here/ after you finish your exams your results will be out/ i need the nut cracker/ to crack some students here/ i will draw a simple diagram to show the difference between first/ second and third class lever/ each diagram must consist of fulcrum/ load and effort/ your first class will be fulcrum in the centre/ second class what will be in the centre?

load/

load will be in the centre/ load is the fulcrum/ the effort is will be second class lever/ draw cantik cikgu tak sampai hati nak potong markah sebab lukisan sangat cantik/ third class lever what must be in the centre?

effort/

effort in the center/ next question what class of machine does figure 3 belong to?

second/

second class/ it is a wheelbarrow/ second class what is in the middle?/ load is in the middle/ give one example of a simple machine that belong to a same class?

nut cracker/

paper cutter/ the girls/ tertarik dengan nutcracker next
class we will continue *boleh balik sekarang*//

U14 SS : thank you sir//
how many sensory organs do we have?/

five/

the skin/ nose/ ear/ eyes/ tongue/ what are the senses detected by skin?/ touch nose/ smell/ tongue taste/ ear sound and the eyes the sight/ the stimulus in your skin it can detect heat/ cold pressure touch and pain stimuli/ for the smell is the chemical substances/ if you taste your food/ your hearing is sound and eyes can detect sight/ in this chapter we sill study heat and sensory organ in detail/ the skin you have to know the cross section of the skin/ they have many receptors in the skin and the situation of the receptors/ in the tongue you can rasa sweet things/ the taste bud/ but ear and eyes are a bit complicated especially in diagrams/ and parts bila melabelkan/ you have to read a lot especially the diagrams/ so to remember try to draw the diagram and paste it in your room/ be consistent and memories/ the flow and functions/ the stimulus will activate our receptors in our sensory organs/ then impulse will send message to the brain and back to the nerve and you response/ sudah salin ke?/ example of stimuli i slap a student here on his pipi/ so the receptors in his sensory organ will send message to the nerve and the nerve will carry messages to the brain/ the pain receptor/ the brain will send message back to the nerve/ and he will feel the pain/ second time if i want to slap him/ the brain will send message to him to avoid/ elak he will respond by moving/ so please remember all of this/ another example say your sister fell from the bicycle you hear the sound of your sister crying then the brain will interpret a respond to help your
sister/ in sense of touch you must remember the cross section of the human skin/ remember the three layers/ the first layer is your epidermis or also known as the touch receptor then the second layer you will have the heat receptor cold receptor and pain receptor and the last layer your fatty layer/ so all of this layers are important/ pressure receptors is in your third layer it is sensitive to pressure/ if you look at your receptors at your elbow in your tapak kaki/ the tapak tangan is sensitive/ so our sensitivity depends in our thickners of receptors/ so please remember all of this points/ also remember the factors/ the sense of smell remember the cross section of your nose/ it is easy the nostrils are important/ your smell receptors are situated here/ your lubang hidung/ also remember the flow of smell/ the chemicals in the air goes through your nose/ enters nasal cavity and disolves in the mucus and activates/ the messages are sent to the brain/ from the brain the brain interprets the smell/ the smell is identified you will respond after that/ nasal cavity means rongga hidung atau lubang hidung/ you punya hidung sentiasa lembap/ try the questions for homework/

U4 SS : thank you sir//
first chapter in form 2 the word through our senses/ under this chapter we will study about our senses/ we have five different senses/ your sensory organs and the stimulus/ the first sensory organ is your touch cold/ heat/ than you have your nose/ chemical substances in the air/ the hearing is the sensory organ/ the ear and the stimulus is sound/ in this chapter we are going to study in detail about the sensory organs/

sir is the sensory organs important?/
sir is the sensory organs important?/

yes/ very important now lets look at our skin we have three layers/ the epidermis, dermis/ and fatty layer/ the touch receptor is the first layer/ so if I touch you/ you can feel it/ but if your girlfriend touches you different feeling/

so the touch receptor is the top layer/ you must remember the flow/ look at my notes/ nerve send impulses to the brain/ nerve sends back the messages and then you have the response/ so all of this process is important/ the cross section of the skin/ please try to remember/

thank you sir//
U1  L : this is the first chapter it is a important chapter/ last week we studied about the sensory organs/ we have five sensory organs the nose/ the stimulus is the chemical in the air/ air contains/ apa kandungan udara?/

U2  S : tak tahu sir/

U3  L : nitrogen/ 78 % oxygen 21% carbon dioxide 0.03% and also dust particles/ water wapers/ microorganism/ and all this gasses have no smell/ there is no stimulus for your nose to smell/ kalau tak ada bahan kimia/ no smell the tongue is for taste and what is the stimulus?/

U4  S : taste/

U5  L : what about your ears what is your stimulus?/

U6  S : sound/

U7  L : last week i have already taught you this topic/ the cross section of your skin/ what is your first layer?/

U8  SS : epidermis/

U9  L : your second layer is what?/

U10 SS : dermis/

U11 L : the last layer is your fatty layer/ i told before this topic is very important/ try to read the rest of the notes/

U12 SS : yes sir//
U1    L :  the ear is divided into three parts/ the outer ear/ inner ear and middle ear/ in outer ear we have the ear spine/collect sound waves and directs sound waves to the ear drum/ cuping telingal/ the eardrum vibrates sound waves/ ear drum meaning gegendang/ in the middle ear you have your ossicles/ oval window and eustachian tube/ what does your drum do?/

U2    S :  vibrate/

U3    L :  yes vibrates at the same frequency as the sound waves/ bergetar the eustachian tube balances the air pressure/ seimbang on both sides of the ear drum/ in the inner ear we have the cochlea auditory nerves and semicircular canal/ the cochlea converts sound vibrations to nerve impulses/ faham ke?/

U4    SS :  yes/

U5    L :  so all of this are important because it will come out in your exams so the hearing mechanism can be explained using the flow/ first we have the sound wave/ sound waves are directed to the eardrum/ the ear drum vibrates/ the vibration passing through oval window/ then the ossicles amplify the sound vibrations/ the cochlea converts the sound vibrations/ the nerve impulses are sent to the brain and the brain interprets the nerve impulses as sound/ ok remember the parts and function thank you class/

U6    SS :  yes sir//