Box 16, Folder 11 - "Maths" [Decimals; Arithmetic; Education for Democracy; Fractions; Two Points;Dominated by History; S. Periods in Development; Language; Seasonal Materials; Study of Numbers, Triangles; Teaching Religion; Geography, Geometry, Money Sums, Literature; Multiplication; Fractions, Teaching Notes; Mathematics; Groups] (E.M.S.)

Edwin Mortimer Standing

"Decimals" (D. Fractions)

1

Lord Randolph Churchill -- "d-d dots!"

Two Approaches

a) Through Fraction Apparatus
Conversion of Vulgar Fr. to Decimals

b) Through Bronze D. System

Matisson Materials Lead Beyond the Limits
Pilgrims in Rd to Samarkand
"To follow knowledge like a sinking star"
E.g. lighter than the lightest
smaller than the smallest
Division Sum 225 ÷ 2
Remainder: one
Going Beyond
Little Girls Ecstasy

Divide a Plasteine Unit
tenths
hundreths
thousandths

Compare with Divide Circle.

Eschemes Meet — unimaginable

Become Symbolic

Th too big th too small

[Decimal S. No Frame]

Representative Beads

A Surprise

Looking Glass Arrangement

Th h t ● t h Th

Notation Cards

Presentation

1). Show value of Beads and Cards. 1 above 10 below

2) Composing Numbers. —

Quantities and Cards

[again a surprise]

3) Cards to Quantities

4) Comparison with Vulgar Fractions

5) Organizing Large Groups
eg 25 tenths, 14 hundredths
16 thousands 15 units

6) Addition

7) Subtraction

8) Multiplication
a) Geometric.
2 · 25 × 3
5 × 2 · 5
5 · 3 × 2 · 2.

b) With Numbers :

9) Division 5 × 1 · 25
(Assumption)

Arithmetic

A Tool Subject

Want until want it – in life

eg based a shop.

even as late as 7 years

Learning by experience

~~Other way~~

Other Way Present to Thing in itself.

but a) in concrete

b) with activity

c) Individual work.

concentration

maturation

A Whole System has been Worked Out

Numbers

Study organisation of Nos.

Operations

Addition +

−

×

÷

Branching into — Geometry
Algebra
quite naturally.

Division

Sharing

Do it with a class.
but
better — one or a group
why?

1) others concentrate
2) different stages

a) With class

b) With Material

÷
÷ 2 =
÷ 3 =
÷ 4 =
÷ 5 =
÷ 6 =

Handcock.

With 60 pegs

? Was it good.

Make use of Decimal System

60 ÷ 2 =
60 ÷ 3 =
60 ÷ 4 =
60 ÷ 5 =
60 ÷ 6 =
60 ÷ 7 =

Some other Examples

365 ÷ 3
1476 ÷ 4

2907 ÷ 9
~~3~~ 9

3108 ÷ 13

7886 ÷ 23

both ways

Hesiod

Enthusiasm

The great characteristic of the work of H C is enthusiasm. They dont work study show interest — calcly — simply a mere intellectual interest. But they work with an enthusiastic interest which brings them not only to what an ex. many times, but which brings this joyous sentiment.

"With joy the stars ~~perf~~ perform their shining
And the sea its long moonshaded roll"

The Morning stars shouted with joy

Understanding is not Interest

Its a different thing simply to understand a thing and be enthusiastic about it.

Similie of the Man + a Beggar

I understand: but I am not interested

Enthusiasm is a
Vital Fact. — enormous value.

The adult is like a person who has become tired in the difficult art of life. — not easily enthusiastic —
Enthusiasm the rule with children
the Exception with the adult.
(of Genius)

We must treasure this spiritual vitality
Seek now — through our own fault to diminish it. This vitality reveals without doubt a state of Special sensitivity.

When we Sow the seeds in S.P. sow them in fertile ground.

S.P. are invitations to us to give certain things.

Orientation of Clubs Consc. to Vita Sonale

Its First Society — is already real

His Prayers show it — "cat dog"

Bring it to a vaster Plane.
To open the door to something beyond,
vaster than this circle of parents family God.
Sentiment is there to grow.

Escample the Pen cut tree, made ink, paper
all for me.
of Shop

"A person who thinks of a shop just as a place
for ~~buys~~ buying selling is a person asleep
Everything depends on how we awake the
C. mind to the wonder of the world.
The other way makes the road heavy
on our shoulders

"Till custom lie upon us with a weight
Heavy as ~~lead~~ frost, deep almost as life itself"

History

(3)

First To make clear the Distinction between the Past and the Present.

between the past and the epoch in which we live.

("~~I've been to the Europe!~~)

of Distinction between Physiography & Geology

Important practical thing for us is Physiography and for us

The vital thing is what is happening to-day

We can understand the Past only by what is going on to-day.

The present is the key to understand what was going on in the Past.

Because today also we are still in a period of transformation. & ~~we are~~ the way we are transforming our present helps us to understand the transform^n of the Past

So – to return – It is important to distinguish clearly from the beginning what which refers to our time – the present – from what went on in the past.

Thus an example – an illustration.

Kings of England } Black
King George Red

Pedigrees of Kings & Qs of England

Yes We Study Origins

It is true you must study in history the origin of things we do to-day – but in doing so you must clearly distinguish

these origins fr.
the facts of to-day

Threads Going into the Past

So every cause in wh. we are interested must have questions filed going back to their origins.

Education for Democracy

Demos. Democracy (?)

Greeks 1) Every man take a part in Govt.
2) Be trained to be able to do so

Influences 1) Free Discussion everywhere

2) The Ecclesia – Assembly.

3) The Religious Festivals

4) The Greek Drama

5) The Architecture – including Sculpture.

(Weakness — Slavery.) No Second Edn
Adult Edn.

Cannot Bring Back. City-States

Our Problem

Education for Democracy.

A New Thing – Urgent Problem.

Ideologies in the Air

Clash with democratic ideal

Our Aim not Definite Enough

Aims – Ordinary Parent

① Vocational Aim

Difficult Life – Competition

② For Culture

Longer Leisure

Personal culture

Both ① + ② are Individual

Man may be a specialist –

no good as a citizen.

Quote page 2

Crisis of Civilization

Individualism – at Reformation (?)

Last 300 years

Break up of Unity of Europe

The Great Unity of Authority

The Sense of a Common Aim

a Supernatural Aim

– Gone.

Crisis of Civilization — result in:

(1) Political control of wholesale traders failing

Producers — no demand
surplus herrings
coffee burnt.

(2) The Great Danger of War

Remedy in Authoritarian Rule

appeals to Docility
instinct of Self-Effacement.

Democratic Rule is more difficult
Life too complicated
Enormous forces set free.

Education should help — does it?

(1) Most boys & girls finish Ed^n at 14—16.
Can a boy at that age be
expected to form a sound judgement?

Even a college graduate need not
have studied public affairs
"Union"

Irrelevant learning does not help.

(a Question to be discussed)

"The political world is so complex & difficult that it is essential to train men just as carefully & deliberately for their duties as citizens as for their vocation or profession"

Democratic Citizen Should have:-

1. A deep concern for the political good life of his fellows
2. Such a knowledge & power of clear thinking as will enable him to form judgements as to the main problems of politics & to decide wisely which party will be most likely to achieve the ends.
3. Power to select men of wisdom integrity & courage as public representatives & a knowledge of his own limitations.

Our Day

1) Schools – too much a question of knowledge. vocation + culture. (?)

And only to 16 years if university

The Assembly ?

The Radio p 63.

Advantages

Disadvantages

Discussions. Public House.

The limitation

No specialist. (Sister)

Adult Edn W. E. A. a good thing

Reaches only an Elite

Grades trained all free citizens

We — a minority

Architecture – less

+ Yet Parish church 66

Influences of To-day

Greek Drama nothing comparable
a few serious plays

Churches are the Nearest Thing p 68

Advertisement 68–9

Cinema & Radio
" Too most people.
Cinema .... church
city architecture & life
Radio — the Sermon

Danger of Radio & Film

Real Educators
1) Home.
2) conditions of living
3) of work
4) books
5) newspapers
magazines
6 films
7 advertisements
8 public opinion

Educate for Democracy

Dunegs Tone — for character
culture
classics.

On human nature

Intellectual qualities. —
wisdom, intelligence.
Judgement Insight

Moral qualities.
disinterestedness
courage
honesty
justice & fair play
patience
self-mastery
power to endure work & hardship.

Note — no humility —

These are classical virtues

Pagan or Chn Bk.
Page 11 - 12
Human Reason
Perfectibility

Can Democracy exist by itself

Can it grow out of a power natural soil

it to be lasting

Greek democracy. (slavery)

not lasting

Failed for lack of unity.

Roman Justice failed in trying

The Stern virtues of the R. Republic

Real Permanent Basis for Equality of Men

a xn idea - inheritance

In India "Die Then"

A Walled XY

p 15 - 16 - 17

2 X7a System of Morals
an Ethical Code

page 22

Socrates and Christ

Often have comparisons
as of .... degree
same kind of thing.

C.K.C. 238

Brings us back to c.
Religion
Real Conflict
Commus
v
C. Church.

History Continued

Ah that was the age of the saints & heroes.
the people of great intelligence who made discoveries,
— in a phrase "There were giants in those days"
as if we were degenerate & dead like people
and so
we finish by being so!
(Emerson)

So we have no real knowledge or consciousness of our Present —
We don't know anything! —
So we don't see the dangers before us
we don't realize the responsibilities that rest on us — real ignoramuses.
And if our mental powers are used we excuse them on ruples that have no real relation to life.
Thus the curious learning dates for examn
& that a preparation for the present.

Thus Ignorance is more Dangerous than Inferiority Complex
which makes people feel they can't talk
or work etc
The Inferiority Complex is a lowering to the Pers[y]
the individuality — but —
Thus ignorance of the Present is something
which affects adversely the whole of Society
(Before the War!)

So this is our Cue - We must give these two things

1) From the beginning ~~to~~ from the earliest infancy to arouse interest in the Present. — that way of Enthusiasm of which we spoke.

2) And this Present felt by the child with all the keenness of its S.P. must be illustrated and fortified by a study of its origins.

(I've been to the Empire)

Examples

WRITING The child is in a S.P. for language & is full of the whole business of writing & reading. (given in this living way!)

So we give him ~~an~~ the story of the labours that humanity went through to arrive at this wonderful achievement.

This arouses :—

a sort of gratitude

an admiration for these men

So from this Actual of the Present. are sent down into the Past these filaments of Gratitude.

For these men lived on their plane of their Present, as ignorant of it as we of ours - but what they accomplished

Of old unhappy far off things
& battles long ago

was not only for them but for us. who came after.

It is interesting to see this vision of things being prepared — silent unconscious in the Past little by little for us.

So history should be permeated by the sentiment of admiration.

So we should cultivate this Social Sentiment this sensibility; this love; enthusiasm. for humanity.

The Effect of This What will be the result of this History Not simply a story of

"old unhappy far off things
And battles long ago"

It will bring us to the feeling of our own task, our own responsibility. We are but the present of something alive — the growing point of the human race — and we are preparing the future.

Effort is will mount to a nature of higher level. So we must cultivate this enthusiasm for mounting to a higher level: and with this purpose life becomes even more interesting & full of enthusiasm.

Thus Writing – as we said we must give it in a lofty way – relving ~~recapturing the~~ discoveries of the past.

The Awakening of the Soul

in

Relation to a Conquest.

Example. Language

Tower of Babel.

All is there – stones, mortar, good will but the work has ceased – Can't understand each other.

