DOCUMENTS RELATING TO FIELDWORK

1. Letter of Invitation
2. Pre-workshop Questionnaire
3. List of Participants (2nd December, 1995)
4. List of Participants (9th December, 1995)
5. List of Participants (16th December, 1995)
6. Problems for Group Work

RESEARCH AND DEVELOPMENT NETWORK

P. O. Box 2525, KAMPALA, Uganda Tel: 231709

November 24, 1995

TO: _____

_____

_____

_____

RE: WORKSHOP ON FORMATION AND TESTING OF SCIENTIFIC CONCEPTS IN LUGANDA

You are cordially invited to participate in a one-day workshop on the formation and testing of scientific concepts in Luganda. The workshop will be held in the Faculty of Education, Makerere University on December 1995 from 9.am to 4.30 p.m. We shall provide allowances to cover the cost of lunch and refreshments. Your travel expenses will also be refunded.

The main objective of the workshop is to enable participants to:

- Learn about the approaches and methods used in building concepts in Mathematics, Physics, Chemistry and Biology.

-Examine and give their critical opinion about how these concepts have been expressed in Luganda on the basis of a systematic method of terminological elaboration achieved by a Ugandan linguist who has also trained in the formal sciences.

Terminological elaboration consists in enabling a language to function as a medium of specialised discourse. This is done by enriching it with expressions and expressional elements which are precise, economical, generative, international, transparent,non-obscene, systematic and linguistically acceptable in terms of expression formation, orthography, historical precedence, pronunciation and expression ordering.

Only a tiny portion of formal and natural science is at present expressed in Luganda especially at the secondary and tertiary levels of education. Therefore, the main task of the workshop is to arrive at a blueprint for elaboration of a list of scientific terms in Luganda.

If you accept to participate, we shall be grateful if you could fill in the attached questionnaire which will form an important in-put in the proceedings of the workshop. The questionnaire should be handed in before the opening of the workshop.

The tentative workshop agenda is as folows:

1. Welcome by the Coordinator of REDENET
2. Self introduction by participants
3. Familiarisation of the participants with criteria for terminology and Concept Formation Rules(CFRs).
4. Marking of scientific concepts in Luganda
5. Extrapolation Luganda Expression Formation Rules (EFRs)
6. Application of scientific terminology (mathematics, physics, chemistry, biology) in Luganda.
7. Division of participants into subject groups to:
    - critique terminological systems and translated texts on the basis of the criteria for terminology.
    - make their own translation of term lists and short texts.
8. Plenary discussion of the results, under (7)
9. Presentation and discussion of questionnaire findings.
10. Evaluation of the workshop by participants.

Thanking you and looking forward to seeing you at the workshop.

E. Mukasa

COORDINATOR

RESEARCH AND DEVELOPMENT NETWORK

P.O. Box 2525, KAMPALA, Uganda Tel: 231709

QUESTIONNAIRE ON ATTITUDES TO THE ROLE OF LUGANDA IN SCIETIFIC AND TECHNOLOGICAL DEVELOPMENT IN UGANDA. 1995

(Please write or mark with where it applies)

1. Date:.....
2. Name:.....
3. Age
    - 21-30
    - 31-40
    - 41-50
    - 51-60
    - 61-70
    - 70-
4. Sex:
    - Male
    - Female
5. Occupation.....
6. Do you work in a rural or urban area?.....
7. Education:
    - Secondary
    - Tertiary
8. Have you ever worked outside your home region?
    - Yes
    - No
    - If yes, where and for how long?.....
9. Which language do you speak?
    - Luganda
    - English
    - Others.....
10. Were you ever taught science subjects in Luganda?.....
11. Up to what class?.....

12. Did you ever study Luganda as a subject?.....
13. Up to what level?.....
14. Which language is most likely to give you power and influence if you speak it very well?.....
15. Do you think languages has any relationship to scientific and technological development?
    - Yes
    - No
    - If yes, why?

      .....
      .....

    - If no, why?

      .....
      .....

16. Have you ever thought of the possibility of learning science and technology in Luganda?
    - Yes
    - No
17. Do you think Luganda can express scientific ideas at the
    - Primary level?
    - Secondary level?
    - Tertiary level?
18. If you think Luganda express scientific ideas at the Primary Secondary Tertiary Levels, could the language be developed to be able to express scientific ideas?
    - Yes
    - No
    - If yes, why do you think this has not been done?

