

	No	Q	Y
W. Bates			
W. Bird			
W. Mills	2	2	2
W. Thompson		2	2
Miss Jones	4	4	
Old Exchange C. A. B.	2	2	2
New Exch. - Ref.	2	2	2
Scam. - P.	2	2	2
Globe - P.	2	2	2
East St. - W.	2	2	2
W. Thomas	2	2	2
Coffee house East St	2	2	2
W. Munnery	12	12	
Doctor Gray	6	6	
W. Maxwell C. A.		2	2
Miss Crothwaite	3		15
W. Munn	6		

W. White Book. - 3 ⁵⁷

Demo. G. B. G. Pitt

W. Cranthus. - 3. ¹³ Gall.

at Mr. White. G. 2: 2. 2

W. L. White G. Proe

Annals

To calculate for Mr. Baskley
the time when the globe is
crossed the upper & lower Mer
for the lat. 100° by Oct
& half of Nov.

N. Graham to *P. B.*

Gen. Tickets

To W. Seg.	3	pile
To W. Vitrack	1	pile
Miss B.	2	Boxes
Miss M.		

Gen. Tickets

Lord Mayor	2
Mr. Jenkinson	1
Mr. Leet	1
Mr. Fellows	2
Mr. Elcock	1
Mr. Ferguson	3
Mr. Thomas	1
Doctor Robt.	1
Mr. Genda	1
Mr. Norman	1
Mr. Neavon	1

Mr. Murray	_____	/
Miss Black	_____	/
Miss Jones	_____	/
Mr. Clark	_____	/
Mr. Bell	_____	/
Mr. Boulger	_____	/

Mem: respecting the
lecture in Capet at 20/100

Zink filings

Air Gun Mag. exposed
two Casks and a tub
Large Glass Jerned
Exploding Defect.

Glass Bacon

Silger water machine

Marble

- Air Gun Magazine for
an exploding bottle -

- Magnet - Amber

- Paper matches and
wood chips

- 1 Lit of red Lead -

Corks - vitt. filings - tub
funnel - pipe - clay -
air pump - large jar - diving bell
Bird - Air Gun - Balls -
Board - Pillar - Twine -
Wires for telegraph -

Exp.

+ Fill a bladder with $\frac{1}{2}$ Inf.
and $\frac{1}{2}$ pure air for soap bubble

+

Lewis Jr -

1. A telescope with two convex lenses mounted to objects with three or four inches it -
2. A piece of white cardboard first applied as a hygrometer by Mr. Will. Mollayreux the head of the wildcat by Dr. Hook
3. Pelts for rosin and turpentine are all produced from the same tree the pine 1 By paring off the bark the sap runs down into a pit or gutter for it at the bottom this is afterwards strained thro' a green basket what passes through is turpentine

what remains in the basket
 they ~~put~~ temper with water
 and distil, oil of turpentine
 comes over and rosin remains
 in the Alembic or retort.

The stalks of the tree is cut into
 large chips and burnt in a
 close case covered with tiles
 a black thick juice runs
 down through a small hole
 in the bottom. This is tar
 which is afterwards purified
 by boiling and then it is
 pitch.

1. 2
 1. 5

900
 7200 53
 60
 16 500

4. May not the ear be af-
fected by instruments to an
equal degree as the eye
— A sound by reflection may
be put — it is rather weak
may be made to vibrate
long or a whistle in a wind
pipe — might not the con-
struction of instruments be
being unable to con-
vulse with a sound as a
vibrance without a per-
petual in the middle being
any thing of it

5. Is it possible to receive
the sound by a wire
specimens?

6. The lower people
about Archangol suspend
the cradle on a Springy
stick which gives it a per-
pendicular vibration. They
mother suckles the infant
with milk put into a
cow's horn with a small
bit of sponge in the point
This is suspended over the
child's face which it
suckles like the nipple
when it chews.

7. The Elephant arch
is not so strong as the
circular. In this arch
there are three centers to

which the Douglasses are
discussed.

8. The best piers are from
 $\frac{1}{4}$ to $\frac{1}{6}$ of the span. To
determine the piers in
every case is one of the
most difficult problems
in the theory and practice
of bridges.