So comes a revenue for this Language which is a means of communication

Leads onto Study Written Communications

Picture-Writing

Symbolic Writing

Ideographic

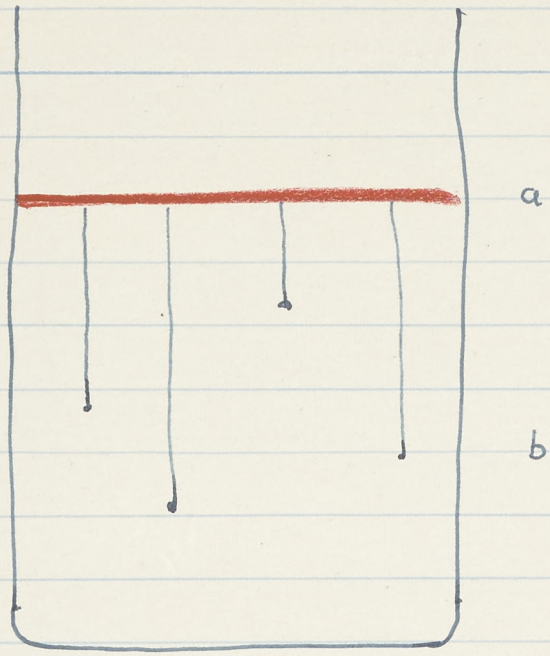
And so to Alphabet

The Symbolic Experiment To Clarify Ideas

1) Separation of P. & Present
2) Every important element in the P. has its roots in the P.
3) Each is a sort of construction.
4) Shows how the Present has come to be what it is.

Sotheby in this fashion represents a study of many formulas

Shows the relation of an organism with the past and with the future



(a) represents the living part (like a tree)

(b) The Past.

(a) Living Part which is one level and the whole moves up together. Red Surface – It is the Supra-Nature – built out by lot.
Roots of origin regardless goes down to the Past (b)
Add water and the whole of a moves up to a higher level – the filaments still hanging on.

The student must read history actually & not passively. to estimate his own life the list of books & commentary

.. I have no expectation that any man will read history aright who thinks that what was done in a remote age, by men whose names have resounded for, has any deeper sense than what he is doing to-day.

[Ferguson discovered many things in astronomy wh. had long been known. The better for him.]

The student interprets the age of chivalry by his own age of chivalry, & the days of maritime adventure & circumnavigation by parallel numerous exploits plus our "The Argonauts" (Golden age)

Fractions

Franco –

Fraction a Thing broken

"a fractured arm"

Begin early $5\frac{1}{2}$:

Describe to Manual

The Common Standard

<u>First Explorations</u>

$\frac{1}{2} = \frac{1}{4} + \frac{1}{4}$

$= \frac{3}{6} + \frac{3}{6}$ etc.

any number of experts

Then

Cards – more systematic

Examples.

1 — 12

Vulgar to Decimal Fractions

Home-made ones.

Geography

Maps & Names

Maps & mountains & names

Practice Periods

Tue 3·30 — 8

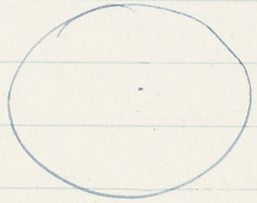
Wed 4·30 —

Thurs. 3·30 — 8

Paper for Geometry —

Give out.

Arthur Circle



Analyses of Sentences

1) First Large Chart

describes

Example 1 2 3 4

2) First Large Chart

a) Circles + Questions only.

b) Circles Questions + Names

c) Circles + names only

3) Indirect Object 4 + 5

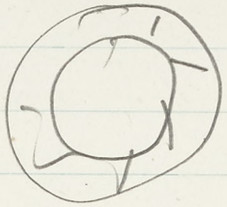
4) Adjective 6

5) Double Sub. + Obj 7 + 8

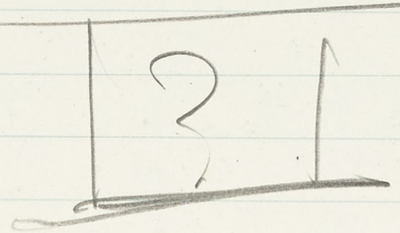
6) Adverbial Extensions. 9 · 10 · 11 · 12

7) Adjectival phrases.

8) Printed Sheets



Arith^c ⊙



Gromly Book

Squares & Square Root

Show Dutch paper.

Examples on board (pictures)

Why give them these sums?

Arithmetic - Utilitarian or Liberal Study

Utilitarian - in social life - cashiers. traders financiers - in commerce -

also applied sciences

or

Liberal Real Mathematics

" Here the interest is in the things itself - in the pure relationship of quantities.

It is this higher interest - philosophical - of numbers wh. interests the child.

Our Path " in every case the question is to find the path wh. leads to the highest interest of the intelligence.

"The Child cannot find interest in ex.
wh. do not call forth the work of the Intelligence.

So Our Problem.

1) To give the elements clearly
2) So that – The work may go on +
develope daily freely. –
3) thus – drawing a deep interest

Again.

"We do not give all these ex. in Ar. with the idea of doing sums quickly. (It does help us to do that – but that is not our aim)
"Our aim is to give a Gymnastic to the Intc
and the more we realize this the more we train the mind.

Arab Traders – D.S – Commerce –

Shakespeare "I cannot reckon : I have not the Spirit of a tradesman!"
The do not do Arth for the sake of business
... but for growth.

Squares & Square Roots

Sensorial Preparation

(a) Broad Stair

1) Building fr. One Step to next
2) Calculating differences
3) Differences Between 10 Differences

(b) Square a Special Rectangle

comes in multiplication

1) Red Beads (tables)
2) Short Bead Stairs
3) Squared paper
4) Peg Board.

Write it 1^2 3^2 etc

(c) (Jewellers Shop) Sq. Cakes & chains

1) Eg with Square of 4
   1) make it
   2) chains for sq
   3) Build Cake.

So for all

2) Comparison of Numb. Sq. + Cubes

Calculate Differs bet. Squares
Differences Between Differs
ditto Cubes

3) Pyramid of Squares
Tower of Cubes.

Squares across the Peg Board

Square Root Simplest Form

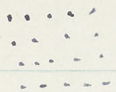
Look at any sq. sides = 4×4 10×10

Set myself a Problem. " If I have a certain no of units & I want to find √ I must put out in form of a sq.

a) Smallest possible sq 2

b) then so on

past 3^2 4^2 et so

Note  could mean three diff things

1) $\times$ 2) $\div$ 3) $\sqrt{\ }$

(show $\times$ + $\frac{1}{2}$ same thing)

Depends on the way you approach

So far simply our own knowledge viewed in special relationship

<u>Prepared not Precocious</u>

<u>Square Root Forms</u>

Divided various ways + Calculate.

We see a <u>Certain Law</u>

a certain pattern comes out

(a) Two Squares Diagonal

(b) Two Rectangles flanking them

[Geom. helps Arth^c)

Do the Same on Peg Board

1) with 100

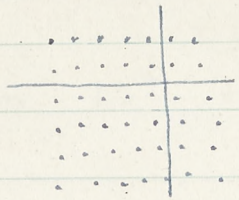
2) Different ~~Squa~~ Squares

Always the Same

Bead Bar Strips - Squares

Square Root Contd

1) So far



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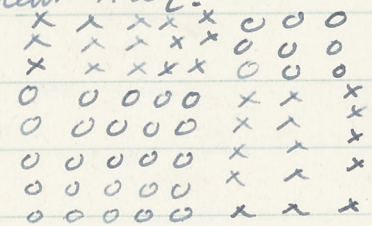
2) Approach different way.

Start with



$(5+3)(5+3) = 5^2 + 3^2 + 2(5 \times 3)$

$(5+3) \times 5 +$

$(5+3) \times 3$

---

3) $(a+b)(a+b) = a^2 + 2ab + b^2$

Work Diagram and labels.

Transition to Decimal System

See Diagram $13^2 = 10^2 + 3^2 + 2(30)$.

(Separately)

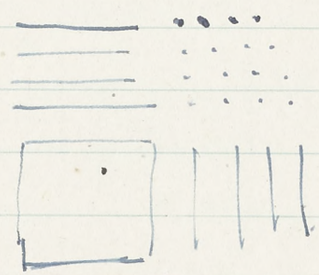
Based on 14^2 $15^2 \ldots\ldots 19^2$

Then 20^2 , 21^2 23^2

Proof By Building up

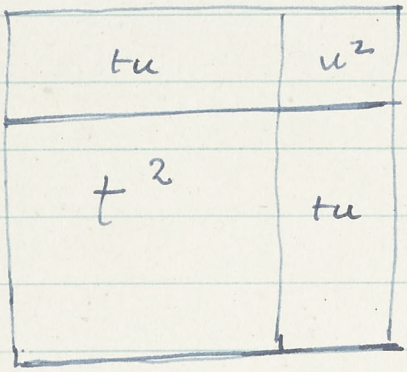
14×14

a) Take



(b) — — . . . 2 3.

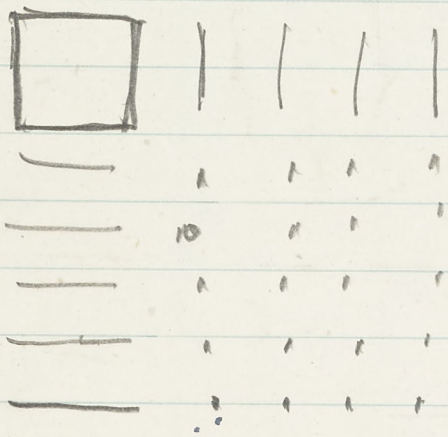
(c) 3 5 — — — . . . . .



$(t+u)^2 = t^2 + u^2 + 2tu$

Example. 8. $\sqrt{576}$

$\sqrt{2116}$.



Square Rt Cont'd

$(a+b)^2 = a^2 + 2ab + b^2$

17^2 in Dots.

Divide by 2 lines.

$(4+5+8)^2 =$

So Diagram $(a+b+c)^2$ with Cards

Divided - as puzzle - with cards

Transfer to Symbolic Pegs

25^2 to Decimal System

a) horizontally

b) vertically

Squaring with Symbolic Pegs

25^2

123^2

333^2.

Square Root with Sym. Pegs
(tomorrow?)

first This Two + Two + Two – business
Explanatory Diagrams
[No even sq. rt of 10, or 1000.]

$$
\begin{array}{r}
23 \\
23 \\
\hline
69 \\
46 \\
\hline
529 \\
\hline
\end{array}
$$

Friday March 2nd

6

Two Points

(a) Altitude of Mind.

Middle way – Scepticism & Blind Faith – Credulity.

Apostolic Injunction. Test all things cleave to what is good.

He that doeth the will shall know of the Doctrine

E.g. 10 – 19 before hundreds.

A Greater Wisdom will always seem mischeivous.

(b) Those Letters "Don't ask him to Read it?"

Seems strange.

Truth stranger than fiction.

Why not?

He simply Can't do it!

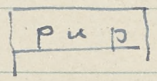
Explain why. – Two Rhythms.

Analysis. Synthesis.

Examples. panama.

Give the Key – explains language.

another example. –

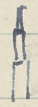


with letters.

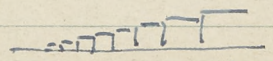
Not Montessori.

Example yesterday

Brown Cylinders



or



Myself in three Ex. of D. System. — show new

The Passages The Intervals. – Transitions.

A scaffolding.

Going up a Cathedral Steps – Platforms.

The Steps Between.

A. 10 — 19

① Beads only ——— . ... etc

② Figures. Frame.

③ Together.

(rods) Boards

B 10 — 99

Nine units : nine tens.

N. Cards on their faces.

The Story – Anecdote from Da.

C Passages and Written Names

D. With Cards and Beads

Variation.

Together. or Separately

E. The Roll.

F Hundred Chain

Thousand Chain.

