Year 6 Maths

Developing/ Expected/ Greater depth activity

Lesson 5

LO: TBAT complete a code breaking task using Morse code.

Task: This week you will be trying to solve a murder mystery.

Success Criteria:

1. **Read the task.**	
2. **The punctuation on each line gives a letter in Morse code.**	

Year 6 Maths
Main activity

Task 1	Task 2	Task 3

Task 1

Problem solving
Use decimal, percentage and fraction equivalents to solve the following questions.

Q1.

Circle the fractions that are equal to 60%

$$\frac{6}{20} \qquad \frac{1}{60} \qquad \frac{3}{5} \qquad \frac{6}{10} \qquad \frac{6}{60} \qquad \frac{36}{60}$$

Q2.

Match each fraction to its correct percentage equivalent.

$\frac{12}{50}$	12%
	16%
$\frac{12}{75}$	24%
	40%
$\frac{24}{40}$	60%

Q3.

Circle the percentage that is equal to $\frac{7}{20}$

7%   35%   70%   20%   140%

Task 2

Arithmetic

17	$3^2 + 2^3 + 5^2 =$
18	$840,000 - 48,000 =$
19	$60 \times 900 =$
20	$300.01 \times 1000 =$
21	$34.6 \div 100 =$
22	$523.56 - 45.056 =$
23	$\begin{array}{r} 957 \\ \times \quad 86 \end{array}$

Task 3

Project
Murder mystery

The Suspects

The police are called to a health spa. Lying on the floor is the body of a murdered guest. As police search the spa, they find 5 clues written down by witnesses. They have sent the clues to you to decipher.

They also provide a list of all those present at the health spa when the murder was committed.

There are 32 suspects. Each clue will eliminate half the number of suspects remaining. When all clues have been solved the identity of the murderer will be revealed.

Forename	Surname	Sex	Right / left	Usually wears hat	Hair	Driver ?	Guilty
Coutney	Brown	F	Right	Yes	Dark	No	
Sarah	Perkins	F	Right	Yes	Fair	No	
Callum	Rogers	M	Right	Yes	Dark	No	
Simon	Temple	M	Left	No	Dark	Yes	
Greta	Harrup	F	Right	No	Dark	Yes	
Sally	Fisher	F	Left	No	Fair	No	
Frank	Beech	M	Left	Yes	Red	Yes	
Chelsea	Bridges	F	Left	Yes	Red	Yes	
Orla	Smith	F	Right	No	Red	Yes	
Tim	Garner	M	Right	No	Red	Yes	
Ruth	Jameson	F	Left	Yes	Dark	Yes	
Mark	Hitchkins	M	Right	Yes	Dark	Yes	
Carol	Smithkins	F	Left	Yes	Dark	No	
India	Jones	F	Left	No	Dark	Yes	
Tom	Walker	M	Right	No	Dark	Yes	
Charlotte	Twiddle	F	Left	Yes	Fair	No	
Chardonay	Hogg	F	Right	Yes	Dark	Yes	
Abdirahman	Mustafa	M	Left	Yes	Fair	No	
Becky	Sands	F	Right	No	Fair	No	
James	Wren	M	Left	Yes	Dark	Yes	
Saskia	Riggles	F	Right	No	Dark	No	
Harry	Pitcher	M	Right	No	Dark	No	
Jack	Turnip	M	Right	No	Dark	No	
Jake	Griggle	M	Left	No	Red	Yes	
Fiona	Gibson	F	Left	No	Dark	Yes	
Faisal	Iqbal	M	Right	Yes	Red	Yes	
Sam	Sprat	M	Right	Yes	Fair	No	
Ian	Dent	M	Left	No	Fair	Yes	
Jim	Begler	M	Left	Yes	Dark	No	
Amina	Khan	F	Left	No	Red	Yes	
Gavin	Redrup	M	Left	No	Dark	No	
Beth	Walters	F	Right	Yes	Red	Yes	

Task below.
The punctuation on each line gives a letter in Morse code.

Q4.

Match each percentage to its correct decimal equivalent.

| 2% |
| 62% |
| 60% |

| 0.2 |
| 0.06 |
| 0.62 |
| 0.02 |
| 0.062 |
| 0.6 |

Clue 5 – Inspector Morse on the investigation.

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

The forty-two year old cleaner stepped into the room. Her part-time job did not prepare her for the shock. A body lying on the floor. She nearly fainted. Then she called her full-time supervisor. Phew. At least she had help. The twenty-three year old stopped. She stared.

Her skin turned a whiter shade of pale. Pulling herself together she dialled 999. The middle-aged operator asked her who she wanted.

She asked for the police. Her father-in-law was a policeman but he worked in a top-notch ten-year-old department in another constabulary. He was only part-time these days. Once the police had been called they started looking for the murder weapon.

The cleaner pointed to the large machine in the corner. On the X-ray machine was a note. A coded note. One they could not understand.

They made a half-hearted attempt to read it. Twenty-five minutes passed. The police arrived sirens blaring. An ambulance also turned up. The cleaner recognised her ex-boyfriend who was the driver. Twenty-two minutes later the police began their investigation in the murder at the health spa ......

Examine the punctuation carefully.