

YOUR CHALLENGE:

You are the lab research assistant to an amazing scientist, Dr. Zingozango. What's not so amazing is how forgetful he is! Your top secret laboratory is underground. The doors will lock in one hour and stay locked all weekend. However, Dr. Zingozango can't remember the secret codes to unlock those doors. Good thing he's hidden cryptic messages around the room to assist you. A series of puzzles stands in the way between you and the outside world. Demonstrate your knowledge of measurement so you can escape in time!

Open the Google Form

<https://forms.gle/EeGtAstkRkG4uNBV9>

Keep the google form opened then
continue to the next slide



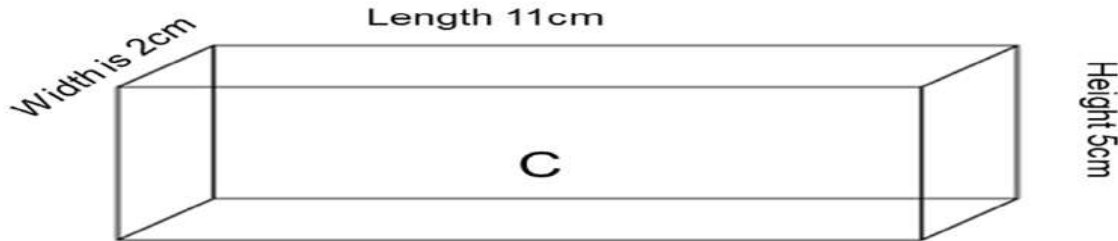
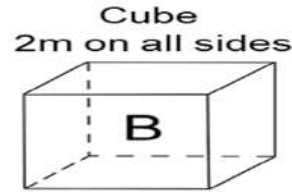
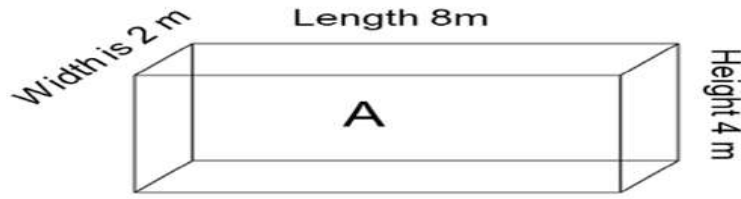
Dr. Zingoango,

Congratulations on getting a new lab research workspace!

Please calculate the sum of the volumes and let me know which one will fit into your laboratory workspace the best. I need to place the order soon because you have top secret data that we need to keep confidential.

Sincerely,

Dr. Gregory Saling



A ____ B ____ C ____

Return to
the Google
Form and
complete
the first
question

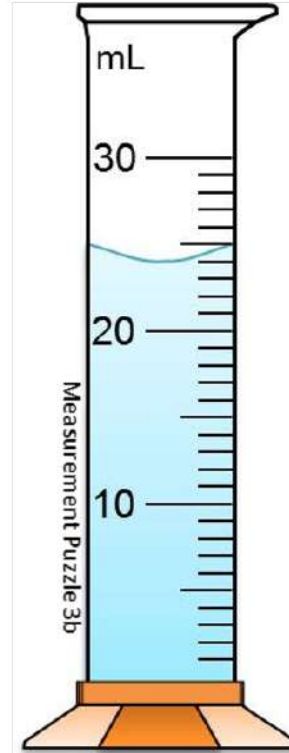
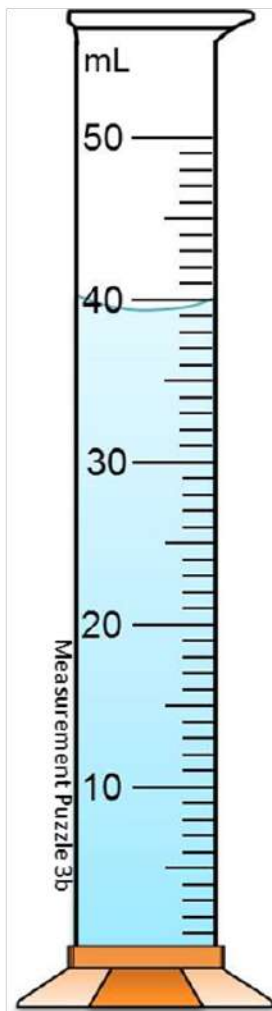
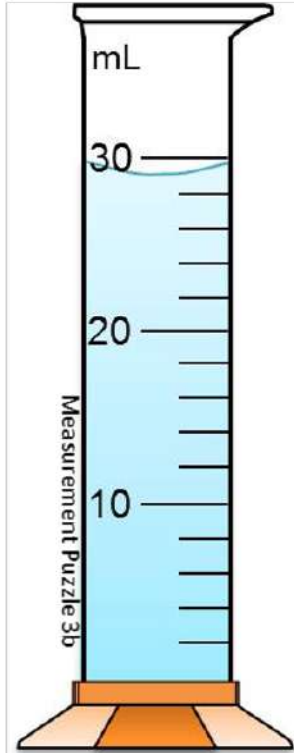
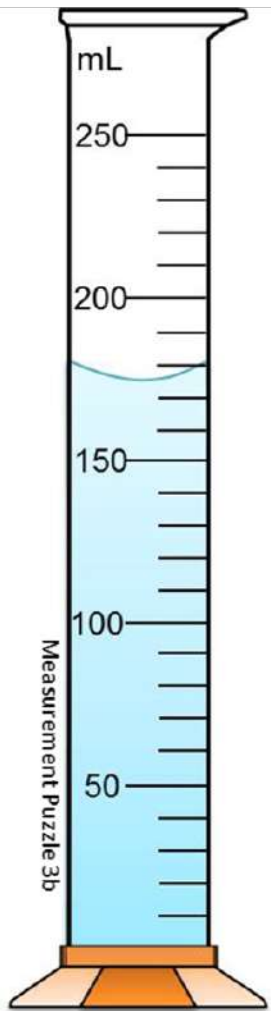
Jigsaw Puzzle

Complete the puzzle on the site:

<https://www.jigsawplanet.com/?rc=play&pid=2a46bbea1ee6>

Return to the Google Form and complete the 2nd question

three-digit code.
the
sum of the readings is
measurements. The
Then, total up the
graduated cylinders.
volumes of the
Read the four liquid
scales:
How to open the



Return to
the
Google
Form and
complete
the 3rd
question

Measurement Puzzle 4a

Convert the metric measurements using the provided conversion chart. The code will be highlighted by the 4 bold boxes.