Apparent Contradiction

a) Straight away to Hundreds & Thousands

b) Stay a long time. Counting

Knowledge Brings Interest.

and Affection. Companionship

Simile

① "If I am introduced to a person & I like him that is not the moment for me to turn my back on him for ever"

② If I have learned to ~~sing~~ swim — I don't stop. I do it all the more.

A Sense of Power.

A Compass

An Exploration.

Hundred Chain

The Thousand Chain

"Sweet to set forth....

climing the Golden Road to Samarkand.

"Those that go always a little further

An Event.

Lay it down

The Midgard Serpent —

Stations along the Line
Units
Tens
Hundreds.

Anecdote
I'm tired: may I stop here & go on to-morrow.

The Flame of Interest
without Interest no Education.

(Anecdote "I know but I don't begin)

Respect for a Thousand
The Rajah's Rupees.

We must not be dominated by History

Rather History should clarify & give more value to the present & the conquests of the Present

We must give more emphasis on the Present than Past.

The Usual Mistake

But generally speaking since the present is so near to us we think we know it & need not talk of it

Of the Present we say: Oh we live in it ourselves, so immersed in it that we are more or less unconscious of what is going on. [The last thing a deep sea fish wd. discover wd. be water]

(we fail to see we are)

And so our attention is not directed to the Present (as the Present in relation to the Past) It is our duty to do so — to direct attention & enthusiasm to this living Present which is of such utmost importance

As a result — we are apt to do things in the present — write letters. read books. see a house — without feeling anything of special interest about what we are doing — cold & unconscious —

But in history we study the past

to say

S. Pennoch m Devlt

to

N.S.A Glasgow

24/4/45

Glass & Jug

Cup & Saucer.

Sensitive Periods in Development

Introduction

Nursery School Movement.
Admire it.
A very Significant Movement

The Century of the Child.
An awakened social Conscience
Part of a Great New Movement
in Humanity

Social Value of Child in
Constructing Civilizn

A Turning Point in Humanity

Either Destruction or Reconstruction

Every Great Movement its Interpreter
Dante. Aristotle.
Darwin.
Prophetic Spirit of the wide world
Materson to Focus.

Her Work –
Revealing a New Child

Deviates & Normally

Concentrates Intellectually

Loves Order

Science

Loses possessiveness

Mutual helpfulness

Self-Discipline

Chooses Hard Path. "Miracle of Montessori"

There are Facts — full of Hope & Promise

How Discovered Them?

First Independence or Liberty

Second Prepared Environment —

The New Children & Mrs Radice

The Real Children

Can Study the Real Child

in Freedom

Revealing Environment — Freedom in P Ent

See him as he is

① Child always Developing

Differ Between A & C.

"Is in a state of continuous

change & transition

This Developt. can be looked on in various ways.

Eg Growth in Independence
Birth, Weaning, Language walking

– to Continue this –
"Indpce means to do oneself what has hitherto been done by another"
Therefore

Every useless and arrests devel.

If we give Indep^c to P. Devel.

reveals many things
– including – - - -

Sensitive Periods
what is a S. P.?
A Term from Biology
De Vries
Example
The Caterpillar

Analysing it we see

1) a phen. of a developing organism

2) Related to the Event

3) Like a Search-light

4) An Evanescent phenomenon

Some Examples — Of Vital Importance

1) Language.
Example China
Come back

2) Interest in Sensations v. Ideas
Sensuous aspect of World

3) S. P for S. M. activities
Synthetic Movement

4) S. P for Order.

5) S. Ps for Social Development

many more

stop at these

S. P. for Language — Void Secret affinity

Begins v. early —

Before Speech.

"Stealing words"

Example

"Arrowheam!"

Importance of Correcting mistakes

and Speech in Environment.

A S.P. fixes . "Thus ~~so a tide~~ --.

Latin Word Studies

"Words! words! words!"

"~~Composing words: Abracadabra~~

1) "Naming Lessons" ~~Nebuchadnezzar~~ iv. 210

Long Short Effects

Language use!

2) ~~Moveable~~ Sand Paper Letters

Touch

3) moveable alphabet.

Analysis of Words.

Composing words — not reading — Nebuchadnezzar iv 210

4½ — 5.

Writing Three Parts.

"Explosion"

Writing before Reading

S.P Sensations — Explorer. Ship ~~+~~ 5 sails Reason at helm

Instable

See cloud stealing abstractum
Building up a world within

That

The Preliminary Confusion

Example Touch what it means?

Example Sizes - Dimension

1) Cloud + Moon
2). Helmholtz + his Mathes
3) Tony + The Garden
4) Mgt + ~~Cloud~~ + Cow
etc

So Materials for Size

E.g. Cylinders

Same in everything but height.
Fascinating to look at

E.g The Family

But more actual

So for Colour, Pitch, texture / Geom
Geometric forms / Analyses

Reveals reveals
why?
Inner Growth

End of action is inevitable
Diff from adult
WORK IN C IN A
Except Galer — proves
~~the~~ rule.

So with Punk Tower. Long Rods
in
Calams.
(Show)

Bells; Stuffs. weights
It's all inward Dreadful Industry
Explorers of Universe

God's Spies "take upon us
the mystery of things"

The World is so new, so strange.
Anecdote
"The Antlers"

∴ ambrente Preparato!

Sensitive Period for S. Movement

Repetition.
E.g. Washing a Table.

Why?
Integrate Personality
~~Not so to Chairwoman~~
Child Incompletely Incarnate

Movements vague & innaccurate
"Spirit is willing but flesh is weak"

There – a longing to do things in a particular way.

What way – accuracy.
to a definite end

∴ Ex of P. Life.
Examples – Seef
– Ernst
Dutch Schools

Points to Remember
1) a definite real aim
2) Instruction
3) Freedom to Begin – and End
4) Analysis of Movements

Ex of P Life

Teach. Teaching –

not imitation

logical analysis of moments

Ex

Nature of Perfection

Examples.

Class & Sing
Cw

S. P for Good Manners

This is time for perfecting external ligaments — art — of Social life

Lessons of Grace & Courtesy
Examples.
Saluting
Scissors
Excusing for disturbance

Sensitive Period for Order

Most remarkable of all.
Culminates at 2.

Examples:
The ~~cloak~~ hat in wrong place
The Lady ~~to~~ Cloak.
Everything must be in its right place

"Wrong End of Barf"
Ursuline

A great opportunity in N. Class

Insist on Order.
Yan will be met by an unexpected response

infringing cloak

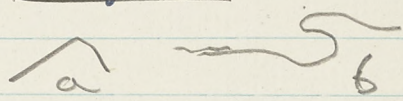
Numberless examples.

Significance of this S.P. of Order

Evidence of Creative action of Intellect

Guide of Surveyor in new Country

Points



1) Keep everything in b Event in its right place

2) Order comes to C fr. Event

3) Serve Order & Order will serve you.

4) "Serva ordinem →

The Last Year Order

This Creation which goes on

"Grouping" "Colours" Numbers

1) General ~~Or~~ Outline

2) Details

Passes to Culture or School Lessons

Eg. Path to Number.

Cylinders 10s
P T.
~~B Stair~~
~~Long Stair~~
~~Number Rods~~

and so to more Order
in Quantities

Same in Language

Letters
Words. Spelling
Sentences — Grammar

Work not Play

Reality not Make-Believe

Valorization of Personality

Contentment

(Ballads Contrast)

Other Periods

Boy Scout Age

Adolescent

Assist Devt —

Beyond us

A New World for a New Man

Warring Nations

Peace

New World for New Man

Arithmetic

The Teaching of Arth^c.

B. of Ed^n

Why Teach it
Useful?

Practical —

"I cannot reckon ....

Necessary for life
Shopping
Times of Trains.
~~Statistics~~ Population etc

Is that why?
Utilitarian

Tool Subject

Not to teach math needed
as a tool.

Is that the best way?

Most conformable to C. nature.

Before he comes to school
Is he interested in numbers?

Yes? of Colours Says Big. little

Learns to Count. "One two 3 etc

A spontaneous Interest

Pascal said —
Human mind is math^c

Are animals the same?

Chimpanzees
Birds
Dro?

Why?

Intellect.

Contrast

Child Chump

Intellectus Agens.

Power to Abstract.

Must Be Concrete Foundation

Two Things Necessary

a) Absolute Clarity in Concrete

b) Certain making of mind.

Another Point of View

Designation

1) Teaching a subject

2) Developing the mind thro' a subject

Importance of Arithmetic in this respect

All children love Arithmetic
(Pascal)

The First Step which Counts

Difference Between • and ••
(mult. in multiplicity)

Once started — how fast?

1st The Age. about 4.

The Terms W of R. Nos 1—5
& Composition of

Ridiculous this keeping back

the Cause.

Don't understand Spontaneity of Mind

and necessity for.

Acting with Natural

The Point of Contact

The First Stages

Methods (as a class)

a.) Write 1 2 3 4 5.

Say (children)

Good?

Why not?

Not associate to real essence

which is:

a) multiplicity

b) in a whole

1 2 3 4 5

b) **Dominoes.**

1 2 3 4 5

Good up to a point?

Any objections?

1) Too rigid –

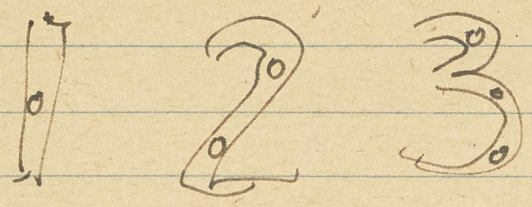
2) Geometric form.

c) (Class stds) Math Objects

cont

(d) Games Coming things —
children
window panes
pencils
etc

(e) Individual Actions:



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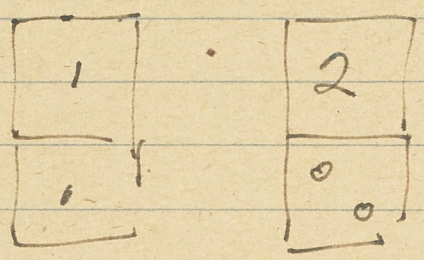
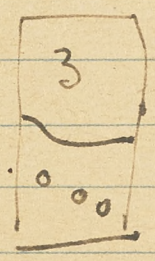
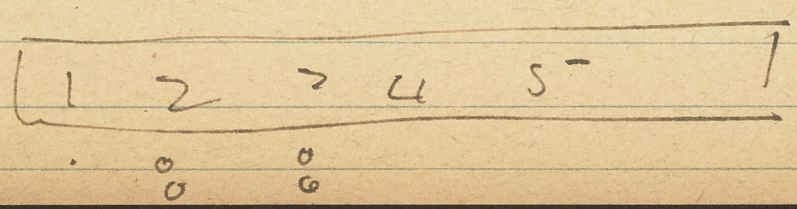


Pulling on
Counter

(g)



(h)



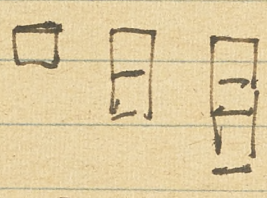
How many (45)

not fast

1 2 separate

See Relationship

"Spread Your Knowledge Out"

(1)  Slow

1) Relationship ordinal + cardinal

2) Keeps it Same

Number Rods.

Bigness a help.

The Cypress

(a) Sand paper
(b) Tracing Paper
(c) Grass glass

(d) Copy them
N.B. Always a set on a card hanging 1 2 3 ... ⊙

Eg E instead of 3.

(e) Make a row red with tick
blest ones

Games
1) Do something 3 times
eg clap.
hit desk
walk
hop

2) Bring me. 3 chestnuts

3) Give ·4 get ... ○○○○

4 The Shop.

Cost 6 pence.

5 Clock w. movable hands.

put to 8 or 6.

6 The Names of Ordinals

First
Second
Third
Fourth etc

7 Which would you some have

5 sweets or 8

5 spoons or 8.

