

# Puzzle Hunt 2019

**March 1 – March 8, 2019**

- This packet contains 8 puzzles, all 8 of which are independent of one another.
- The answer to each puzzle is a single word or name (person, company, etc.) in English.
- You may use the Internet and any other resources at your disposal. Internet tools and services will be required for some problems.
- You are encouraged to collaborate within your class! (You'll be competing against the other classes)
- Good luck and have fun!

(Solutions can be found at the end of the file)

# #1: Arrow Confusion

Follow the arrows  
It will be easy they said  
I am very lost.



Answer: \_\_\_\_\_

## #2: *Rapid Transit*

*Bustling with people  
Quick transit between places  
Screech! Ouch my poor ears.*

Warm, Balbo

Castro, Daly

Rich, UN Civic










Leandro, 19th

Martinez, Colm

Answer: \_\_\_\_\_

### #3: Intimidated

Are you scared of them?  
Well what if they feel threatened?  
Help the rest feel safe

F	J	I	M	T	S	W	E
E		T	R	X	M	G	L
V	J	H		N	K	F	E
	L	D	C	S	C	U	
O	I		M	B	X	Y	
J	S		M	R		T	M
	D	F	V	G	H	I	K
C	W	K	M	E	R	S	L



Answer: \_\_\_\_\_

## #4: A Strange Inscription

*At a restaurant  
Sitting down at the table  
The waiter arrives*

4, 12, 20, 38, \_\_\_\_\_

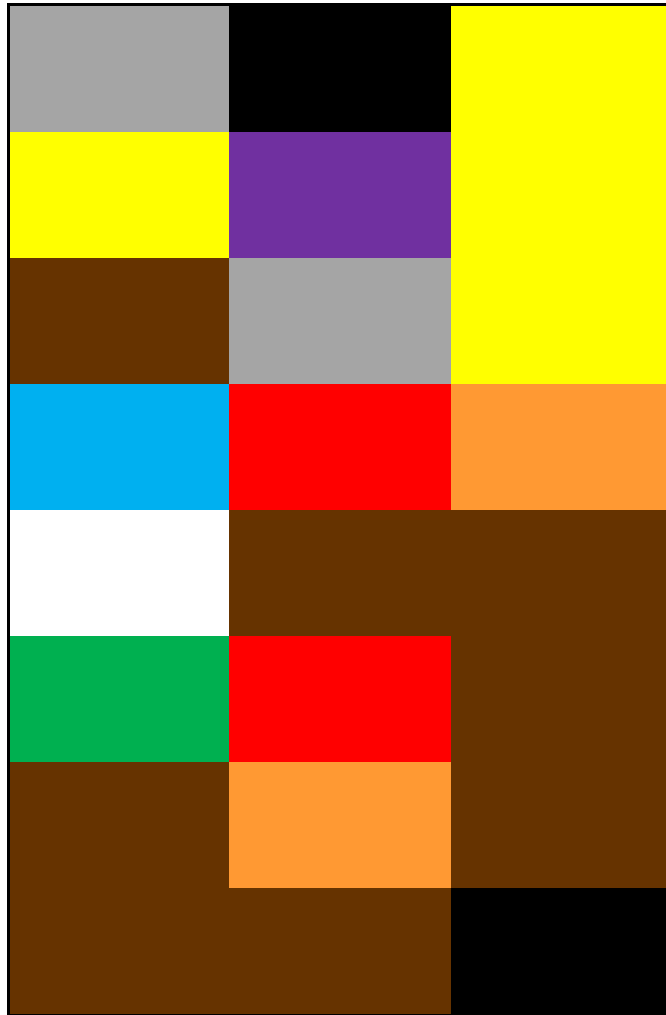
109, 77, 45, \_\_\_\_\_

115, 83, 51, 33, 15, \_\_\_\_\_

Answer: \_\_\_\_\_

## #5: Malfunctioned Key

*Time is running out  
The First Order is coming  
Key has malfunctioned*



Answer: \_\_\_\_\_

# #6: *music*

*Here's some sick bars  
Take careful notice of  
what you choose as-key*

music

Piano  $\text{♩} = 77$

8

15

22

29

36

Answer: \_\_\_\_\_

### #7: Motley Mess

All over the floor  
There must have been an earthquake  
Can you sort this mess?