Metric Conversions

A. 3.4 meters = mm

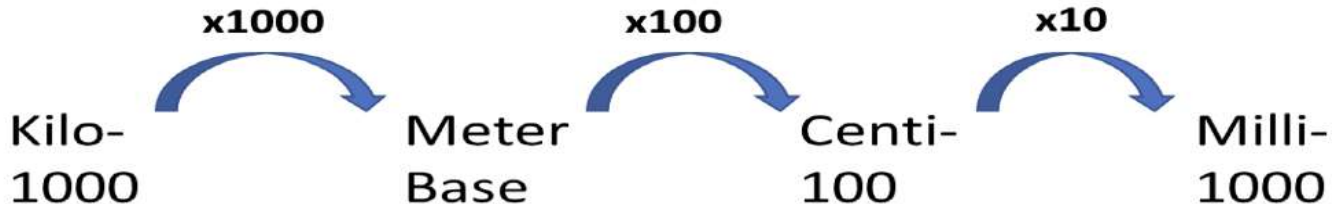
B. 336 cm = mm

C. 745 mm = . cm

D. 6540 m = . km

Measurement Puzzle 4

Return to the
Google Form
and complete
the 4th question





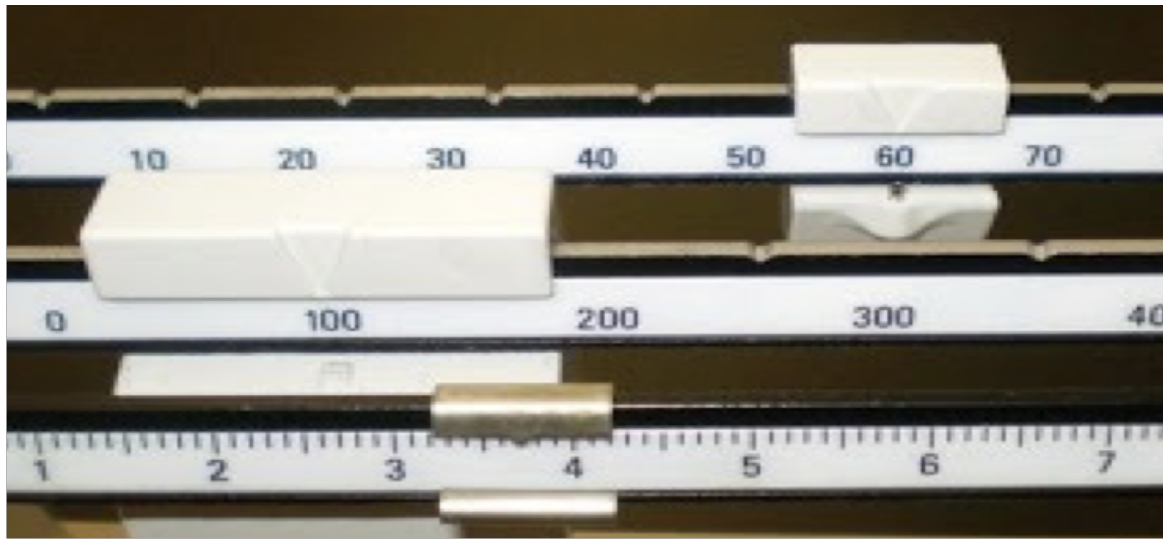
Important Notice

Determine the masses.

Then, calculate the range and round to the nearest whole number. This will open one set of doors.

Measurement Puzzle 5a

To find the range,
subtract the smallest
number from the
greatest number

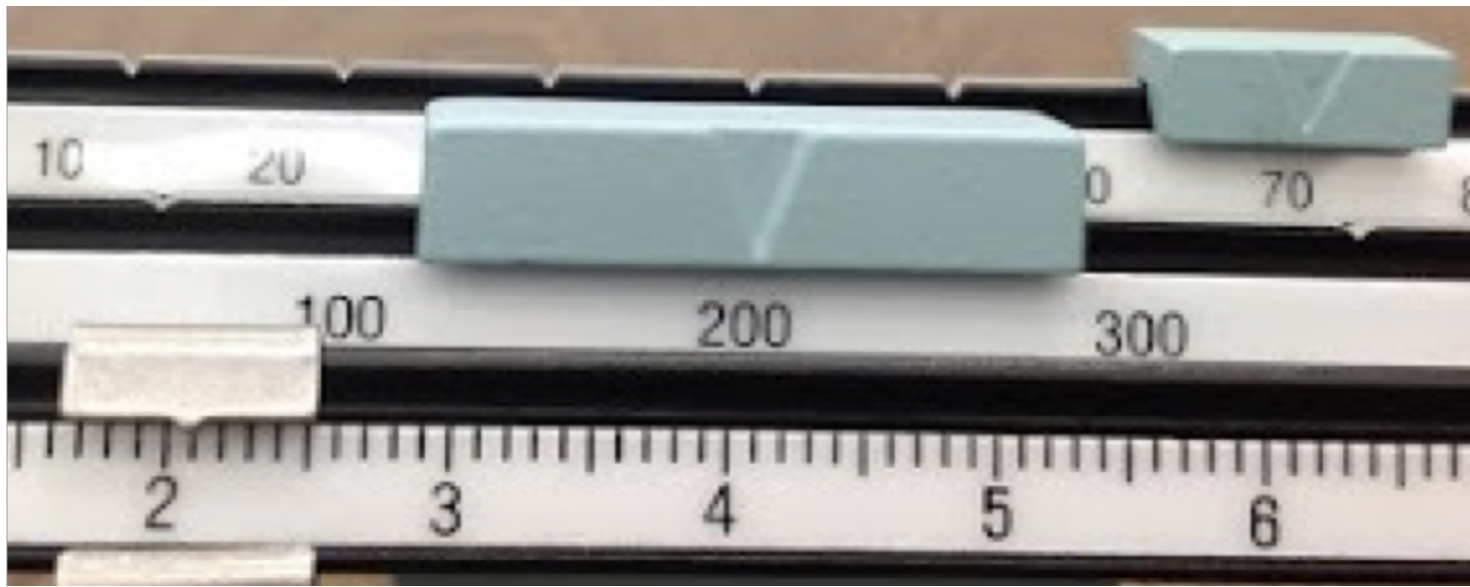


Slide 1 of 3

Question A

What is the mass?