    .....
    .....

19. If it were possible to study science and technology even at University level in Luganda, do you think most people in your profession would be happy with the idea?
    - Yes
    - No
    - If no, why?

.....
.....

20. Do you think it would be easier at school if science were taught in Luganda?
    - Yes
    - No
    - If yes, what advantages and disadvantages could this bring?

    .....
    .....

21. Do you think there is any chance of expressing scientific and technological ideas in Luganda at some point in the future?

    .....
    .....

22. Would the idea of expressing scientific and technological ideas in Luganda make English unnecessary?
    - Yes
    - No
    - Please explain

    .....
    .....

Thank you for your co-operation.

FIRST WORKSHOP ON FORMATION
AND
TESTING OF SCIENTIFIC CONCEPTS
IN LUGANDA
HELD AT MAKERERE UNIVERSITY ON 02/12/1995

LIST OF PARTICIPANTS

NAME	SUBJECT / FIELD	INSTITUTE / ADDRESS
BUYEGO ABIASALI	MATHEMATICS	MAKERERE UNIVERSITY P.O. BOX 260 KAMPALA, UGANDA
EPEJU WILLIAM	AGRICULTURE	INSTITUTE OF TEACHERS'EDUCATION P.O.BOX 1 KYAMBOGO
KABOGGOZA MUHAMMED	LUGANDA / ENGLISH	BUSUNJU ISLAMIC PRIMARY SCHOOL P.O.BOX 30 BUSUNJU
KATIKAJJIIRA HAMIDU	MATHEMATICS / STATISTICS	S.K HOLDING P.O.BOX 4105 KAMPALA, UGANDA
KAZIRO B.K	CHEMISTRY	MAKERERE COLLEGE SCHOOL P.O.BOX 16391 KAMPALA, UGANDA
KENTARO JILL	ENGLISH	MAKERERE PRIMARY SCHOOL P.O.BOX 16049 KAMPALA, UGANDA
KIBUUKA KIINGI	PROJECT DIRECTOR	KENYATTA UNIVERSITY P.O.BOX 43844

		NAIROBI, KENYA
LUGOBE AHMED	SCIENCE / MATHEMATICS	BUSUNJU ISLAMIC PRIMARY SCHOOL P.O.BOX 30 BUSUNJU
LUSWATA L.KAYANJA	MATHEMATICS	KIBULI SENIOR SECONDARY SCHOOL P.O.BOX 4216 KAMPALA, UGANDA
MATOVU.N.B KASALINA	LINGUISTICS / ENGLISH / LUGANDA	MAKERERE UNIVERSITY INSTITUTE OF LANGUAGES P.O.BOX 7062 KAMPALA, UGANDA
HARRIET MAYANJA	PHYSICS / CHEMISTRY	GAYAZA HIGH SCHOOL P.O.BOX 709 KAMPALA, UGANDA
MUKASA E.	PROJECT COORDINATOR	REDENET P.O.BOX 2525 KAMPALA, UGANDA
MUNGOMA P. MWALYE	CURRICULUM	MAKERERE UNIVERSITY P.O.BOX 7062 KAMPALA, UGANDA
NABALOGA BETTY	SCIENCE	GAYAZA GIRLS' PRIMARY SCHOOL P.O. BOX 16715 KAMPALA, UGANDA

NAKAMYA REBECCA	BIOLOGY / CHEMISTRY	ITEK/BISHOP SENIOR SCHOOL MUKONO P.O.BOX 1 KAMPALA, UGANDA
NAKIMERA SSEMANDA.	GEOLOGY	DEPARTMENT OF GEOLOGY MAKERERE UNIVERSITY P.O.BOX 7062 KAMPALA, UGANDA
NAKITOOLO PETRONELLA	BIOLOGICAL SERVICES	INSTITUTE OF ENVIRONMENTAL AND NATURAL SCIENCES P.O.BOX 7062 KAMPALA, UGANDA
NAKITYO MARGARET	ADMINISTRATIVE SUPPORT STAFF	C/O REDENET P.O.BOX 4611 KAMPALA, UGANDA
NALUWOOZA VIOLAH	LINGUISTICS	MAKERERE UNIVERSITY P.O.BOX 7062 KAMPALA, UGANDA
NAMYALO SAUDA	LUGANDA	MAKERERE UNIVERSITY P.O.BOX 7062 KAMPALA, UGANDA
NYONDO MAGAMBO	GEOLOGY / BUILDING MATERIALS	C/O REDENET P.O.BOX 2525 KAMPALA, UGANDA