U	R	Y	Z	G	E	B
R	Q	S	C	D	Z	F
P	N	S	L	M	P	B
T	M	F	Y	D	D	C
Z	O	O	W	T	P	T
Q	M	K	X	Y	I	L
X	A	L	V	B	B	R
I	2	3	4	5	6	7

Answer: \_\_\_\_\_



## #8: Shorter is Better

*To be short or long?  
Is shorter always better?  
You must make the link*

Measurement has been important ever since humans settled from nomadic lifestyles and started using building materials, occupying land and trading with neighbours. [...] For instance one of the oldest units of real length measurement used in the ancient world was the cubit, which was the length of the forearm from the tip of the finger to the elbow. This Validly could then be divided into shorter units like your foot, hand (which at 2 inches is still used today for expressing the height of horses) or finger, or added together to make longer units like the stride. The cubit could vary considerably due to the different sizes of people.

As trade between different places increased, the need for standard units of length increased. And later, as society has become more technologically oriented, much higher accuracy of measurement is required in an increasingly diverse set of fields, from micro-electronics to interplanetary ranging.[2]

Under albert einstein's special relativity, length can no longer be thought of as being constant in all reference frames. Thus a ruler that is one meter long in one frame of reference will not be one meter long in a reference frame that is moving relative to the first frame. This means the length of an Object varies depending on the observer. However the effect is minuscule in Normal circumstances: the length being inversely proportional to the square root of  $(1 - \frac{v^2}{c^2})$  (1 minus the square of the ratio of the Velocity of the object to the velocity of light). for a vehicle travelling at say 30 metres per second this would be a mere trillionth of one percent ( $10^{-14}$ ) difference, and thus completely negligible.

Answer: \_\_\_\_\_

# **Puzzle Hunt 2019**

# ***Solutions***



# #2: Rapid Transit

1. Recognize that its about the BART stops
2. Count the # of stops between the 2 stations in each line
3. Realize that each pair refers to 1 station which is unique colored
4. Realize that the colors are GBROY (first 5 rainbow colors but out of order) so you should organize the #s by rainbow order
5. Convert #s to letters (1 --> A, 2-->B, etc.) which spells out metro

ANSWER: METRO

**Initial**

Warm, Balbo	green line, 18 stops	r
Castro, Daly	blue line, 15 stops	o
Rich, UN Civic	red line, 13 stops	m
Leandro, 19th	orange line, 5 stops	e
Martinez, Colm	yellow line, 20 stops	t

**Rainbow Order**

Rich, UN Civic	red line, 13 stops	m
Leandro, 19th	orange line, 5 stops	e
Martinez, Colm	yellow line, 20 stops	t
Warm, Balbo	green line, 18 stops	r
Castro, Daly	blue line, 15 stops	o



### #3: Intimidated

1. Recognize that the goal is to place the rest of the pieces such that no piece is in range of being captured by any other piece
2. Read the letters that you placed the pieces from top to bottom, left to right which spells

WELCOME

ANSWER: WELCOME

						ROOK	
BISHOP	PAWN						KNIGHT
			QUEEN				
PAWN					KING		PAWN
BISHOP		PAWN					PAWN
		PAWN			PAWN		knight
PAWN							
				ROOK			

						W	
E	PAWN						L
			QUEEN				
PAWN					C		PAWN
O		PAWN					PAWN
		PAWN			PAWN		M
PAWN							
				E			

## #4: A Strange Inscription

1. Recognize that you're sitting at a **periodic** table (The numbers are inscribed on the table)
2. Recognize that the numbers are the atomic numbers for a column of the periodic table
3. Concatenate the abbreviation of the elements missing in each sequence of numbers to get BACON (you're ordering bacon)