- 1) 164g
- 2) 163.7g
- 3) 103.7g
- 4) 63.7g

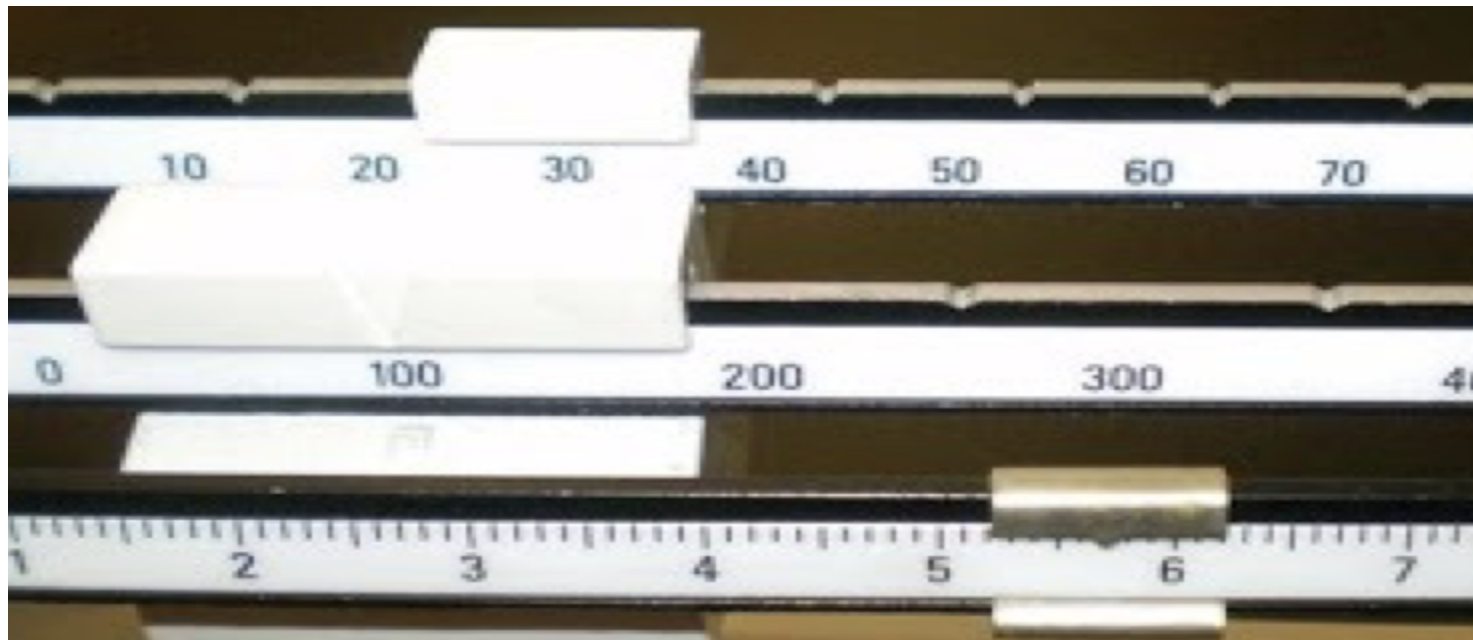


Question B

What is the mass?

- 1) 272.1g
- 2) 272g
- 3) 270.2g
- 4) 202.1g

Slide 2 of 3



Question C

What is the mass?

- 1) 136.7g
- 2) 135.7g
- 3) 130.5g
- 4) 105.7g

Slide 3 of 3

Return to the
Google Form
and complete
the 5th question

S	W	E		C	A	R	D	S	e	e	d	r	o	n	e	d	e	o	o
N	S	S	K		C	D	S	e	s	n	o	o	n	i		r	o	n	r
A	N	A	S	K	A	R	u	p	n	o	p		n	i		r	e	n	i
N	E	T	A	S	p		u	r		s	n	i		r	e	t	n	i	e
S	W		T	p	u	p	t	p	u	p	e	r	e	i	e	t	t	t	e
W	E	R		u	t	n	t		u	r		i		r	t	e	t	r	.
E	R		T	n	t	n	u	n	t		p	t	e	l		l	e	H	T
R		T	K	u	o	u	o	u	n	t		u	p			h	I	W	S
	T	A	S	o	C		C	o	u	n	t		u	r	l	c	W		S
T	A	D	R	C		.		C	o	u	n	t		h	c	a	I	W	I
A	S	C	A	R	.	S	.		u		t	p			h	e	L	B	E
S	K		C	A	R	D	S	.	p	u		u	r	e	e		L		B
K		C	A	S	D	S	C		p	p	u	p		e		r		B	E
	C	A	R	D	S	.		p	s		p		r	e	r	o	B	E	C
S	D	R	D	S	.	o	u	s	e	r		r	e	r	o	f	E	C	O
.	S	.	S	.		C	o	p	s	e	r	p	r	o	f		C	O	M
	C		C		C	o	n	o	p	s	e	s	n	s		s	O	M	E
u	o	C	o	C	o	u		n	o	p	s	p	o	n	s	e	M	O	D
n	u	o	u	o	t	n	t	s	n	o	p	o	n	s	e	s	E	C	O
t	n	u	n	u		t	s	e	s	n	s	n	s	e	s	U		C	O
	t	n	t	n		r		s	e	s	e	s	e	s		O	F	T	C
u	p	t		t	r	o	f		s		s	e	s	I	D	U	O	I	C
p			u	e	r	o	.	E	f	s		G		R	U		G	I	T
	r	u	p	E	W	S	r	A	D	O	f	I	G	I	D		R	I	G
s	e			R	S	N	A	.	E	C		T	I	G	I	D		D	I

Answer the questions and keep track of the answers.