L

Lectures (Subjects)

Infants I

Arithmetic

Oct. 5. '48

11-30am

Why Learn It?

1) Practical Use. — Money Shoppers

2) Importance in Our Civilizn —

Mechanical Age

Number into everything — Sciences

all based on it

Applied. Sciences — radio.

3) Philosophical

Pure knowledge —

The Octave (7)

colours of rainbow.

Days of week

Scale in music

Atomic weights

7 Ages of man

7 Sponsors stand before God

Atomic weights

4) For Development

Difference. Teaching a subject

a) instruction b) development

Human Mind Essentially Mathematic

Pascal.

Adolfhent Saly.

"All children love Arith^c ??

Montessori announces at

30 years experience

Two Forms of Intelligence in Children

a) Imaginative

needs no special means

to reveal itself

b) Mathematical

Needs special means or aids

Similar of Microscope

Reveals what is there

Hitherto unknown.

So A Special Technique

Thus exact work.

Revealed an intense love for Number

Most interesting Subject.

Number an Intellectual Operation

No intellect – no number –

Eg O O (a) Chimpanzee

O O

(3) Idea of 4.

Number a Test of Deficiency

O O one – and one

– and one and lib.

The Great Gulf. – one – TWO

So Man has this Potentiality

No number at birth

But the potentiality to use it

How this Potentiality becomes Actual ?

Thro Experience in Environment

Spontaneous Powers

Creation – to Rough Divisions

Comes from to Concrete

Abstraction.

What Form of Concrete

The Idea of Number is based on the Relationship of quantities

~~Van~~ Indirect Preparation

Regular Gradations of Quantity

(a) Cylinders
(b) Cubes
(c) Broad Stair
(e) Long Stair

Which is best –

and

why?

The Long Stair

Study it & its use.

The smallest in each series

The Unit

If I call this "1" – rest become 2 3 4 5 6

The Fact – the Experience Comes First

Child – cannot count

but

knows the fact.

Number does not yet exist for him but

the production of the rods does

Thus by playing with this games

a fundamental idea

A satisfying Difference.."

Page 15 in MSS Book.

16

Principle of Stair —

Raw material is this p. 16

17 Metric System Foreshadowed

FIRST STEPS COUNTING

People say. Arith. Difficult unknown to
child & mind — begin at 10 years

Principle Analysis & Sepn of Difficult

What is Counting

Basis is a unit

3 + 1 4 + 1 — etc

More than this — Calculation

Three Difficulties 1 — 9

1). Units as a fact —

Grouping of units.

The fundamental idea.

the essential thing

2) Names given to 10

quantities as we accumulate

3) The Ciphers

Making the Groups

1) Swallowing up

∴

2) Separate Piles
(Domino Pattern

3) Number Rods

Comparison with Spindles

Quote page 23

Principle of Mental Economy

The Permanency

Also the Size of Value of small rods p 24 (bottom)

Ordinal or Cardinal

The Order of Knowledge
1. Quantity
2. Name
3. Exponent.

Lesson Seguin

Manual Carries You On
Exhaustive

Ex. 9 + 1 = 10.
8 + 2 = 10
7 + 3 = 10

Detto Composition of Other Numbers

6 = 5 + 1
= 4 + 2
~~= 3~~

7 = 6 + 1, 5 + 2, 4 + 3.

A Sort of Game

Normal for shops.

Must have freedom.

SPINDLES

Multiplying in Unity.

any objects

ODDS & EVENS

Rods Spindles Counters Compared

Rods — quantities given — no ciphers

Spindles Ciphers " find quantities

Odds & Evens

Nothing given. —

ZERO

A mystery.
Introduced by Spindles

Objects Game with Cards

$\boxed{3}$ or $\boxed{5}$ or $\boxed{0}$

or Clap so many times.

March 19th

1

Language

English ... or

Remember the Distinction.

1) Teaching with Mat.ls 2) Assisting Devl.

"Differ between knowing a thing and growing + becoming greater thro' that knowledge"

Sensitive Period for Language 0–7

e.g. Parents + Chns to China

Babies "stealing words"

So We are Helped By Nature.

Writing (or Reading) is an extra Language

Look at Speech

No one teaches it.

Baby most dumb of creatures.

Why?

Intellectual Acquisition

"The Intellect of the word." Page I

Mysterious companion of Intellect.

Speech.

Mechanism comes first.

Baby Talk

Da-da-da-da .... "Summon his father"

Appeals to Intellect wh. uses it.

Language completes inner creation

Naming lesson (Reading) 6–7.8 p.to

3 4 5

Effect of.

A New Interest - an Enthusiasm

Language in itself.

New Words

Geometric Shapes -

Silly ?

Read "Int. of Word" - page 11 - 12

Our knowledge a Hindrance 13.

"Human Face!"

Words & Ideas Together.

"Int. of Word" - p 22 (bottom

Newman 23

Helping Dunlop. 24

Importance of Spoken Word

"accompanies solemn acts of life".

Vow. " Marriage.

Priest.

Soldier.

Judges Sentence

"When the word is spoken, something is done.

for the word changes what is to come from

what was before" - almost like the

Creative word - Said "Let there be light"

Belloc on "the Word." 33

Child has an intuition of this.

New Attitude to Language - In sc

Not simple abt. material things - much bed-

The Second Language Written Language

Two Points in Montessori Method

a). Very early age 4½-5. b)

b) Writing before Reading.

Two Definite Stages Writing (1) Reading (2)

a Writing – of a lower order.

We confuse it with expression of ideas

No –

Sensory-motor –

mechanical –

Auditory images.

Does not touch higher centres

— affect the Mater Ego.

The Mechanism is being Prepared –

Avenue to Intellect

of Speech – natural way

Principle of Analysis of Difficulties

Three Main Difficulties.

a) Metal Insets –

Two Stages a) unlimited b) limited

(b) Sand Paper Letters

This new interest in language.

Physical Event – use for

establishing refining muscular co-ordination.

Writing is a Conquest

A Thrilling Conquest.

A new language overland.

A language without spoken word.

Something that lasts.

Of great importance.

History & Pre-History.

Principle "If we have a discovery - a product of the past civilizn. of the race to offer to the child we must offer it in itself. - in its wonder & simplicity."

"We must not blur this fact - the essential nature of it by confusing it & clogging it round with a tiresome & unmeaning drill - i.e. the preparation of the fingers.

For writing gives a man a new language it is not to educate mechanically his muscles of the fingers.

Each thing must be in its place

We must not place this conquest in a bad light - this conquest wh. the child must re-live for himself.

So the Edn of the Hand must be done separately.

So Principle of Separation of Difficulties

3 Main.

a) Metal Insets.

Two Stages a) Preprn for W. b) Art (limited)

b) Sand Paper Alphabets

Primarily an interest in muscular co-ordination.

Part of Physical Devel. — a period for establishing & fixing muscular co-ordinations.

The Hand has been prepared.

Cd. trace letters with pencil.

Don't want it. Want Stereognostic memory.

Has the "muscular movement wh. gives the interest.

Alphabet a Stone Conquest.

Previous forms — picture-writing.

Discovery - "Each sound in the word composed can be represented by a sign.

Ecco tutto. That is all.

Principle "If we have a discovery, a product of the particular. we must offer it to the C. in itself - in its importance & simplicity.

Writing Bk p. 6 - and 7.

Studies everything in his Environ

Language from a new pt of view.

Moveable Alphabet

Many are the words from the Sounds of D.S.
Child after constructing has own language
∴ > interest

a) Separate Sounds b) Same in diff words
Analysis = deeper knowledge.
The Musical Box — hey presto!
Give him the Key — leave him.
Phonetic Languages. —
Phonetic words — first — a structure. (Heagerty)
10 210 re.
Chemerical Difficulties. — 26.
Meditative Being. Strada.
Professors Challenge. — Darmstadt
etc.

Explosion into Writing —
everything ready The hour strikes
11.45. last week
Next week.
Chemical Subst. Stored Psychic Energy

Not Reading

Sensorial Materials Contd

So far Quantities

Definite measurable variations

The Three Dimensions

(Only) A Suggestion — "Montessori Explosion"

By Discovery.

[not exactly the same — still

Find Out (1). How the unit of the series goes into the rest.

Express it as a law

(2) The Difference Between each successive pairs of adjacent members of series

is $b-a = c-b = d-c$ etc

Something of the Same Thrill

Differ by Quality (Cant measure)

Same minutiae of isolation of stimulus.

Differ — can't measure it. Exactly.

Colours; S. Boxes: Bells: Touch Boards: Stuffs.

In General Two Ways of Doing them

1) Pairing. Identity

a) Greatest Contrast

b) less.

2) Grading Steps.

Colours

S. P. for Colours.

Colours everywhere in M. S.

Frocks, tables, flowers, dusters, beads,

Arith: Grammar: Geom: — everywhere.

Remember — Not to give new colours

Give order, clarity, distinction

ideas.

Presentation (Mrs. M.)

Pairing 1. Small box 2 colours (lid)

2. 3 pairs.

3. Add more

4. All

Gradation. One set (Tray)

2 sets (alone or with friend)

3 . . . . to 9 sets.

Matching By Memory

Different Tables.

Up to great complication

Wonderful susceptibility

Write Down

Naming Exercises

Not simply to teach new words

Aren't New

E.g. Long and short.

Why Then

Same reason as Mahrals.

To Give a new Kind of Order. How to Do It

Almost vestry — Not Casual or Hurried.

An Event.

A Preparation — An Introduction

as if "I am about to impart something of importance"

Slow, solemn, apart. A Priestess at a Rite

(Do it again — An Initiation

Repetition on it — a lot.

rosso verde

So. — that is all —

Much Ado about Nothing. What have we done?

We have Drawn up two words from the Abyss

solemnly linked them with 2 objects

The Word & the Idea.

The Word is a mystery —

a Wonder.

An Intuition of Higher Things

"In the Beginning was the Word"

By it all things were made that were made

So in this little word

The Word has great power.

Sets going a mental movement

which goes on independent of us.

2. Like a drop of crystal in a mother liquid.

a new sense of power & value of words
(Color art) Wordsworth

Touch Boards 1) Touch. 2) Pressure. 3) Stereognostic Sense.
(Intellect – Distinctions)

A whole world to Children –
lost to us. "A Lost World"
Only the Blind can appreciate it.
Why? Partly difficulty of eye adjustment
Partly – S.P. for it
An Immense Urge.
"Don't Touch that or I'll"
Still. Tentacles of opening mind
More than Eye → Recognize letters by Touch & movement

Touch differs from Pressure.
Eg Bare Tablets
The Lightest Possible
Music Critique "Tread!" on piano
A touch – Technique
Important. → S. p. letters
ciphers
geometry

"Over to you"

"Invisible power attends to motion of the
viewless winds
Embodied in the mystery of winds"

Wordsworth

Stuffs.
Sound Boxes.

Bells.

Can regard these in two ways
a) Musical Instrument
b) Sensomotor Material.

We deal only with latter here.
Just like. Sound boxes
Calamus
1) Identity & Control — Pavlov
2) Grading

See Isolation of Stimulus

The Elementary Material

The Sensorial Material

Many Criticisms –
Reason for the Faith that is in us
Also more interest ; & more understanding.

Last Time Body & Soul. –
The Flesh – Muscular System.
Action in & on outside world
The Senses – are Bodily organs
Gateways of Soul.
Sources of our Knowledge of Outside World.
Wonderful gifts. (lose one & you realize it)

Difference Man & Animals
Both Senses.
No Reason. Monkeys and Fire.
Catch monkeys.
Both Start Alike Fascinating Thing is Relation Between R & S
The Universe of the Neo-nato
Prof James.
We must try & imagine it.