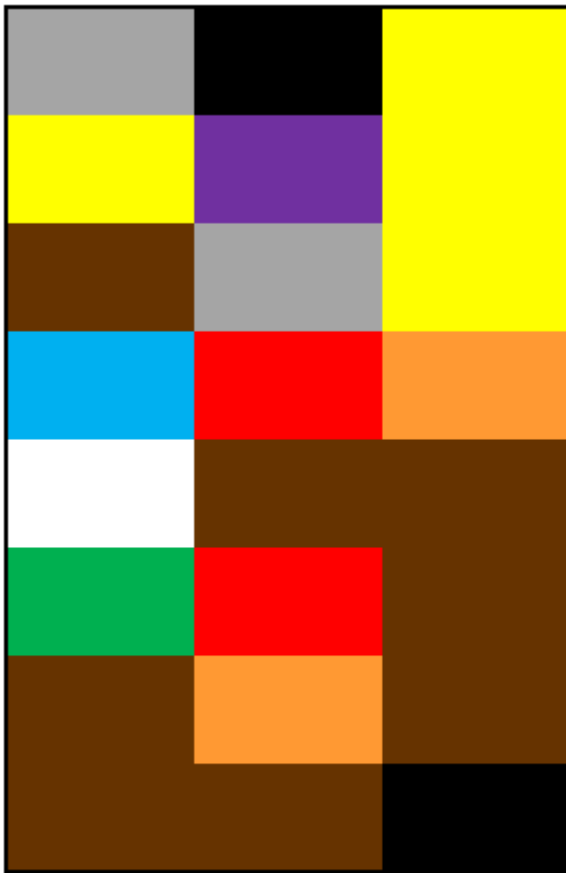
ANSWER: BACON

Group	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Period 1	1 H																	2 He
Period 2	3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne
Period 3	11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar
Period 4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
Period 5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
Period 6	55 Cs	56 Ba	57 La	* 72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
Period 7	87 Fr	88 Ra	89 Ac	* 104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Cn	113 Nh	114 Fl	115 Mc	116 Lv	117 Ts	118 Og
				* 58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu	
				* 90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr	

# #5: Malfunctioned Key

1. Recognize that you are a member of the **Resistance** and are using resistor codes
2. Convert all color bands to equivalent resistances (1st color = tens place, 2nd color = ones place, 3rd color =  $10^n$ )
3. Add all resistances together and convert the big number to letters (A=1, B=2, etc.) to get omega

ANSWER: OMEGA



Tens	Ones	* 10 <sup>n</sup>	
8	0	4	800000
4	7	4	470000
1	8	4	180000
6	2	3	62000
9	1	1	910
5	2	1	520
1	3	1	130
1	1	0	11
SUM:			1513571

1513571:

15    13    5    7    1  
 O    M    E    G    A

## #6: $\mu$ sic

1. Recognize that the key is in F# (The forte dynamic calls attention to the significance of F)
2. Recognize that as-key refers to `ascii`, a decimal representation of characters
3. Notes can be expressed in numbers, starting with the tonic (first note of the key) and counting upwards.

Conversion: (middle) F = 0, G = 1, A = 2, B = 3, C = 4, D = 5, E = 6, F = 7, G = 8, A = 9

4. Convert the music into numbers, and convert each bar to characters
5. Spells out answer is most played video on Youtube which is `Despacito`