How many:

A's = _____

B's = _____

C's = _____

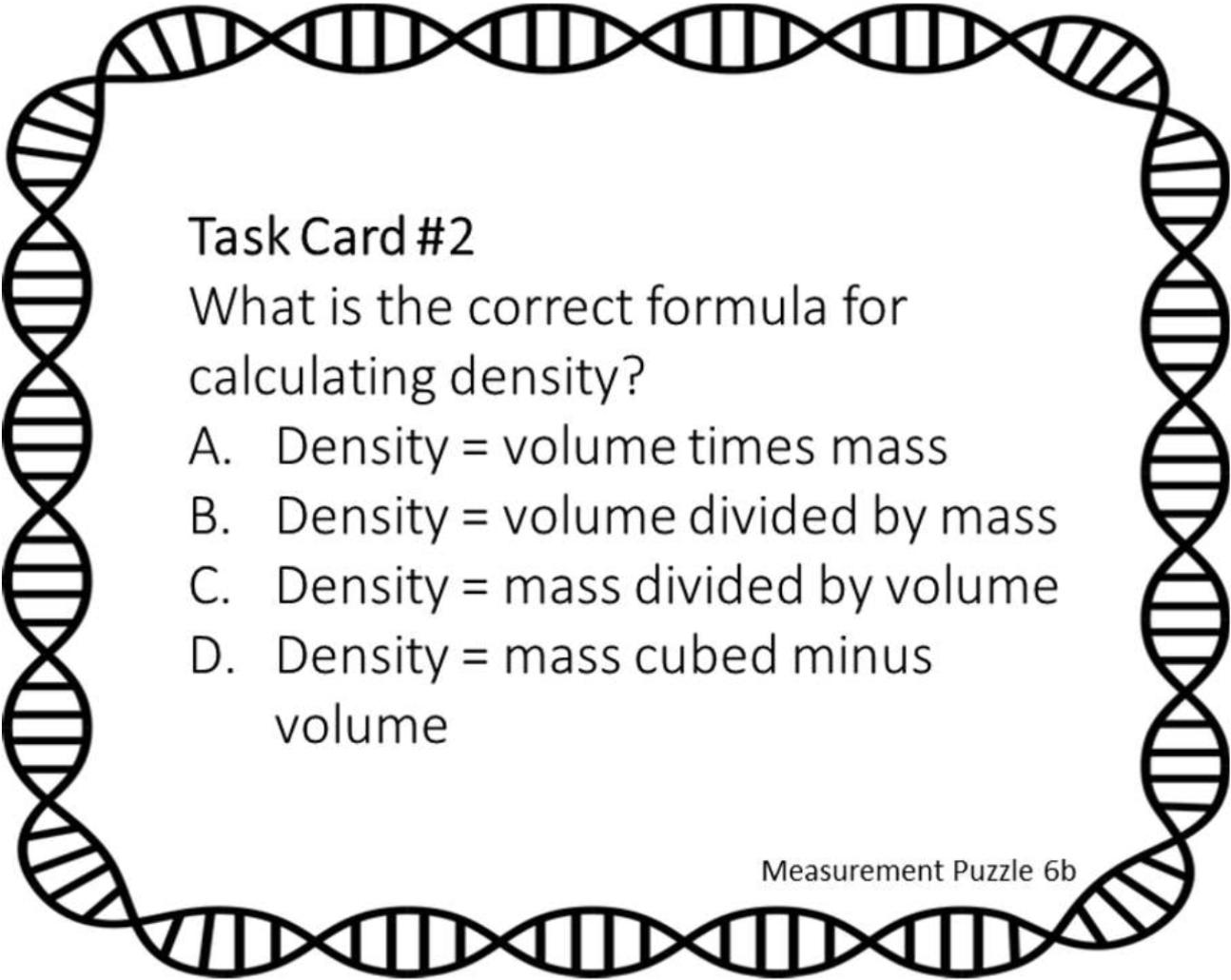
D's = _____



Task Card #1

What is the correct formula for calculating the volume of a rectangular solid?

- A. $V = \text{length} \times \text{width} \times \text{height}$
- B. $V = \text{length} + \text{width} + \text{height}$
- C. $V = \text{length} - \text{width} - \text{height}$
- D. $V = \text{length}^3 - \text{width}$



Task Card #2

What is the correct formula for calculating density?

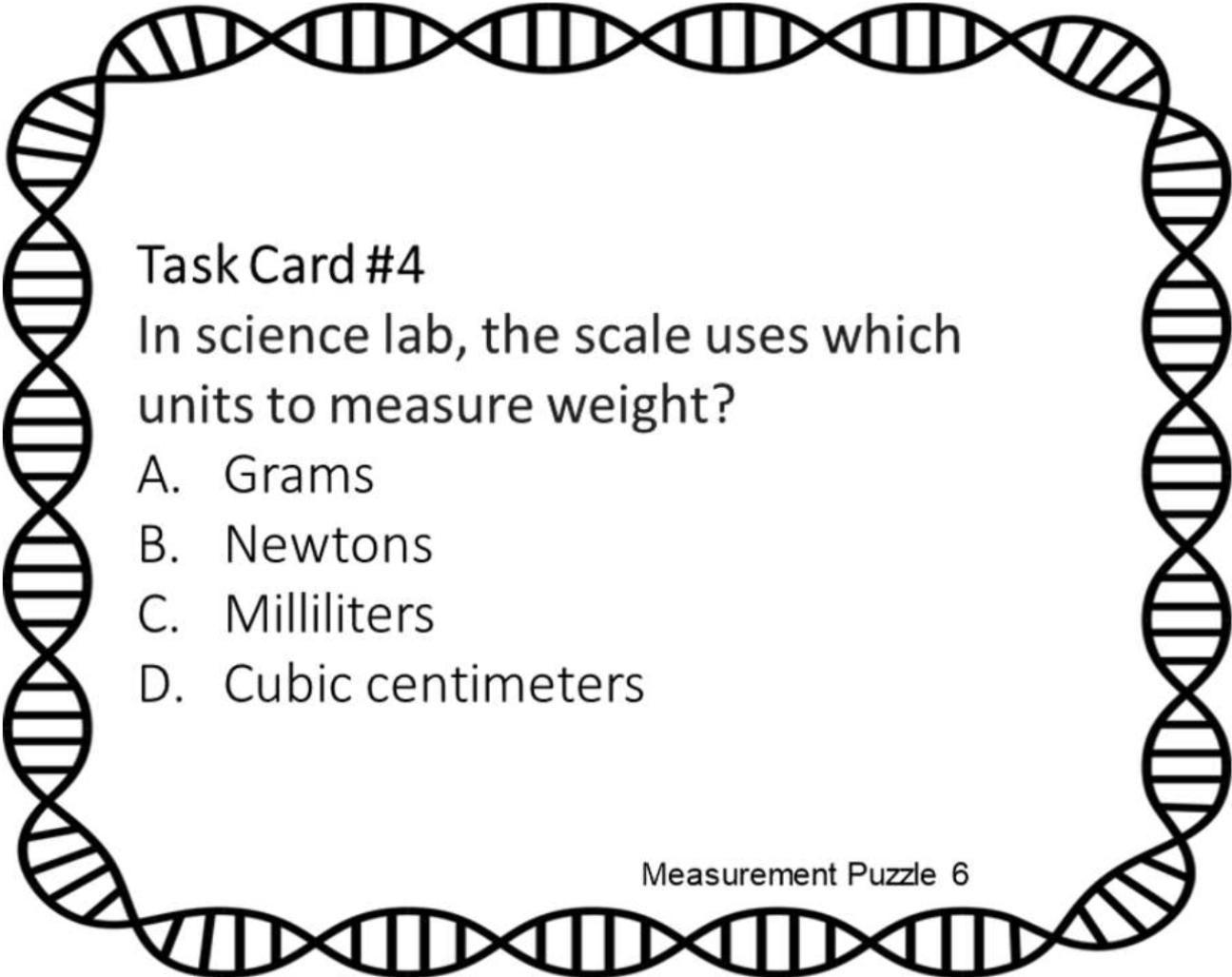
- A. Density = volume times mass
- B. Density = volume divided by mass
- C. Density = mass divided by volume
- D. Density = mass cubed minus volume