Strange new world.

New sensations – new functions.

no idea of uses of things

their shapes

Of the Self & Non-Self:...

No ideas

No memory

no personality

"Big Buzzing Confusion" – Thatness

Simile of Factory-Room.

All Bits & Pieces unrelated –

Immense Jig-Saw Puzzle.

At once Begins to Work. – Reason.

Comparing & Contrasting.

e.g. The Two Men.

Time "Last Night"

Causality "Fall up the Chimney

"I sneezed ...

Juggle & Rabbit

Space E.g. a) The Cow – Have it!
Fall ~~into~~ into Cup.
Tony ~~of~~ his garden
The Doll ~~of~~ the Baby's Chair

The Three Year Old Has Done Wonders.
Towards making Order
Has Jig-Saw Puzzle – in parts
Explorer
Has Archaic Map.

Still a Heavy Chaos.
"Dragon or Dragoon".

But The Order Has Begun

An Inner Creation

Micro Cosmos – Macrocosmos.

The Order in Creation
1). The General Parts
Main Divisions.

2) The Finer Details

3) The Name.

So We see three main division

1 2 3 4 6 7. not Numbers

1 2 4 6 red.

Blue for green etc Colours
but a Colour

Thursday. Days of the week

Still a great Deal of Chaos

Purpose of Didactics S.M. To Create Order
More or more detailed Order.

Eg ~~Space~~ Types of Things Cylinders.
Long Slair.

New order within Reveals new things in Ent

Eg Workman window. — Length

your coat is brown
The sky is blue. } Colour
Your ~~clothes~~ dress ...

Cardinal or Biscuits } Geom. Forms
Workmen cried or Butter

3) Naming Lessons:

Creation completed by a Name.

Intellect works

Comparison & Contrast.

Mind puts things in Categories –
by their alikeness
"Here is your Tea So, an pipe"

In a real Classification

Order Running Thro' Thro Materials

Contrast.
Identity
Gradation } in

Cylinders
Geom.
Colour
Sound
Basic
Bells.

1) Young children – strong contrasts

Begin with strong contrasting elements

Cylinders + Blocks

Principle of Isolation of Stimulus

Examples. – Length.

Colour.

Accuracy Essential

Gradation attracts + interests

The Idea of Size – and Order

The Family ..|.|.|.|.|.|.|.|.|.|. – If you saw them

The Differing Dimensions.

Length. Breadth Ht. etc

Common Factors

Relations a –

1) Members of a Series. /

2) Series to Series.

Looking Forward

1) Knobs – working

2) 10 Decimal System

3) The Unit

4) Metric System

1. ~~Sam~~ Metre.

2. Decimetre

3. Small Cube

Large Cube. / Old Friends Again

Study of Numbers – Their Anatomy

or

The Passages

Revision. –

Usual method. – go on to use nos

A Study of Numbers

of Words – & Relations of

Passion for Counting?

Why?

"Enthusiasm comes fr. having understood something"

Understand first

Then use

A Form of Love

(2)

She takes to Bear Bars
Know them well
A form of love

I know his name yet I intend
to go & see him

That is not true I turn my
back on him forever.—

Sing a song
Dance a jig } what fogy

"Gnaw to nail of history"

One ~~Drabber~~ lesson that let me
learn of this
of Tail increased from tranquility—

Interest in a Material Thing

an Adway

3 1) Interest

2) Enthusiasm

3) Exercises of Patience

A form of love

Importance of these things for

Auto-Education

Take you Arith^c natural to human mind

But you must give it in

the right way.

Reverse

Numbers get cards

Cards get nos.

Always 9. or

Any number up to 1999.

Unlimited Mat

Any numbers _

(1) get _ not more than 9

(2) Ditto Dynamic.

Passages

1) Cards over Each other
Units. with Beads
Tens
hundreds

2) Short Bead Stem

3) 10 + 1 Beads alone

4) 10 + 1 with Board
+ 2

5 10 — 99

6) with alphabets

1	11	20
2		
9		
9	19	90

7) Straight ahead
123 . . . . . etc

8) With Ball

9) Thousand Chain Hundred Ch

Second Bird's Eye View of Dr Sayler

CAFES

49, MUTLEY PLAIN
(Phone 5322 Plymouth)

4, LISSON GROVE
(Phone 5321 Plymouth)

MOOR VIEW HOUSE
(Phone 3801 Plymouth)

CROWNHILL
2, MOORSHEAD TERRACE
(Phone 71424 Plymouth)

SHOPS

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FINNIMORE'S CORNER

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CHURCH ROAD
(Phone 78—3106)

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Indirect attack. 3

Commending to Baby.

The Wicked adult 5

Active Goodness 5

Description a Path.

True Rest – Activity

Description or Activity

Rest to 11 and 8

Good.

Description or Retribution

Ill / Planes of life

Obedience

Stages

Training of the Will

The Will

Not Breaking the Will

Athlete.

Exercise of Will

Examples – list

Good Manners etc

Habits.

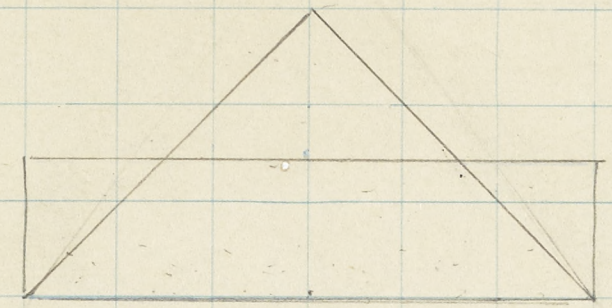
Strong Efforts in

magn of Conscn

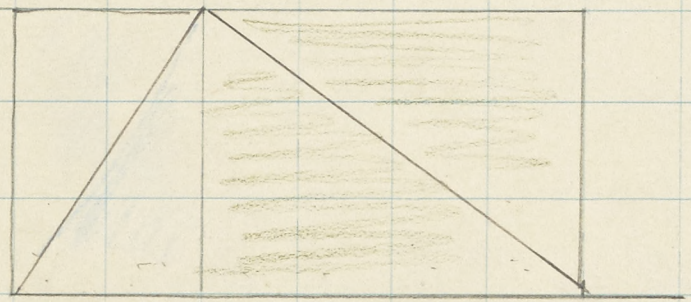
Rest No Action

Will must Act.

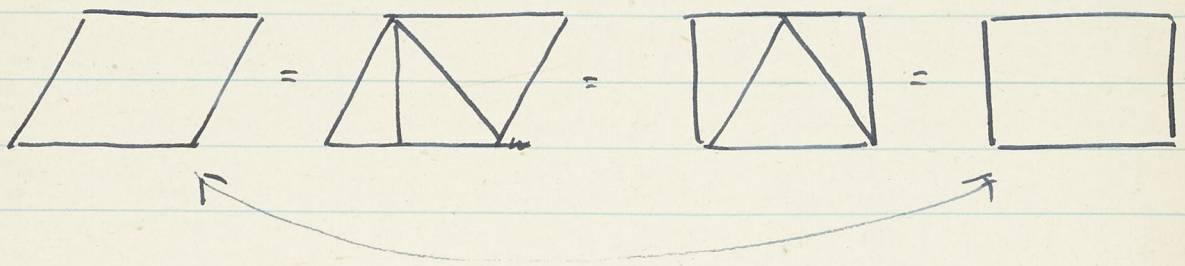
Area of a Δ = base $\times \frac{1}{2}$ height.

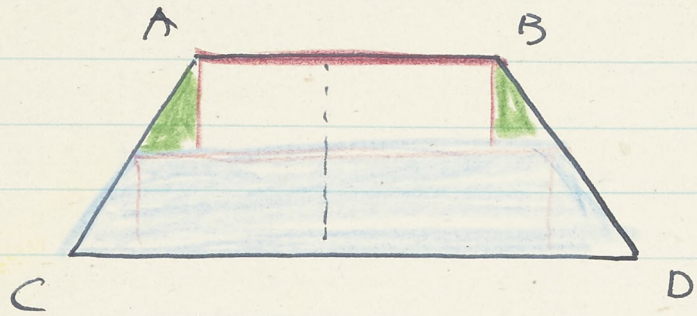


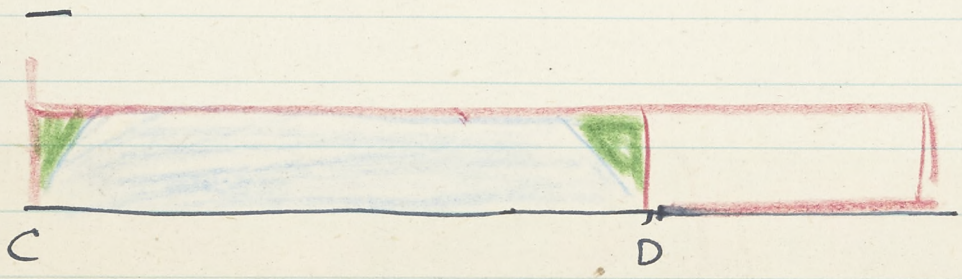
<u>Alternative Proof</u> $\frac{\text{base} \times \text{ht}}{2}$