SSEGGIRIINYA JOSEPH	CHEMISTRY / MATHEMATICS	NAMILY ANGO COLLEGE P.O.BOX 7091 KAMPALA, UGANDA
SSEMMONDO JOHN	CHEMISTRY / PHYSICS	MENGO SECONDARY SCHOOL P.O.BOX 1901 KAMPALA, UGANDA
ZINUNULA ROSE D.	LUGANDA / SCIENCE	OMEGA PRIMARY SCHOOL MULAGO

SECOND WORKSHOP ON FORMATION AND TESTING OF SCIENTIFIC CONCEPTS IN LUGANDA HELD AT MAKERERE UNIVERSITY ON 09/12/1995

LIST OF PARTICIPANTS

NAME	**SUBJECT/FIELD**	**INSTITUTION/ADDRESS**
KABUGO MERIT	LINGUISTICS	MAKERERE UNIVERSITY P.O. BOX 7062 KAMPALA, UGANDA
KAKEMBO SAM	BIOLOGY/CHEMISTRY	NDEJJE SECONDARY SCHOOL P.O. BOX 193 BOMBO
KASOMA M.B. TANTALEO	ZOOLOGY	MAKERERE UNIVERSITY FACULTY OF SCIENCE P.O. BOX 7062 KAMPALA, UGANDA
KIBUUKA KIINGI	PROJECT DIRECTOR	KENYATTA UNIVERSITY

		P.O. BOX 43844 NAIROBI, KENYA
KIRIGGWAJJO A.	FRENCH/ENGLISH/ LUGANDA	INSTITUTE OF LANGUAGES MAKERERE UNIVERSITY P.O. BOX 7062 KAMPALA, UGANDA
KITYO GALIWANGO	COMPUTER SCIENCE	MAKERERE UNIVERSITY P.O. BOX 7062 KAMPALA, UGANDA
KIZZA MUKASA	LUGANDA	MAKERERE UNIVERSITY P.O. BOX 7062 KAMPALA, UGANDA
KYALWAZI ABDULLA	SCIENCE	ST. FRANCIS PREPARATORY SCHOOL P.O. BOX 19050 KAMPALA, UGANDA
LWEMBAWO HUSSEIN	MATHEMATICS	KIBULI DEMONSTRATION SCHOOL P.O. BOX 7071 KAMPALA, UGANDA
MABIRIZI JAMES	SCIENCE	KAMPALA PRIMARY SCHOOL P.O. BOX 30199 KAMPALA, UGANDA
MASAGAZI M. FRED	LUGANDA	MAKERERE UNIVERSITY P.O. BOX 7062 KAMPALA, UGANDA
MPANGA D. KISITU	CHEMISTRY/PHYSICS	WAMPEWO NTAKKE

		SECONDARY SCHOOL P.O. BOX 19087 KAMPALA, UGANDA
MUKASA E.	PROJECT COORDINATOR	REDENET P.O. BOX 2525 KAMPALA, UGANDA
MUTEESASIRA SAM	SCIENCE/ AGRICULTURE/ EDUCATION	LADY IRENE COLLEGE P.O. BOX 7 BOMBO, UGANDA
NAKIBUULE BETTY	SCIENCE/ MATHEMATICS	RUBAGA GIRLS PRIMARY SCHOOL P.O. BOX 1347 KAMPALA, UGANDA
NAKIWALA BETTY	SCIENCE	NKUMBA PRIMARY SCHOOL P.O. BOX 66 ENTEBBE, UGANDA
NAKITYO MARGARET	ADMINISTRATION SUPPORT STAFF	C/O REDENET P.O. BOX 4611 KAMPALA, UGANDA
NDWADDE PAULINE	MATHEMATICS	ST. JOSEPH'S GIRLS SECONDARY SCHOOL NSAMBYA P.O. BOX 6091 KAMPALA, UGANDA
NYONDO MAGAMBO	GEOLOGY	C/O REDENET P.O. BOX 2525 KAMPALA, UGANDA