Task Card #3

What is the correct method for measuring the volume of an irregular solid such as a screw or bolt?

- A. Placing it on a spring scale
- B. Placing it on a triple beam balance
- C. Measuring the sides with a ruler and calculating with a formula
- D. Placing it in a graduated cylinder and seeing how much liquid it displaces



Task Card #4

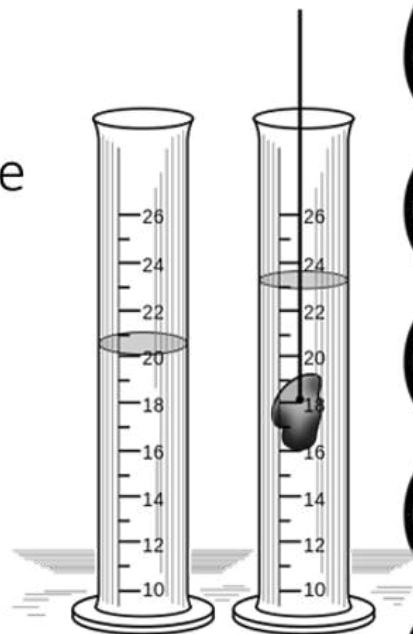
In science lab, the scale uses which units to measure weight?

- A. Grams
- B. Newtons
- C. Milliliters
- D. Cubic centimeters

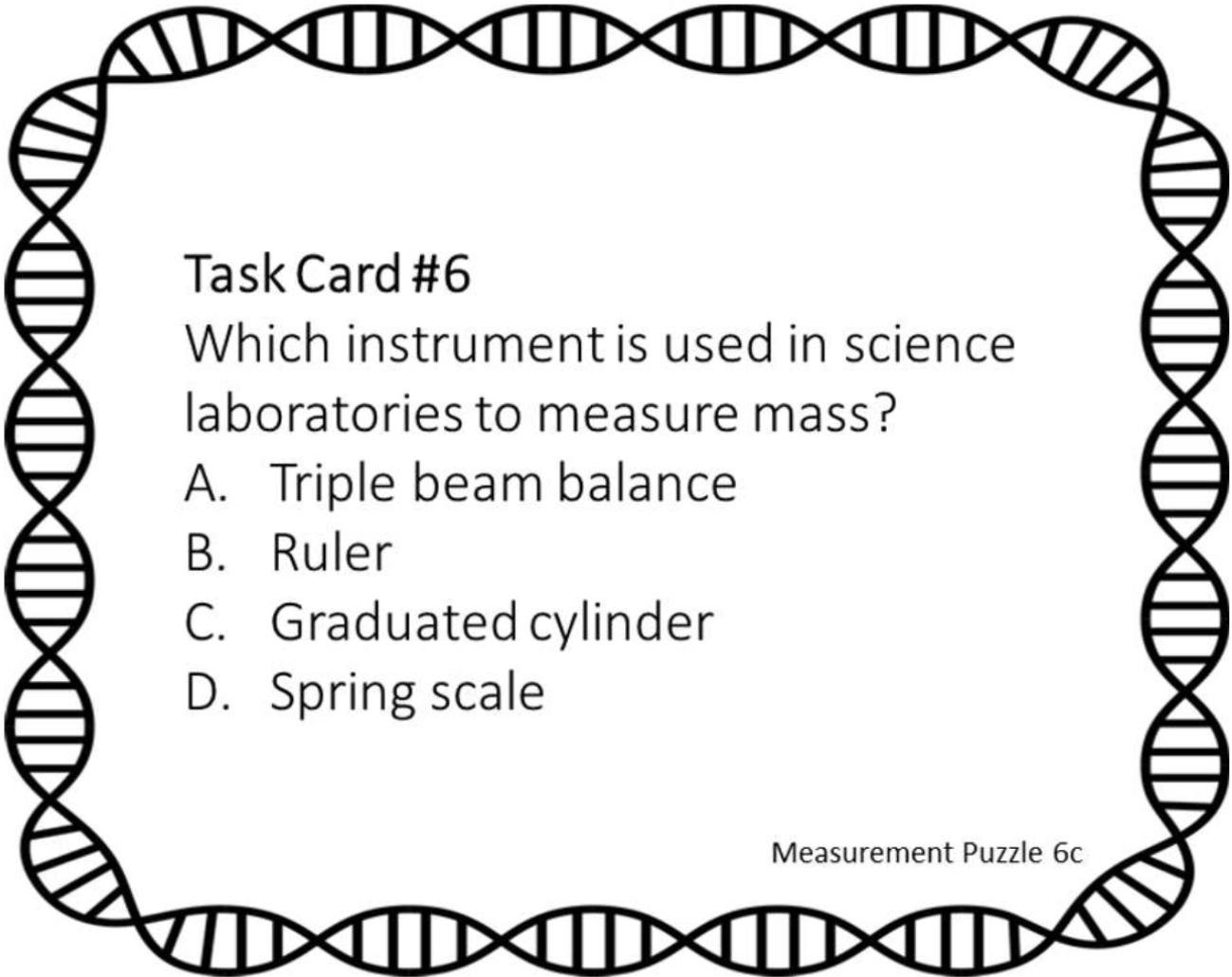
Task Card #5

What is the volume of the irregularly shaped stone shown here?

