Activity 5

Use the clues and the chart to determine the value of each letter, solve the cryptogram, and discover the classic joke.

g > 7
g < a – i

	g	i	c	a
1				
2				
8				
10				

g = ____
i = ____
c = ____
a = ____

n ≠ 9
d ≠ 9
d < h < r
r ≠ 11

	h	d	r	n
6				
9				
11				
12				

h = ____
d = ____
r = ____
n = ____

o > f > l
f ≠ 5
o ≠ f + l

	o	f	t	l
3				
4				
5				
7				

o = ____
f = ____
t = ____
l = ____

Cryptogram (Parentheses separate double digits; they have no other meaning.)

W9(10)7 616 79e 7(12)(10)4412 31897 s(10)y 75 79e 2(10)(12)? 65(11)'7 355k, 1'm 29(10)(11)81(11)8!

W _ _ _ _ _ _ _ _ e _ _ _ _ _ _ _ _ _ _ _ _ _

s _ y _ _ _ _ e _ _ _? _ _ _ _'_ _ _ _ k,

_'m _ _ _ _ _ _ _ _!

	a	t	h	r
3	—	+	—	—
4	—	—	—	+
9	+	—	—	—
10	—	—	+	—

Answers: a= 9; t = 3; h = 10; r = 4
If *a* plus *t* equals 12, then *a* and *t* must be either 3 or 9 for the equation to be true. If *a* plus *h* equals 19, *a* and *h* must be either 9 or 10 for the equation to be true; therefore, *a* must be 9, the only number used in both equations. Therefore, *t* must be 3, and *h* must be 10. *r* is then 4.

	p	e	c	m
7	—	—	+	—
8	—	—	—	+
11	+	—	—	—
12	—	+	—	—

Answers: p = 11; e = 12; c = 7; m = 8
If *p* equals *c* plus 4, and *m* equals *c* plus 1, *p* must be 11, *c* must be 7, and *m* must be 8 for the equations to be true. *e* is then 12.

Page 4: What do you call a fake noodle?
An impasta!

	o	c	i	s
1	—	—	—	+
2	—	+	—	—
10	—	—	+	—
12	+	—	—	—

Answers: o = 12; c = 2; i = 10; s =1
If *i* equals *c* times 5, *i* must be 10 and *c* must be 2 for the equation to be true with the given numbers. Since *o* is greater than *s*, *o* must be 12, and *s* must be 1.

	f	m	t	a
3	—	—	—	+
4	—	—	+	—
5	—	+	—	—
6	+	—	—	—

Answers: f = 6; m = 5; t = 4;a= 3
Since *a* is less than both *m* and *f*, *a* must be one of the smallest numbers, either 3 or 4, and since *a* is not 4, *a* must be 3. If *m* is not 4 or 6, then *m* must be 5, the only number left. Since *f* is greater than *m*, *f* must be 6. *t* is then 4.

	p	e	n	l
7	—	—	—	+
8	—	—	+	—
9	+	—	—	—
11	—	+	—	—

Answers: p = 9; e = 11; n = 8; l = 7
If *e* is greater than 10, *e* must be 11, the largest number. If *p* is greater than 8, *p* must be 9. Since *n* is greater than *l*, *n* must be 8 and *l* must be 7.

Page 5: What did the traffic light say to the car? Don't look, I'm changing!

	g	i	c	a
1	—	+	—	—
2	—	—	+	—
8	+	—	—	—
10	—	—	—	+

Answers: g = 8; i = 1; c = 2; a= 10
Since *g* is greater than 7, *g* must be either 8 or 10. Since *g* is less than *a* minus *i*, *g* must be 8, *a* must be 10 and *i* must be 1 for the statement to be true. *c* is then 2.

	h	d	r	n
6	—	+	—	—
9	+	—	—	—
11	—	—	—	+
12	—	—	+	—

Answers: h = 9; d = 6; r = 12; n = 11
Since *d* is less than both *h* and *r*, and is not 9, then *d* must be 6, the lowest number. Since *r* is greater than *h* and *d*, and is not 11, then *r* must be 12, the largest number. Since *h* is less than *r*, but greater than *d*, *h* must be either 9 or 11, and since *n* is not 9, it must be 11; therefore, *h* must be 9.

	o	f	t	l
3	—	—	—	+
4	—	+	—	—
5	+	—	—	—
7	—	—	+	—

Answers: o = 5; f = 4; t = 7; l = 3
Since *o* is greater than *f* and *l*, *o* must be either 5 or 7. Since *f* is greater than *l*, but less than *o*, *f* must be a middle number, either 4 or 5, and *l* must be a lower number, either 3 or 4. If *f* does not equal 5, then *f* must be 4; therefore *l* must be 3. If *o* does not equal *f* plus *l*, then *o* does not equal 7; therefore, *o* must be 5, the only number left. *t* is then 7.