SEBBANDA LIVINGTONE	PHYSICS/ ELECTRONICS	BUSINESS SYSTEMS P.O. BOX 961 KAMPALA, UGANDA
SEKITTO EDWARD	SCIENCE	GAYAZA JUNIOR SCHOOL P.O. BOX 4073 KAMPALA, UGANDA
SEMBATYA BADRUDIN	BIOLOGY/ GEOGRAPHY	NEW BUSUNJU COLLEGE P.O. BOX 30 BUSUNJU, UGANDA
SENKUBUGE DANIEL	MATHEMATICS	MUKONO HIGH SCHOOL P.O. BOX 353 KAMPALA, UGANDA
SSEBULIBA GEORGE	CHEMISTRY/ BIOLOGY	CALTEC ACADEMY P.O. BOX 30921 KAMPALA, UGANDA
SSEMUJJU J. WASSWA	MATHEMATICS/ GEOGRAPHY	NABISUNSA GIRLS SCHOOL P.O. BOX 3027 KAMPALA, UGANDA
ZINUNULA VINCENT	GERMAN/FRENCH	INTITUTE OF LANGUAGES MAKERERE UNIVERSITY P.O. BOX 7062 KAMPALA, UGANDA

THIRD WORKSHOP ON FORMATION
AND

TESTING OF SCIENTIFIC CONCEPTS
IN LUGANDA
HELD AT MAKERERE UNIVERSITY ON 16/12/1995

LIST OF PARTICIPANTS

NAME	SUBJECT / FIELD	INSTITUTION / ADDRESS
KABUGO MERIT	LINGUISTICS	MAKERERE UNIVERSITY P.O. BOX 7062 KAMPALA, UGANDA
KAKEMBO SAM	BIOLOGY/ CHEMISTRY	NDEJJE SECONDARY SCHOOL P.O. BOX 193 BOMBO
KASOMA M.B. TANTALEO	ZOOLOGY	MAKERERE UNIVERSITY FACULTY OF SCIENCE P.O. BOX 7062 KAMPALA, UGANDA
KIBUUKA KIINGI	PROJECT DIRECTOR	KENYATTA UNIVERSITY P.O. BOX 43844 NAIROBI, KENYA
KIRIGGWAJJO A.	FRENCH/ENGLISH/ LUGANDA	INSTITUTE OF LANGUAGES MAKERERE UNIVERSITY P.O. BOX 7062 KAMPALA, UGANDA
KITYO GALIWANGO	COMPUTER SCIENCE	MAKERERE UNIVERSITY P.O. BOX 7062 KAMPALA, UGANDA

KIZZA MUKASA	LUGANDA	MAKERERE UNIVERSITY P.O. BOX 7062 KAMPALA, UGANDA
KYALWAZI ABDULLA	SCIENCE	ST. FRANCIS PREPARATORY SCHOOL P.O. BOX 19050 KAMPALA, UGANDA
LWEMBAWO HUSSEIN	MATHEMATICS	KIBULI DEMONSTRATION SCHOOL P.O. BOX 7071 KAMPALA, UGANDA
MABIRIZI JAMES	SCIENCE	KAMPALA PRIMARY SCHOOL P.O. BOX 30199 KAMPALA, UGANDA
MASAGAZI M. FRED	LUGANDA	MAKERERE UNIVERSITY P.O. BOX 7062 KAMPALA, UGANDA
MPANGA D. KISITU	CHEMISTRY/PHYSICS	WAMPEWO NTAKKE SECONDARY SCHOOL P.O. BOX 19087 KAMPALA, UGANDA
MUKASA E.	PROJECT COORDINATOR	REDENET P.O. BOX 2525 KAMPALA, UGANDA
MUTEESASIRA SAM	SCIENCE/ AGRICULTURE	LADY IRENE COLLEGE P.O. BOX 7 BOMBO, UGANDA