- A. 2 cubic centimeters
- B. 3 cubic centimeters
- C. 4 cubic centimeters
- D. 5 cu



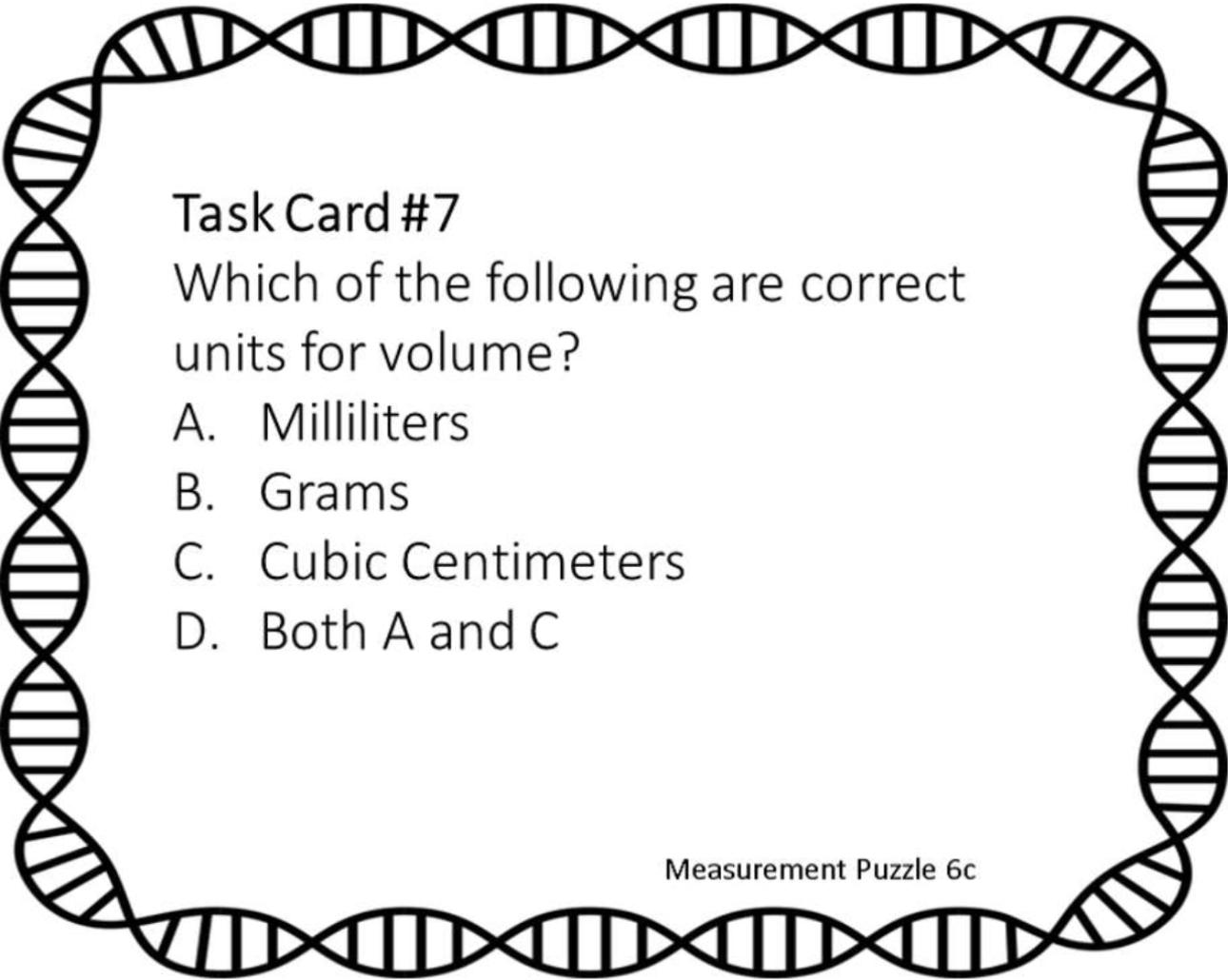
Measurement Puzzle 6c



Task Card #6

Which instrument is used in science laboratories to measure mass?

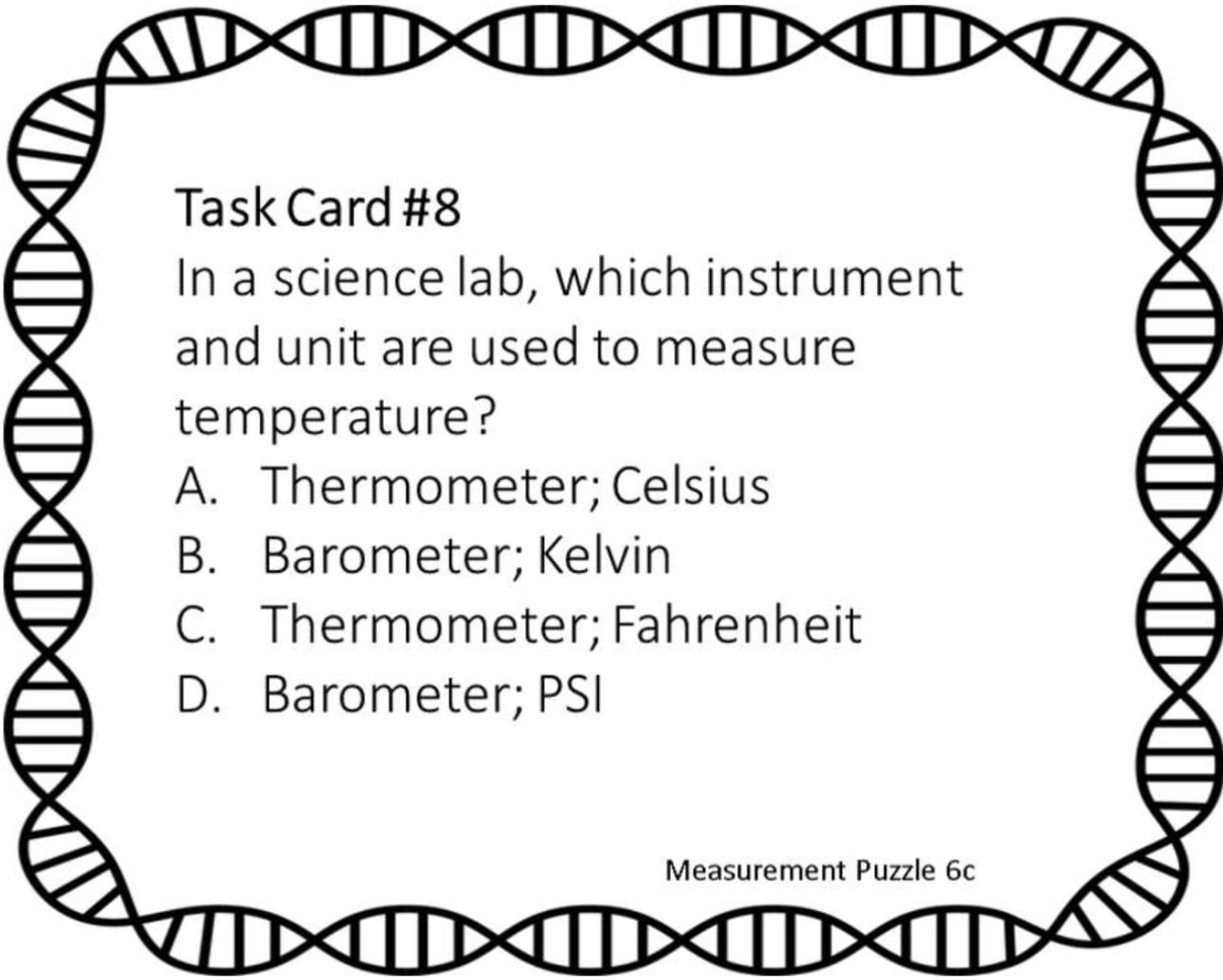
- A. Triple beam balance
- B. Ruler
- C. Graduated cylinder
- D. Spring scale



