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INTRODUCTION

Computer literacy is a must for preparing 21st century learners. Students need to learn to interact with, and experience a computer, not just be a consumer of it.

Computer programming, or coding, is a good place to start on the path to computer literacy. You might think coding is too difficult for young students, but children can easily learn the basic of computer coding (it is kept engaging and fun).

- Young children can learn how to recognize patterns and follow a sequences in order to accomplish a task with coding requires.
- It encourages analytical thinking.
- It requires discipline and concentration to the task at hand.
- Coding builds creativity in young children. Children must build a questioning mindset. They must experiment, explore, ask questions and make mistakes.
- Children learn a new language (coding) much easier when they are younger.
- Coding strengthens whole brain thinking.

These activities are hands on and screen free!

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Binary Coding Chart

01000011	01001011	01000010	10010101
S	K	B	A
T	L	C	E
V	M	D	I
W	N	F	O
X	P	G	U
Y	Q	H	
Z	R	J	

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Name: _____

Directions: Use the binary coding chart to decide the Christmas riddle, then color the picture below.

What kind of music do elves listen to?

01010111 01010010 10101000 01010000

01001011 01010101 01010011 01000101 01000011

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Name: _____

Directions: Use the binary coding chart to decide the Christmas riddle, then color the picture below.

What do elves learn in school?

01010100 01001000 01000101

01000101 01001100 01000110 10101010 01000010 01000101 01010100

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Name: _____

Directions: Use the Binary Coding Chart to decide each color name. Then color the squares below with the number of each color to reveal the Christmas surprise.

Decode the Picture

1 - 00000001 00000011 00000000
2 - 00000011 00000000 00000000 00001110
3 - 00000001 00000000 00000000 00000000
4 - 00000000 00000000 00000000 00000000
5 - 00000001 00000000 00000000 00000000

100100 011010

5	5	5	5	5	5	3	5	5	5	5	5	5			
5	5	5	5	5	3	3	3	5	5	5	5	5			
5	5	5	5	5	5	5	5	5	5	5	5	5			
5	5	5	5	2	1	2	5	5	5	5	5	5			
5	5	5	2	1	2	2	3	2	5	5	5	5			
5	5	5	2	2	3	2	2	5	5	5	5	5			
5	5	5	2	2	3	2	2	1	2	5	5	5			
5	5	5	2	2	3	2	2	1	2	2	5	5			
5	5	5	3	2	2	1	2	2	3	5	5	5			
5	5	5	2	2	2	1	2	2	3	2	5	5			
5	5	5	2	2	2	1	2	2	3	2	2	5	5		
5	5	5	2	2	2	1	2	2	3	2	1	2	5	5	
5	5	5	2	2	1	2	2	3	2	2	1	2	2	5	5
5	5	5	5	5	4	4	4	5	5	5	5	5	5	5	5
5	5	5	1	1	1	4	4	1	1	5	5	5	5	5	5

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Name: _____

Directions: Follow the coded instructions below and write the name of the picture you end at in the box.

Follow the Coded Path

1 → → →
2 ↓ ↓ ↓
3 ↓ ↓ ↓ ↓ ↓
4 ↓ ↓ ↓ ↓ ↓ ↓ ↓
5 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓

WORD BANK:
Santa Claus
skating
Christmas tree
reindeer
present

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Name: _____

Directions: To decode Santa's secret message, first read each line of code. If the math problem is true, follow the picture's path below. If the math problem is false go to the next line.

What did Santa Claus put on top of his Christmas Tree?

- IF 3+2=5 THEN draw a line from letter A to letter C
- IF 10+5=5 THEN draw a line from letter M to letter H
- IF 4+2=6 THEN draw a line from letter M to letter E
- IF 5+1=7 THEN draw a line from letter X to letter Y
- IF 1+1=2 THEN draw a line from letter A to letter E
- IF 10+2=8 THEN draw a line from letter G to letter H
- IF 4+3=7 THEN draw a line from letter B to letter K
- IF 3+2=5 THEN draw a line from letter I to letter C
- IF 3+2=3 THEN draw a line from letter T to letter O
- IF 4+4=8 THEN draw a line from letter M to letter I

What shape do you see? _____

IF 3+3=6 THEN color your shape yellow.

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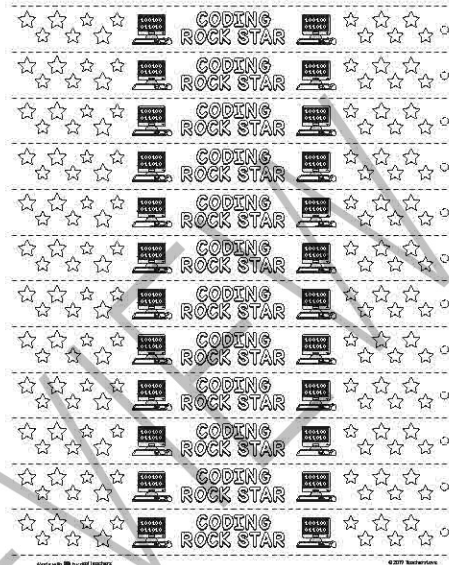
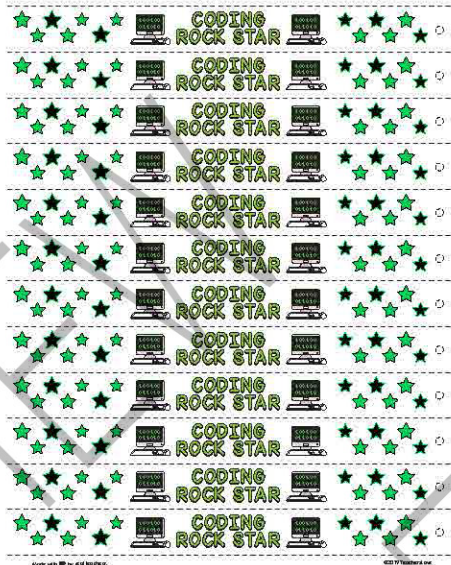
Name _____

Mystery Picture

Directions: Follow the coded instructions to color in the squares in the grid below and reveal the mystery Christmas picture.

- | | |
|---|---|
| Row 1. Color numbers 6-11 black | Row 3. Color numbers 24 and 7 and 11 and 14 black |
| Row 2. Color numbers 4-5 and 12 black | Color numbers 6 and 8-10 and 12 skin color |
| Color numbers 9-11 red | Color numbers 14 and 14 black |
| Row 3. Color numbers 3 and 13 black | Color numbers 6-8 and 10-12 skin color |
| Color numbers 4-12 red | Color number 9 red |
| Row 4. Color numbers 3 and 10 black | Row 10. Color numbers 4 and 14 black |
| Color numbers 14-12 red | Row 11. Color numbers 2 and 13 black |
| Row 5. Color numbers 2 and 5 and 13 black | Row 12. Color numbers 5 and 13 black |
| Color numbers 3-4 and 6-12 red | Color numbers 6 and 12 black |
| Row 6. Color numbers 3-8 and 13 black | Row 14. Color numbers 7 and 13 black |
| Color numbers 2 and 4 and 13 black | Row 15. Color numbers 14-10 black |
| Color numbers 7-11 skin color | |

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Row 1															
Row 2															
Row 3															
Row 4															
Row 5															
Row 6															
Row 7															
Row 8															
Row 9															
Row 10															
Row 11															
Row 12															
Row 13															
Row 14															
Row 15															



PREVIEW