NAKIBUULE BETTY	SCIENCE/ MATHEMATICS	RUBAGA GIRLS PRIMARY SCHOOL P.O. BOX 1347 KAMPALA, UGANDA
NAKIWALA BETTY	SCIENCE	NKUMBA PRIMARY SCHOOL P.O. BOX 66 ENTEBBE, UGANDA
NAKITYO MARGARET	ADMINISTRATION SUPPORT STAFF	C/O REDENET P.O. BOX 4611 KAMPALA, UGANDA
NDWADDE PAULINE	MATHEMATICS	ST. JOSEPH'S GIRLS SECONDARY SCHOOL NSAMBYA P.O. BOX 6091 KAMPALA, UGANDA
NYONDO MAGAMBO	GEOLOGY	C/O REDENET P.O. BOX 2525 KAMPALA, UGANDA
SEBBANDA LIVINGTONE	PHYSICS/ ELECTRONICS	BUSINESS SYSTEMS P.O. BOX 961 KAMPALA, UGANDA
SEKITTO EDWARD	SCIENCE	GAYAZA JUNIOR SCHOOL P.O. BOX 4073 KAMPALA, UGANDA
SEMBATYA BADRUDIN	BIOLOGY/GEOGRAPHY	NEW BUSUNJU COLLEGE P.O. BOX 30

		BUSUNJU, UGANDA
SENKUBUGE DANIEL	MATHEMATICS	MUKONO HIGH SCHOOL P.O. BOX 353 KAMPALA, UGANDA
SSEBULIBA GEORGE	CHEMISTRY/BIOLOGY	CALTEC ACADEMY P.O. BOX 30921 KAMPALA, UGANDA
SSEMUJJU J. WASSWA	MATHEMATICS/ GEOGRAPHY	NABISUNSA GIRLS SCHOOL P.O. BOX 3027 KAMPALA, UGANDA
ZINUNULA VINCENT	GERMAN/FRENCH	INSTITUTE OF LANGUAGES MAKERERE UNIVERSITY P.O. BOX 7062 KAMPALA, UGANDA

THIRD WORKSHOP ON FORMATION AND TESTING OF SCIENTIFIC CONCEPTS IN LUGANDA HELD AT MAKERERE UNIVERSITY ON 16/12/1995

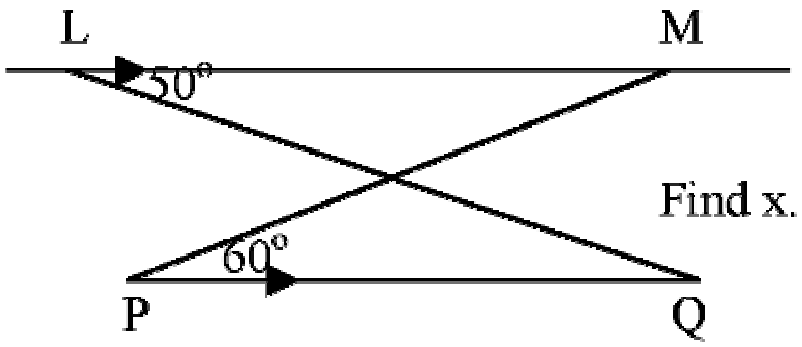
PROBLEMS TO BE TRANSLATED INTO AND SOLVED IN LUGANDA

GROUP A

1. Find the next number in the sequence 9, 3, 1, 1/3 .....

2. Solve y/2 -3 = 5

3. In the diagram below, LM is parallel to PQ



1. 4. Mary is x years old. She is twice as old as Peter. Express Peter's age in terms of Mary's age.

5. In a class, there are 60 girls and 30 boys. What is the probability of choosing a girl as a Class Monitor?

6. By forming an equation, find 3 consecutive numbers which add up to 135.

7. a) Describe how sound is produced.

b) Why is it difficult for sound to travel across or through a vacuum?

c) Give two examples of devices (objects) which are used to store and reproduce sound.

8. a) Draw two diagrams to show:

i) the two parts of a shadow;

ii) refraction of light.

b) When does a lunar eclipse occur?

c) Besides helping plants to make their food, give one other importance of light to human beings.

9.Great amounts of sugar in our bodies is dangerous, because it leads to a disease called.....

10.Which group of invertebrates has been described as follows: no wings, two body parts, four pairs of legs?