Task Card #7

Which of the following are correct units for volume?

- A. Milliliters
- B. Grams
- C. Cubic Centimeters
- D. Both A and C



Task Card #8

In a science lab, which instrument and unit are used to measure temperature?

- A. Thermometer; Celsius
- B. Barometer; Kelvin
- C. Thermometer; Fahrenheit
- D. Barometer; PSI

How Many of each:

A's = _____

B's = _____

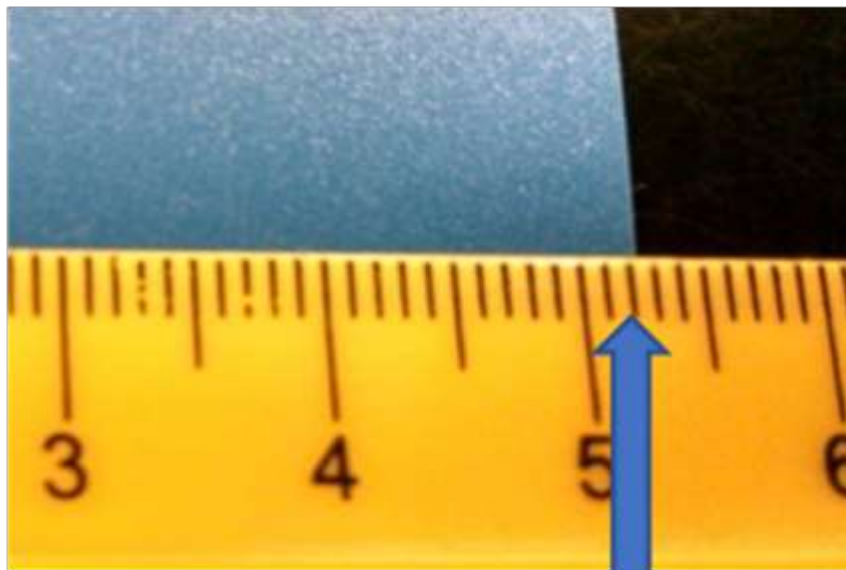
C's = _____

D's = _____