ANSWER: DESPACITO

Bar #	1	2	3	4	5	6	7
Notes	FED	GGF	GGD	GGA <sup>^</sup>	GFG	GGC	FBA
Numbers	065	110	115	119	101	114	032
ACSCII Char	A	n	s	w	e	r	
Bar #	8	9	10	11	12	13	14
Notes	GFD	GGD	FBA	GFA	GGG	GGD	GGE
Numbers	105	115	032	109	111	115	116
ACSCII Char	i	s		m	o	s	t
Bar #	15	16	17	18	19	20	21
Notes	FBA	GGA	GFG <sup>^</sup>	FA <sup>^</sup> F <sup>^</sup>	GAG	GFG	GFF
Numbers	032	112	108	097	121	101	100
ACSCII Char		p	l	a	y	e	d
Bar #	22	23	24	25	26	27	28
Notes	FBA	GGG <sup>^</sup>	GFD	GFF	GFG	GGG	FBA
Numbers	032	118	105	100	101	111	032
ACSCII Char		v	i	d	e	o	
Bar #	29	30	31	32	33	34	35
Notes	GGG	GGF	FBA	FG <sup>^</sup> A <sup>^</sup>	GGG	GGF	GGE
Numbers	111	110	032	089	111	117	116
ACSCII Char	o	n		Y	o	u	t
Bar #	36	37	38				
Notes	GGF	FA <sup>^</sup> G <sup>^</sup>	GFG				
Numbers	117	098	101				
ACSCII Char	u	b	e				



# #7: Motley Mess

1. Recognize that all items are recyclable
2. Use the internet to figure out there are 7 classifications of recyclable plastics (resin numbers)
3. Count the # of each category
4. Take the nth letter of each category # in the word grid to get POLYMER

ANSWER: POLYMER

Fun fact: There are 7 types of plastics, the grid of letter has 7 rows and 7 columns, and this is problem #7.

Coca Cola					To-go box	
Coca Cola					To-go box	
Coca Cola	Clorox			Brown rope	Peanuts	
Sprite	Milk		Saran wrap	Blue rope	Peanuts	
Aquafina	Tide		Saran wrap	Yellow rope	Peanuts	
		PVC pipe	Pippette	The shirt	Peanuts	
			Pippette	Tub	Peanuts	Baby bottle
1: PETE	2: HDPE	3: PVC	4: LDPE	5: PP	6: PS	7: Other
5	3	1	4	5	7	1
U	R	Y	Z	G	E	B
R	Q	S	C	D	Z	F
P	N	S	L	M	P	B
T	M	F	Y	D	D	C
Z	O	O	W	T	P	T
Q	M	K	X	Y	I	L
X	A	L	V	B	B	R
1	2	3	4	5	6	7

## #8: Shorter is Better

---

1. Recognize that something is off in each paragraph (inserted words in paragraph 1, accents in paragraph 2, capitalization in paragraph 3)
2. Concatenate all the off characters (first character of inserted words for paragraph 1) to get 3 strings ( rfVdy2 , boamdtg and aeLONVf )
3. Recognize that the link you must make is these are short-url strings. Precisely:  
goo.gl/rfVdy2 , bit.ly/boamdtg , and tinyurl.com/aeLONVf
4. Putting the letters from all 3 links together, you get:

D I A

C R I

T I C

Which when read left to right, up to down spells DIACRITIC

ANSWER: DIACRITIC

- Measurement has been important ever since humans settled from nomadic lifestyles and started using building materials, occupying land and trading with neighbours. [...] For instance one of the oldest units of
- 1 **real** length measurement used in the ancient world was the cubit, which was the length of the **forearm** from the tip of the finger to the elbow. This **Validly** could then be **divided** into shorter units like **your** foot, hand (which at 2 inches is still used today for expressing the height of horses) or finger, or added together to make longer units like the stride. The cubit could vary considerably due to the different sizes of people.
  - 2
  - 3 As trade **between** different places increased, the need **fōr** standard units of length increased. And later, as society **hās** become more technologically oriented, **much** higher accuracy of measurement is required in an increasingly **dīverse** set of fields, from micro-electronics **tō** interplanetary **ranging̃**. [2]
  - 4
  - 5 Under **albert einstein's** special relativity, length can no **Longer** be thought of as being constant in all reference frames. Thus a ruler that is one meter long in one frame of reference will not be one meter long in a reference frame that is moving relative to the first frame. This means the length of an **Object** varies depending on the observer. However the effect is minuscule in **Normal** circumstances: the length being inversely proportional to the square root of (1 minus the square of the ratio of the **Velocity** of the object to the velocity of light). **for** a vehicle travelling at say 30 metres per second this would be a mere trillionth of one percent (10 to power -14) difference, and thus completely negligible.