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PROBLEMS TO BE TRANSLATED INTO AND SOLVED IN LUGANDA

GROUP B

1. Given that $5/\sqrt{5} + \sqrt{20} = a\sqrt{5}$, determine the value of a.

2. If vectors **a** = 3 and **b** = 1.5, find the length of 1/2 **a** + 3 **b.**

-2 3

3. On the same axis draw the graphs of the lines $y-2x = 1$, and $y + 3x = 6$ for $-3x \leq . x \leq 3$. Use your graphs to solve the equations:

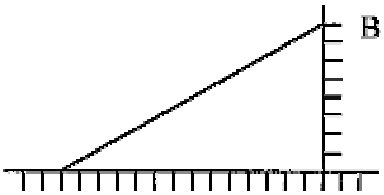
$y - 2x - 1 = 0$

$y + 3x - 6 = 0$

Hence determine the equations of the line passing through the point of intersection of the two equations above whose y- intercept is 2.

4. Prove that the angle sum of a triangle is 180^{o}.

5. Derive the quadratic formula.



B The adjoining diagram shows a uniform ladder AB of weight W length l leaning against a wall. It makes an angle θ with the ground. If the coefficeint of friction at A is l and the wall is smooth, how far can a worker of weight W' climb up the ladder before it slips?

1. 6. Show without using a formula, that if $y = a x^2 + c$, where a and c are real constants, then $dy/dx = 2ax$.

THIRD WORKSHOP ON FORMATION
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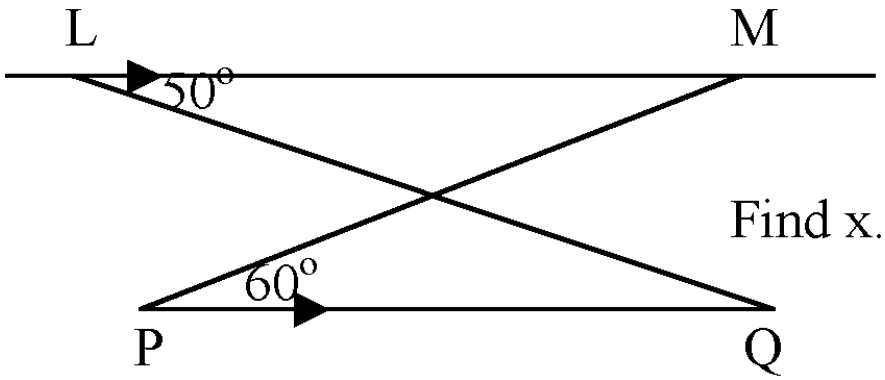
PROBLEMS TO BE TRANSLATED INTO AND SOLVED IN LUGANDA

GROUP C

1. The diagram shows a ray of yellow light incident at an angle of 50on one side of an equilateral triangular glass prism of refractive index 1.52.



1. i) Calculate the angles marked r and e.

ii) State and explain what would be observed if the ray above were of white light.

2. Derive the formula **F** = m**a**.

3. How would you verify Ohm's Law?

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PROBLEMS TO BE TRANSLATED INTO AND SOLVED IN LUGANDA

GROUP D

1. (a) What is pollination?

   (b) Describe the process that takes place after pollination in a flowering plant.

2. Give three differences between insect pollinated and wind pollinated flowers.

3. Give the taxonomy of the buffalo.

4. Describe an experiment so as to show phototropism. Explain the phenomenon of phototropism.

5. Write the following reactions in words:

   a. $PbO + 2HNO_3 \rightarrow Pb(NO_3)_2 + H_20$
   b. $CaC0_3 + 2HNO_3 \rightarrow Ca(N0_3)_2 + C0_2 + H_20$
   c. $Cu + 4HNO_3 \rightarrow Cu(N0_3)_2 + 2N0_2 + H_20$
   d. $NaOH + HNO_3 \rightarrow NaNO_3 + H_20$
   e. $Fe + 2HCl \rightarrow FeCl_2 + H_2$
   f. $NH_3 + H_2O \rightarrow NH_4OH$
   g. $NaOH + HNO_3 \rightarrow NaN0_3 + H_20$
   h. $2H_2 + O_2 \rightarrow 2H_2O$