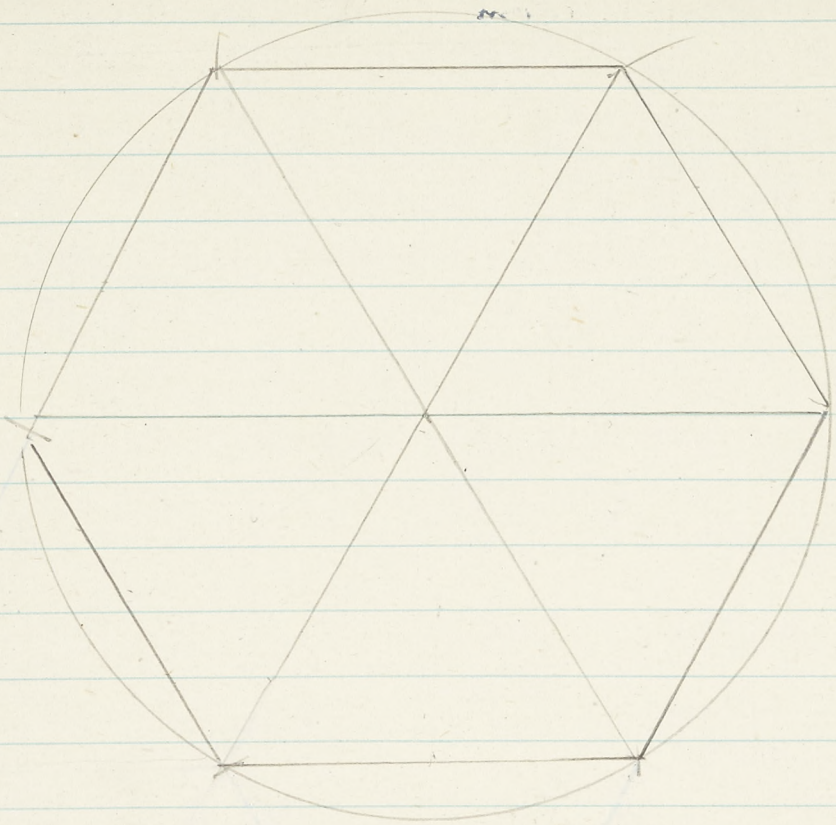


Problems + Theorems



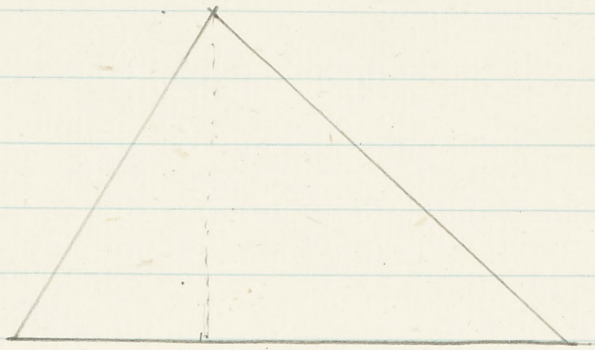




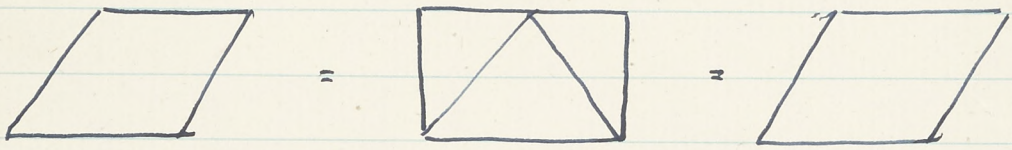


Theorems Based on Equivalency

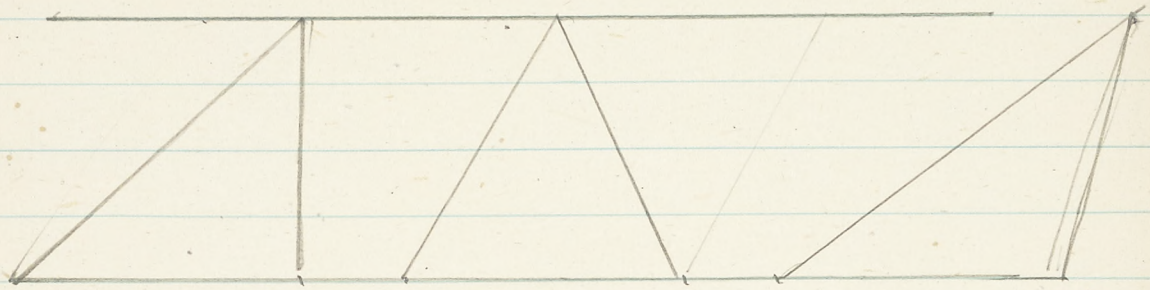
area of



Rhombus = rect. same ht × same base



$\triangle^s$ same base same height =



Refers to past proposition
rhombus = rectangle

Pythagoras

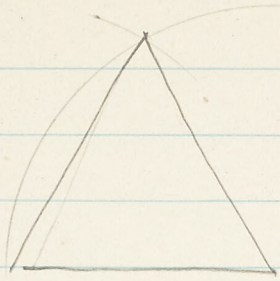
a) b)

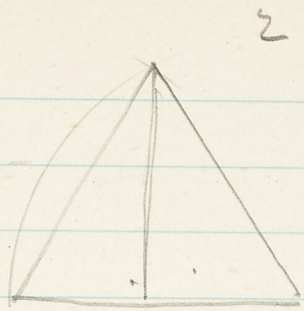
(c) General Case

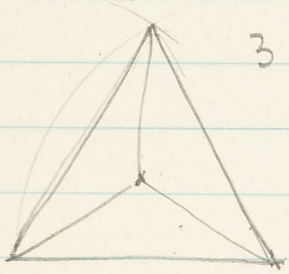
Depends on Two Intuitions

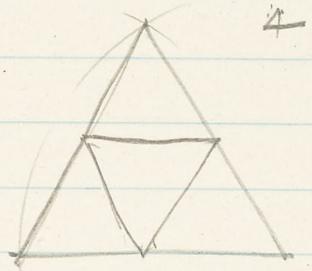
a) Quadrilaterals same base + altitude =

b) Things equal to same thing = Each other
(axiom)









Measure angles. + sides

All Δ^s = 2 rt angles

[Cut out]

Similar Δ^s have equal angles.

Various correspondences

<u>Inscribed + Circumscribed Figures</u>

Thus

Circles + Squares.

Montessori Principles
and The Teaching of Religion

Introduction - The Grail.

Representative Men.

Aristotle; Julius Caesar; St Thomas;
Shakespeare.

Montessori is such an One.

Takes time to reveal it.

The Focus of a New Movement. (Child)

Child in Society.

Examples. Welfare Creche Nurses Sch. etc

A New Age.—

Destruction & Reconstruction

The Child as a Constructive Factor in Society.

The Two Values.

Bees and Ants

So much by way of General Considerations

Religion of Course — The Essential

G. K. C. on Christianity.

Religion does not build on a Vacuum

Supernatural Order based on Natural

Grace builds on Nature

Montessori Movement not a Method of Ed^n 2

A Spiritual Movement

Towards Liberty. — true liberty

~~to~~ Awaken the Soul of the C.

Releases inner, constructive, energies

It develops to the full Natural Faculties

Church cannot neglect

Will not neglect it

How does it develope the Nat. Faculties?

By removing obstructions

St Thomas. — definition

Independence —

Meaning of it.

Every useless and arrests developt.

"Example" "If you teach a child to write, you lay your hand upon the hand & guide it in the formation of the letters"

"If ~~the chi~~ you attempt to teach a child anything you suppress the attention. You give it self-control: a firmness of will: you keep the mind of the child steady & intent upon what it is doing".

3 years experience has disproved that
Montessori has revealed a
New Creed – a different creed
Natural Faculties –
Order, concentration, intelligent
activity; love of science, self-discipline

These are Natural Virtues.
Cannot deny them.

Concourse of the Nat Virtues (Mannion)
Is of immense importance
a) Outside the Church –
Such culture open to the light
minds developed
intelligence active & adept
less likely to remain in
"Invincible Ignorance"
b) Inside the C
Bring a new reality
Absorb Religion in a
more real manner
(less leakage)

E Stect of Ref^n on Relig Training

Emphasis on a Book
on Reading
on purely intellectual ass^n.

Read C. on C. pp 27 – 28
In a word the Liturgy – page 4

The What is Presented by the Church
The ~~great~~ great question then is
How and
Why

St Paul Said :—
Modernism much deeper. –
Doctrine of S. Periods.
3½ – 6. Sensory-Motor
"Impara movendosi"
Child is an Absorber from the Environment
But absorbs.
movendosi
all round la Vita

Liturgical Movement the new Thing
Pius X + Early Communion

Montessori Begins Very Early
In a different way
By movement.
E.g. Geometry } 4½
Writing

So with Religion Begin at 3½ – 4

Not Give Instruction in of Church
Examples.

A Special Room for Religion
Atrium.

A Prepared Environment –
For Acting –
Learning thro. Acting.

What it is not
1) Not a place to receive Relig. Instr.
2) A place for carrying out certain
activities
3) Living tranquilly. Own rhythm
4) Making certain conquests
by activity.

The Altar

Not a chapel – more than a room

Sheer Beauty. – lights, forms, objects } all for Religion

Everything in Front for Devot.

Picture. Statues. Windows.

Experiment in Barcelona

A sort of natural preparation

A Preparation for a Preparation.

Examples –

Walking on line – candles. bells.

Arranging flowers.

Silent Movement.

Silence Game.

C. in C page 7.

Age for Good Manners. Lessons of G & C

S. P. for forming S. M. actions

Love exactness

More than a Measure of C.

So. at this time & place

"What remains is what we take"

Escherment in Baraloma

Neus or Actions.

Genuflexions, Sign of C., Rising & Morning
Silently. Carrying Candles in Processions.

Other Parallels

Colour Tablets.

So Liturgical Colours.

Not a lecture —

The Liturgical Table —

tablecloth, Vases, Flowers

Hangings on the Wall.

So a Specializing of what is done in M.S.
Raising it to Supernatural

Water Basin.

Holy Water Stoup

Water so important in the Economy

Pond — fish — Baptisms.

Silence Game (describe)

Voice calls

Interior recollection

Voice of God.

Before Prayer

The Bells

Gregorian music

The Solemn Eucharist

Escott in Barcelona

Prayer for Little Ones

Two Parts.

Read 11–12

Doctrine

Commandments

On Stone. Statue of Moses

— .... a Command

read 14–17.

~~Laws~~ So a Preparation

3 years Novicial

Living in the Church

Lab Stages

Objects & Frames

Diagrams, Tabernacle

Map of Palestine
Call of Abraham

Composition — Notre Dame
Catechism.
Little Books. — Ind. Work
Tabernacle
Temple
Church.
History

Next Time

Morrison Songs

Geography

(Geometry Geology)

Stages of Development

Stages First Stage 1 – 7. yrs

Subdivisions. Sensory-Motor

Second Stage of C. 7 – 12

Predominance of Intellect.

12 + Adolescence.

Sensorial-Motor Geog

Simplified Globe – Animal / Mineral / Vegetable

1) A whole 2) Details

Models

Land Forms etc pairs + contrast (Examples)

River System springs.

tributary etc

Waterfalls ~~– hard + soft rocks.~~

Running Stream Day + Night

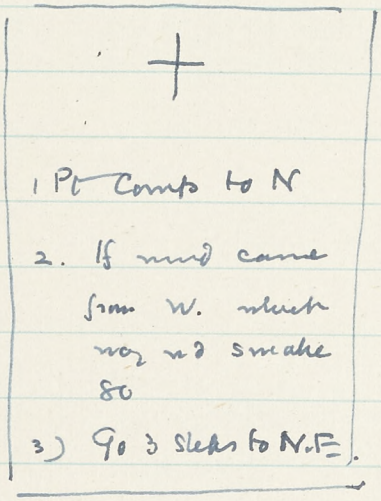
~~Delta.~~ (Hamlet)

~~Also rain. – deposits.~~

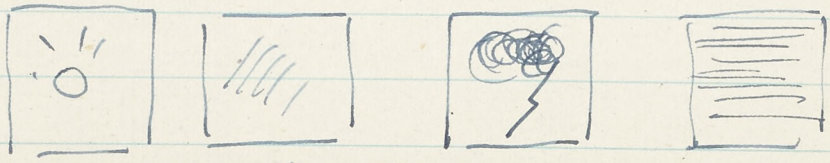
OOOOoooooooo oooo ooo. . . . . .

Carrying Power of Water
Opens up a huge vista
River cause of the valley!

Weather Study
Little Books – Kinds of Clouds.
Winds.
Points of Compass. – (Shadows)
Pole Star.
Exercises on Cards.



Symbol Pictures



Weather Diary.

Running Water

Hard & Soft Rock: waterfalls

Delta — Twin-Lakes

Carrying Power of Water

oooooooo oooo- - - - - - - -

The Key to Geology

& Past

Opens up a Huge Vista

Run & Cause of the Valley

England & Cont. once joined

Alluvial Soil — (Egypt.) —

Fossils.

Key to Past (of History)

(Mr Blakes Garden)

Physiography (Huxley & Green)

Contours — (models) (atlas)

Reading not Slate Memory. Maps

Jig-Saw Maps (warning)

Examples.

Mountains. — wooden

models (plasticine)

Maps & Names

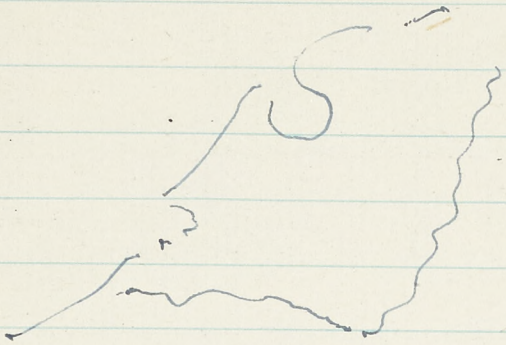
Jig-Saw Maps

Frontiers

~~Borders~~ —

Slips

Box with Cards



Flags.

Names. — mtns . rivers , towns.

Combined with History — eg Palestine

Of Course Books. Examples.

Next Time. Higher Stage

Experiments

Geography

Winds — Edinburgh

Polonius — waste time

"Madam to expostulate w/ d. is d. n-n."