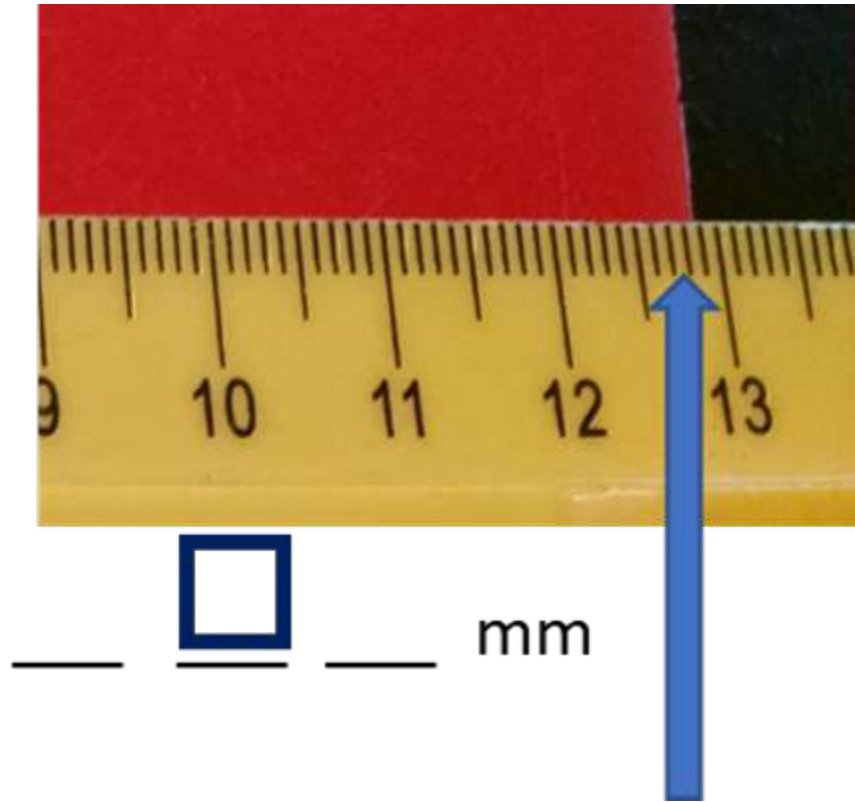
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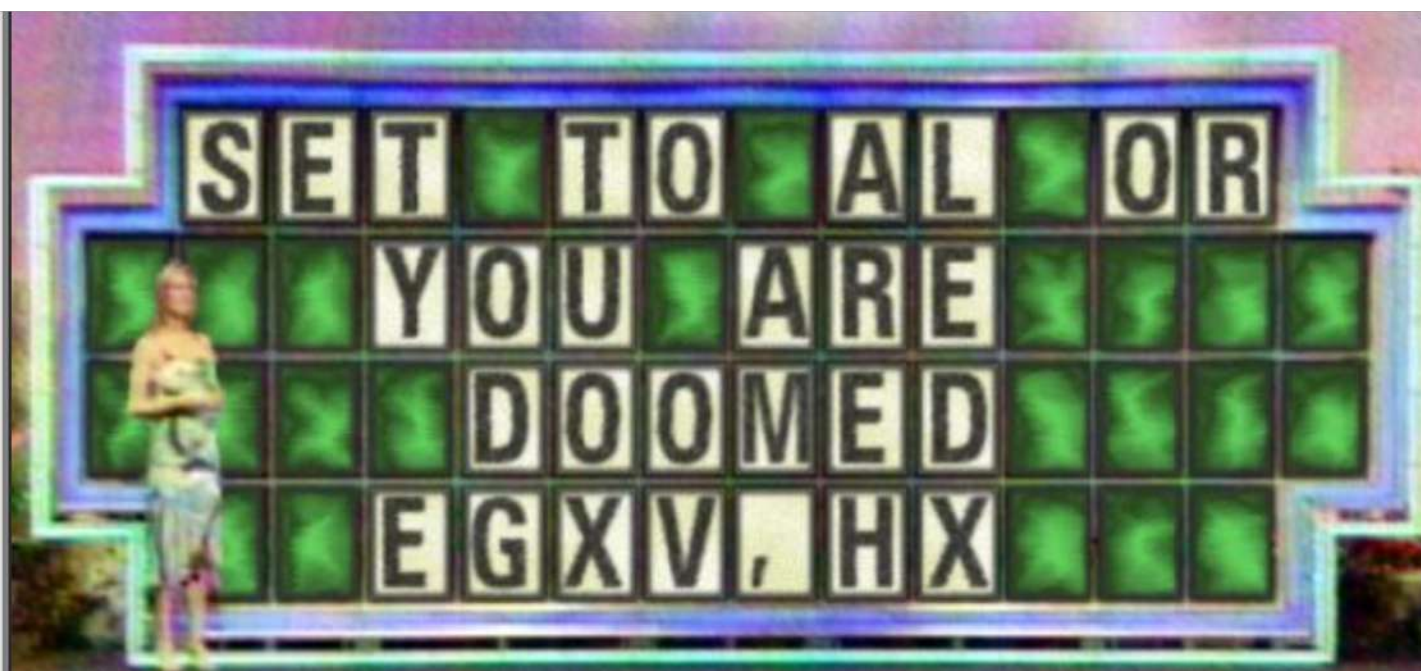
__ . 5 cm



5. 0 cm



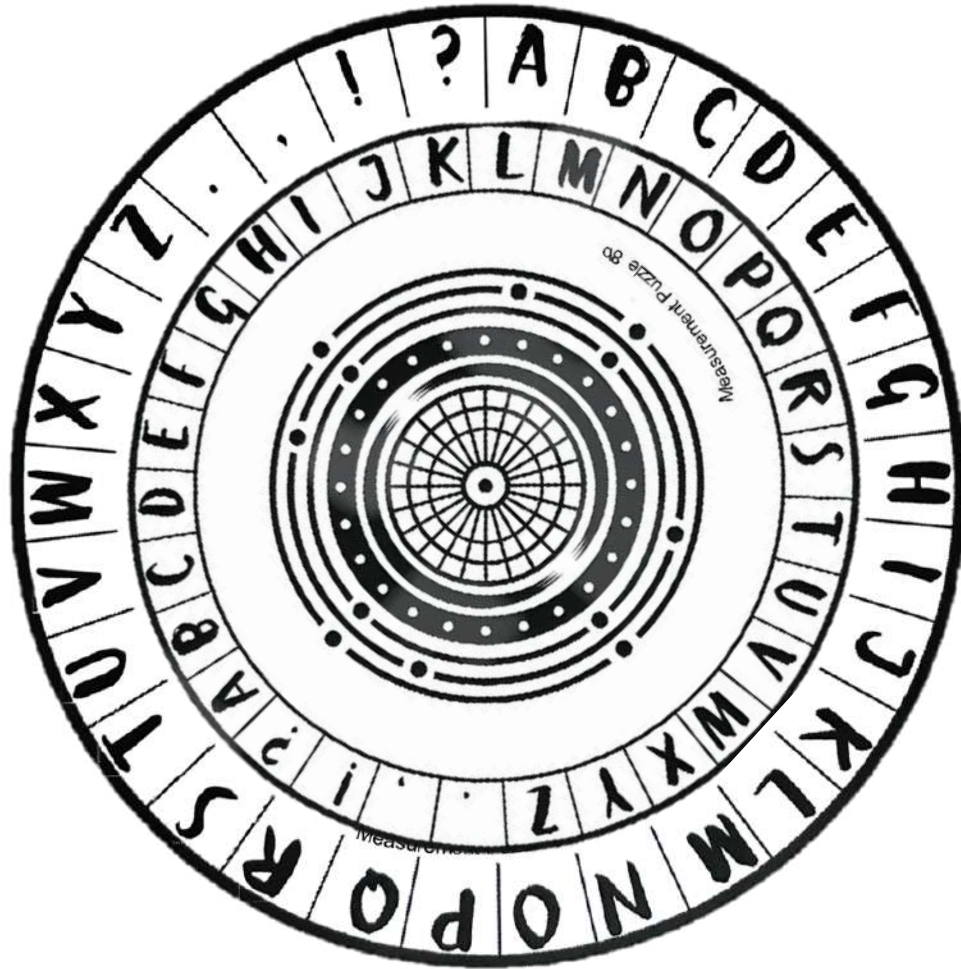
Return to the
Google Form
and complete
the 7th question



WHEEL OF
FORTUNE

HOW TO USE DECODER

<http://atom.smasher.org/wof/>



Decode the last line on the wheel of fortune slide

Return to the Google Form and complete the 8th question