9. The English carpenters
make their oak scantling
rather larger than those
of pine, give the reason?

10. When the sables are
large the pitch of the

roof may be less. A
low pitch more exact: *pitch*

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Experiments

Atmosph: Air

1. Receiver on the air pump
2. Hemispheres
3. Bladder
4. Wood-Langi: Defects
5. Bell in ~~vacuum~~ Vacuum
6. Air Gun
7. Beer
8. Wood

Owing Bell.

1. Making road for
2. Expt. with the mouse
3. Paper very small
4. Pure air sent down

Observations.

See to left work

and air

extinguishes flame
poured from one jar to another
poured on a candle
Pyromont Water

Quing Bell.

1. Made of wood &c
2. Expt. with the wood
3. Paper very small
4. Pure Air sent over

Observations.

Was to light wood

Fixed air

1. Extinguishes flame
2. Poured from one jar to another
3. Poured on a candle
4. Pyrmont Waters

Depthlog. Air

1. Paper immersed in a jar
2. Strip lighted —
3. Metals melted —

Man — Explore well —
Diving Bell —

Inflam^t air

1. Candela Philosophica
2. Fired on in venting a jar.
3. Mixed with common air
4. ~~_____~~ (Diph^t. air)
5. Soap bubbles fired on
the surface of the water
6. Soap bubbles with inf
air fired in their ascent.
7. Soap bubbles with inf
mixed with Diphlogist^o.

Observations on Sulphur

1. When pure Sulphur animals and extinguishes ^{itself}
2. When mixed with Air, forms air flames and burns
3. When mixed with a greater quantity Explodes —

Ballon —

- Silk prepared
with drying oil - Litharge
- with Elastic Gum -
- Seams secured -
- Ballon filled -
- Apparatus -
- air passed thro' water -
- use of this -

Fin Balloon —

Causes with various in - ground
thaw - Praying - summit

[Faint, illegible handwritten notes]

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6. Bat. yards of silk
 Silk @ 20 = 125.66
 wt. of silk at 42 Lib
 14 3/4 to 19.9

1 Cube foot
 fr. Iron ~~400~~
 403.929

32359 Cube ft.

fr.
 20 Ounces with 10 lb wt
 10 to 15 lb

Balloon.
 Calculations.

1 Gall. J. a. = 6 grains
 1 Gall. A. a. = 60
 No. of A. of 1 Gall. 54

1 Square yard of silk
 prepared for 2 to 4 ounces
 Hence a Balloon
 20 feet

wt. of Balloon. 42 Lib
 additional wt 5
50

Atmosp. a.

Imp. air. 290
 Oxygen 50
 Wt. Ball 240 or
 P. Menn 230

+ Height of the Wind:

— Inf. air to 5 or 10 miles
— Moves with the atmosphere
— No Balloon can exceed this
— but probably not above 4
— or five miles

+ Figure of the Balloon

Globe half filled at the
surface would be whole
filled at 3 miles.

Hence the reason why a
balloon ~~cannot~~ ^{must not} be filled
entirely —

+ Balloon's Descent —

inflant. ^{to} air escapes.
Descent gradual —

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- + Gallery or Basket
- Hangs by a netting -
- Ballast - Tube Valve -
- Command with regard to up and down -
- + Moves in the direction of the wind -
- + Attempts to steer the B.

1. Firing of Guns. -
2. Eclipse -
3. Rudder and Sails. -
4. Gun-plate - Anchor

-
1. Guns require a great ball
 2. Eclipse would not produce the effect
 3. Rudder and Sails will bring the Balloon faster to Linnam -

+ Resistance against the side of
than the head of a ship.

To render the Experiment simi-
lar - place the ship in a current
in a calm and by a sudden the
current on each will push her
against the other. -

+ Pass in a calm may
move the balloon a little
but will be of no service -

+ Circ. can effect small. -

- Acromantic Thariot -

Memorandum for Mr. Smith

Uses of the A. P. -
Magnus - Microscopium

1. Examine the state of the At.
Elect. state - on various
Vegetable subst. - heat
and cold - Currents -
Height of the clouds. -
2. Survey of a country - an
example's camp - Garrison
3. Signals for moving war
at night -
4. Light houses -
5. Beacons in case of an invasion.
6. Tops of high mountain
sometimes inaccessible but
now so to the air path
- Forest - Some may see in
var. support help -

7. Ferry boat - rapid river
8. Volitudⁱⁿ -
9. Maguholes - stuples
10. Caravan of goods -
11. Trip to Sutherland. -
40 miles in an hour. -