New Stage

Sensory. muscular surrounded

Reason. motor

"Collegamento"

of Fruehel. < Flower in crammed wal
Frances T.

Also Boy Scout Stage — Going Out

Seguin.

Sense of Wonder

Plato.

This Air Invisible Blanket

a real thing.

powerful defends deaf

Exp. I Handkchf

II Holding Up

III Pouring

IV How High?

Siphon Expt

Pressure of air

Bicycle Pump

Tyre.

Room — doors

Weight of Air Keeps it up

Bar & Egg Cup

Barometer.

Hot Air Rising

Dandelion.

Windmill.

Application

Day & Night Breezes

Trade Winds

Advanced Geometry

Principles

Read p. 252

"facilitate c's auto-ed^n thro Ex in Geometry"

Strengthens Reason

Acquires higher & clearer ideas, 253

Results in Abstraction

The Two Supports quote 253

Imagination ?

Designs

(a) in Paper

(b) Drawing – Ruler compass protractor

et

Geometric Fabros. Example

"one last doll & a box of compasses"

Reading aloud. – 299-30

Artistic Designs.

Examples 301 – 302

and Book

Combination of Geom. & Artistic.

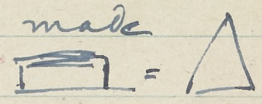
Fraction Cards

First Series Squares + Divided Figures
rectangles + Δ^s

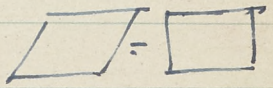
Second Series Factors (Segments)

Third Series Problems with Equivalent Figures
(in cup. corner)

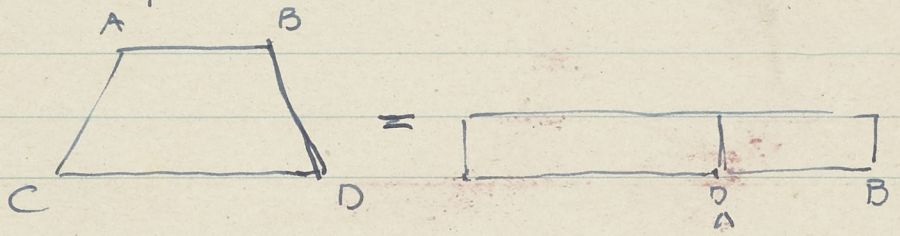
① To show a Δ = to rectangle made of base × ½ height.



② To show that a rhombus = rectangle with side × height



③ Trapezoid

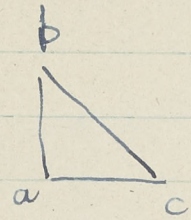


④ Area of a Decagon = ½ perimeter × height.

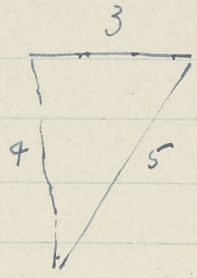
⑤ Triangles with same base + altitude are =

Pythagoras

3 Cases

① 

$= ab \cdot bc$

② 

ⓒ General

Fourth Series

Division of Triangles

Fifth Series Inscribed + Concentric Figures

Same as before

+ Squares + Circles.

Money Sums

Weights & Measures 1

Income.

Stamp Game 2

Cube Root

Geography

Land Forms

Jig-Saw Maps. (Asia) 3

Other Maps.

Circulation of Winds

1 Except Stanor (Water) 4

2 Stove.

3 Bicycle Pump.

4 Circulation

5 Siphon Wind System

1) Trade Winds 5

2) Day & Night

(Columbus)

Currents of Ocean.

Monsoons

Cyclone.

Showing Photos — M. Hanlin. 7

Literature 8

Music 2

History

Revision.

Science 6

Sowing the Seeds of Science

Examples.

Magnet. ~~filings~~

Compass make

Marinus Compass.

Points of Compass.

How to use.

Pin hole Camera

Lens.

Sound.

Epochs of Develop't

0 — 12 Individual —
Development of function
Independence
12 — on Social Devel — Personality

---

0 — 6. Prevalence of Physical Dev't
Sensory - motor . impulse to movement
6 — 12 Prevalence of Intellect^l Dev't

Prep^d Envt

Furniture.
Motives for Purposeful Activity
Sensorial Materials.
~~passing~~ up to ——

Ordered activity — leading to
Independence.

Sense Training

Incarnation of Man

Ex of R Lee

1) ~~Contrast~~ Case of Emot

2) —— person

3) Social relations

4) Control of Movement.

Line.

Silence Same

Music.

Order — Elimination of Unnecessary

Limitation of Materials

Place for everything

Cleanliness in room & materials

Ex of P. Life.

Control of Error — Light weight

" Colour

" Fragile. (Punch)

Examples

Pouring Rice

Washing hands

Folding cloths (line)

Carrying Chairs & tables

Laying Tables

(mature for perfection)

Doors.

Keys & Cupboards.

Flowers & Scissors Vases.

Social Relations Ex of G & Cauday

Bowing · shaking hands
Offering something to another
Inviting in a visitor. –
"Well you take a seat"
Making way for someone to pass
Picking up a fallen object.
Telling right a mistake
Accompany another
Begging pardon
Passing without disturbance
Waiting – – – –
Blowing nose.
Avoiding touching people

Walking on the Line

Silent Game

Literature

Shakespeare.
Chaucer – Stories
Don Quixote.
King Arthur.

Myths Greek Myths
Something mysterious about them
Correspond to something deep
in our nature
Ancient racial memories.

Eg. Apollo – Phaeton.
~~Daphne~~. Clytie
Daphne.
Arachne. ———

Literature (Contd.) Poetry

You all know. Ch. love poetry
Nursery Rhymes.

School. Method used
1) Cards.
2) Books
3) Reading aloud.
4) Concerts.

Onomatopoeic

A Deeper Understanding

For the Masses p 375.

Study a) Counting Lines in a Stanza
Couplet
Quatrain Octave etc

b) Rhymes
a) Colamico Pennels
b) ab, ab, cc etc

c) Rhythm

Tonic accents.

Read page 377

Ta-ta-ti

Verse – Turn.

Material 1) Sheets copied out

2) Cards with signs.

Trimeter, tetrameter, Pentameter

Hexameter Heptameter, Octameter

English Poetry + Feet

iamb	between
trochee	fáther
anapest	~~distrust~~ disrepute
dactyl	wónderful

The Boys in Prep

~~Pone Lugt~~

Quadra pedentarum sonitu quat. ungula

Involvens umbra magnamque
carumque

Dicæ declinge genlam rapo ~~quis~~

By the margin willow veiled
Slide the many boats trailed
By slow horses - an unhailed
The shallop flitteth silken sailed
Skimming down to Camelot

The fair breeze blew, the white foam flew
The furrow followed free
We were the first . . .

Multiplication

Activity Method.

3 children
2 sweets each.

Unnecessary complication

Give 1) activity (individual)
2) cleaners
3) discovery.
4) achievement.

} enough.

A Few Examples from Life – if you like

3 bus tickets at 4.d
4 rail. " at 5.d

But to Process. 2 times.

1) The Paper.
2) Board
3) Discs.
4) Match.

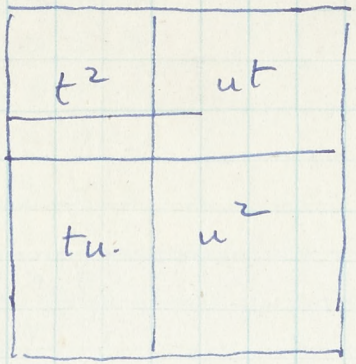
A Point of Contact

Next Table ?

Keep " My Tables

B & C. July 17th

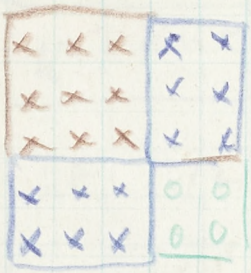
$(t+u)^2 =$



~~Colo~~ Colour In.

Dimens.

10, 24



729

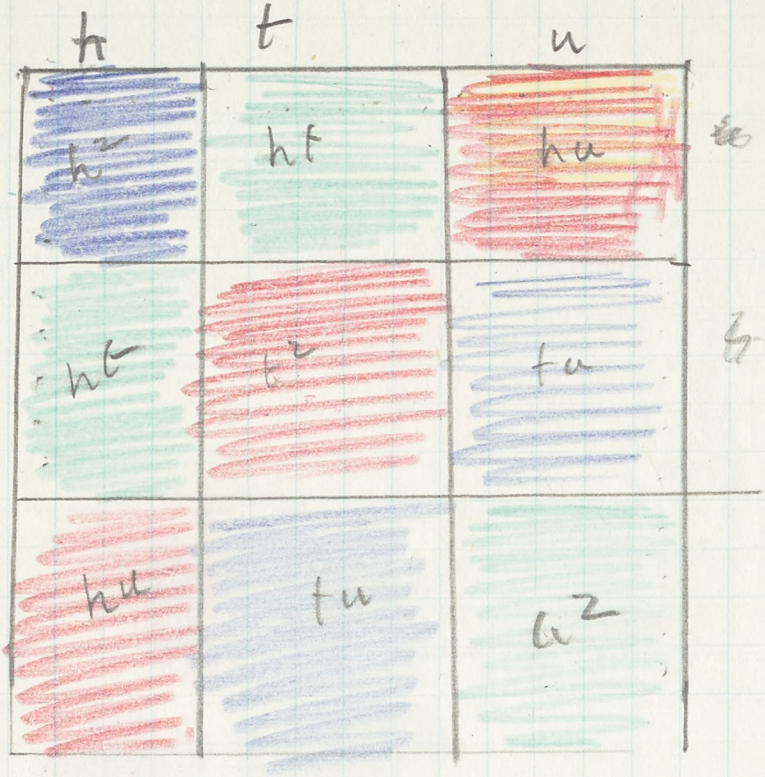
Take 900.

$a + b + c =$

$h + t + u =$

h^2	ht	hu
ht	t^2	tu
hu	tu	u^2

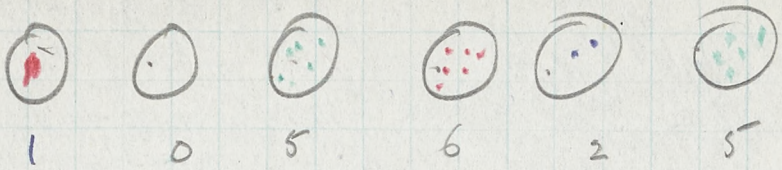
Same in Colour

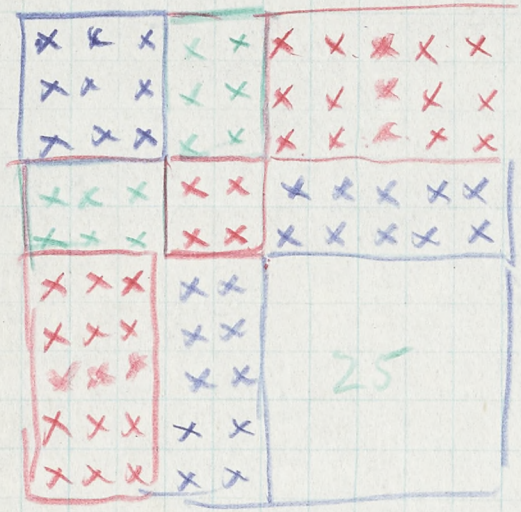


Scale Squares u. h. Tofl.

$\sqrt{105625}$

$\sqrt{123201}$


1
0
5
6
2
5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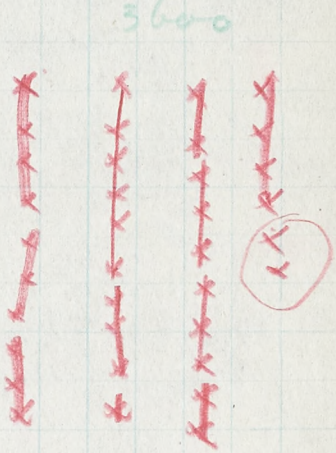
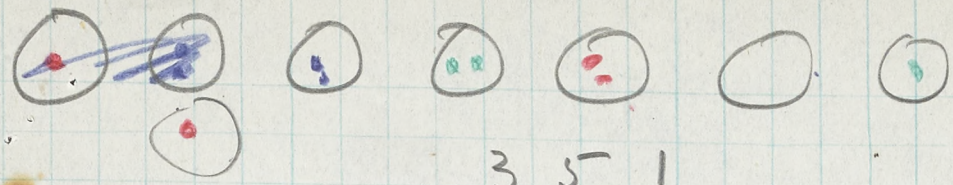
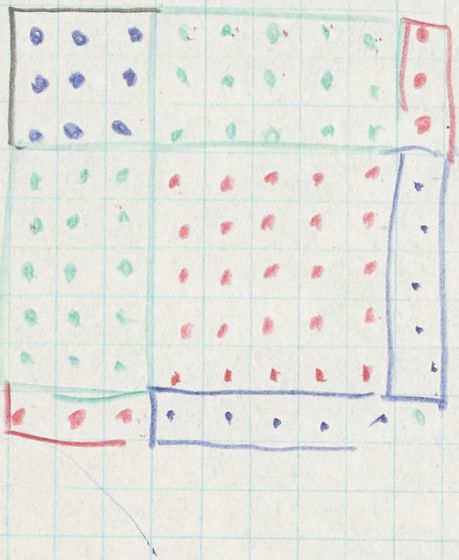
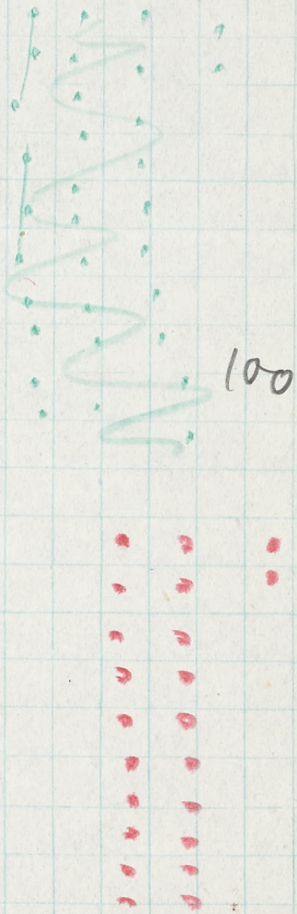

3600

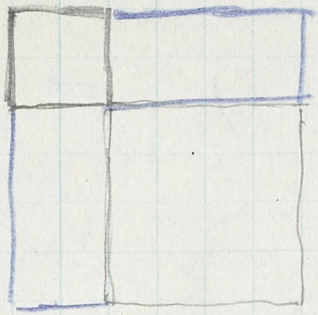


$$
\begin{array}{r}
351 \\
35 \\
\hline
35 \\
1755 \\
1053 \\
\hline
12,2,01
\end{array}
$$





t^2 $\quad$ $4t \times$



$$\begin{array}{r} 576 \\ 2 \\ \hline 4\,)\,176 \\ 16 \\ \hline 160 \end{array}$$

h	t	u
h^2 ~~12000~~	ht 6000	hu 800
ht 6000	t^2 900	tu 120
hu 800	120 tu	u^2

$$\begin{array}{r} 234 \\ 234 \\ \hline 936 \\ 702 \\ 468 \\ \hline 54{,}756 \end{array}$$

$$\left.\begin{array}{r} 200 \\ 30 \\ 4 \end{array}\right\} 4 = \begin{array}{r} \cancel{800} \\ 120 \\ 16 \end{array}$$

$$\begin{array}{r} 230 \\ 230 \\ \hline 69 \\ 46 \\ \hline 529 \end{array}$$

$$\left.\begin{array}{r} 200 \\ 30 \\ 4 \end{array}\right\} 30 \quad \begin{array}{r} 6000 \\ 900 \\ 120 \end{array}$$

$$\left.\begin{array}{r} 200 \\ 30 \\ 4 \end{array}\right\} 200 \quad \begin{array}{r} 40{,}000 \\ \cancel{6000} \\ \cancel{800} \end{array}$$

32
32

27
27
189
54
729

Revision

Various Xn "Games"

Last one Piles of Nos

Introdn to Factors

Already seen it in "Sharing"

Parallel Exercises

Friends of Nos p 178

No walk-light compartments

No lineal order

Exploration - discovery - interest.

1) Concrete

2) activity

3) individual exploration.

Dividing of Nos
Factors
Prime Numbers.

No such names

Do Experience first.
v. young

Then do definitions.

Baby born — two named.

Exspl Take 12.

Then 24.

Then 36

Then Find Highest C. Factor

Prime Nos.

Systematically

1		
2		
3		
4	2×2	
5		
6	2×3	3×2
7		
8	2×4	4×2
9	3×3.	
10 etc.		etc

~~Ist~~ Game

Squared paper

Make 2×6.
4×4
3×10
5×2
3×3

Rectangles and Squares

Appraisal

Write down no (constant ~~of~~ error) without counting

Study on Squares (a)

Make them.

+

Write out —

Cut out.

Study of Squares

Make em "growing" —

Then see. $3^2 - 2^2 = 5$

$4^2 - 3^2 = 7$

etc

go on — do it

& find out

The **Law**

Phillips Law

$(n+2)^2 - (n+1)^2 = (n+1)^2 - (n^2) + 2$

Fractions (Vulgar) 1

Introduction

Division with Integers

"Biscuits" 10 ÷ 2

~~Only 1 Biscuit~~.

Only 1 Thing — Scissors
~~Doll~~.

Toss for it.

But a Biscuit or cake or choc

Break it.

Do So — unequally

Not Fair

Must Be equal

If 4 people

4 equal parts

3 people 3 equal parts

Marzipan 12 Paper 9x10 16

Must always be equal? (2)

Yes.

One Exception

If you divided so
Each would get as much.
Impossible.
With man
Not with God.

The Blessed Sacrament
Corpus Christi
St Thomas

says
Facto sacramento
When you break the Host in
twain do not doubt that
in each part remains
what was whole before

Thus a miracle

Fracto sacramento

Fracture

Fraction

Fractum (lat.) : Broken.

fract o
fract ure
fract ion

So when a single thing - must - is broken into equal parts you get fractions

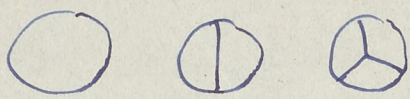
Examples

Pasture
Chocolate
Paper.
Match

"Share & share alike"

Metal Material

Show it-



1 2 3 4 ..... 10 Equal parts

Must we stop there ?

Cand we go on.

Yes ?

How far ?

Atoms

Come Back To Study on Examples

Names

halves
thirds
fourths (qu)
fifths
sixths
sevenths
eighths

ninths
tenths

elevenths
twelfths

twentieths

Practice Practice Give out names

Get me one fifth.
2 ninths

etc

(A) How to write fractions (Board - Diagram - E.g.

Two things to show. —

a) what they are - names —
halves, Tenths, hundredths etc

b) How many taken.

Show Diagram

Give out slips (a) $\frac{1}{10}$ $\frac{1}{5}$ $\frac{1}{7}$ etc

Give out slips (b) $\frac{2}{5}$ etc.

Example

Divide up Circles + Write

Give out.

52

~~52~~ 364

~~182~~
~~13~~

52
7
364
26

234
176
1404
1638
234
411 84

26
15
130
26
390

Fractions

"A fracture"

Equal parts — Divide Biscuit into 2 or 4 parts

Equal

---

advals Eg.

Application — Conclusion p 41

43

~~Resumé~~

Fear of Drying up 46

Mine when Stop in Time 46

~~Apparatus~~ 47

Resumé 48

Nov. 9th

Teaching Notes I 48

1

Importance of Preparation in Life

Not the actual crisis
What leads up to it.
War : business : everything.
Organize yr resources.

So In Teaching

Two Kinds of Preparation

a) The General Course
b) The Lesson - Unit

Mostly the Lesson Unit — but still
Other important.

Say 4 lessons in Hesley or N. Study (!!)

1) Connect up with previous knowledge
2) A general Proposition
3) Gives Time to look ahead
4) Arrange correlation —
(Project) museum
5) Time for "Summering"
6) Age

Social Life in M. Ages

Travelling — Amusements
Edn. — Military - Chivalry
Monasticism — City Life
The Castle (Feudalism) — Costumes

Which are you going to choose?

1) Pupil Actors
2) Interest.
3) Age and Sex.
4) Materials to hand.

Also: —

5) Do you take in handicraft
6) In Literature —
7) In Religion

Travelling

So different
Chaucer's Pilgrims
Falstaff. at Gadshill
Pilgrims in M. Ages.

Monastery

Diagram. — names (slide)
important factor. — Hospitals
Schools
Farms.

Suppression of

Chivalry (Cheval)

Ed^n of a Knight.

Page : Squire : ~~Squire~~ Vigil. Knight.

Examples – Godfrey & Baudilar

King Launs (St)

Rich. c. d. lion

Tennyson. Idylls

The Lesson Unit

See Diagram

The Herbartian Steps

Preparation

Presentation

Association

Generalisn

Application.

P.T.O

A great man –

Too prey intellectual

also skills + aesthetic.

Aim Clarity. Precision.
Remark. "Dewlope vocabulary"
Poem.—

or To Teach use of Inverted Commas

or. Bx. Norman Conquest.

or. The angle in semi. is a rt angle

" The First Intro^n to Lars Porsena

or Life-history of a Frog.

Sometimes Nothing New

Eg. We will go on with
Exercises on areas
or. percentages

Simply consolidating ~~[illegible]~~
the ground of last lesson.

Go on with Julius Caesar
Act III Scene II.

But even there (not straight in)

Class. Av. age
III C. 40. 8-9.

This is ~~mighty~~ important

especially for the Inspector

You may have prepared an excellent lesson for Sys. abs
and
a bad one for Greens.

or Vice-versa

Introduction

1) The new name seen same day

2) Avez que petit

stir up ~~to~~ mind to receive
expectant state
attend. — ~~learn~~ stretch

Reception Committee

Eg Preparing Mind. King Lear

Shakespeare Play

Characters.-

"Toby's Plot"

Question (sub)

or

Verbally

Preparatory Map on Board

(getting to work at once)

"Gather together shards of last lesson

or

Prepare for New Subject

Eg Life Studies of Frog

Get a frog.

picture

"Ever seen one

Caught one

Baby frog?

Aren't Bones as Babies

Frog Spawn

Where do you see it?
In water
What like.

Why??

Why in water not on land?
Why in jelly
a) warmth — of Sun?
b) protection
to fishes

Then go on — to next stage

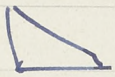
Development
Here the important thing is
how you are going to
proceed.
Remember
1) Desubline
2) Invention.

So By Questions if possible

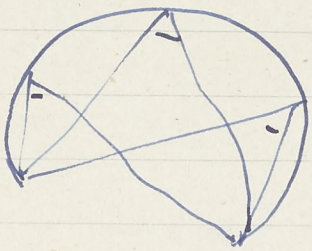
Only experiment

Value of Manuals –
Individual work.

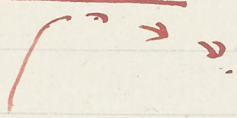
E.g. Three angles of a △

The rest. □ = 

Don't tell them



E.g. William at Hastings

The arrows 

What name you have done?

Wellington at Assaye