

Telephone Cipher

Overview: This is a cipher that is written using the telephone keypad. It's pretty simple to use once you understand the basics of how to make it work for the entire alphabet. (Have you ever noticed that the Q and Z are missing from the keypad?)

Materials

- Pencil
- Paper
- Access to a telephone keypad, or use ours below

Activity: Code machines – or cipher machines – can be used to encode and decode messages. One everyday example of a code machine that you can easily access is a telephone.

Here's the dial pad (keypad) of a telephone with Q and Z added in:

Q 1	ABC 2	DEF 3
GHI 4	JKL 5	MNO 6
PRS 7	TUV 8	WXY 9
	Z 0	

Notice how the number 2 represents A, B, and C. To be able to tell which letter you really mean when you write a 2, you'll also use symbols above the letter like this:

\ for the first letter, like A on the number 2 key

| for the letter at the middle, like B on the number 2 key

/ for the letter as the end, like C on the number 2 key

The message "PICK UP FISH" will be written as follows:

\ 7 4 2 5 8 \ 7 3 4 7 4

Now it's your turn! Work out the exercises below. (You'll find answers at the back of this book.)

Exercises

Encode the following using the telephone keypad:

1. COME BACK
2. LEAVE TODAY
3. HE ARRIVED
4. THEY WENT
5. HE IS COMING
6. REVEAL
7. GO AHEAD

Decode the following ciphers

8. $\backslash \backslash \overset{|}{1} \overset{|}{6} \overset{|}{3} \overset{|}{7} \overset{|}{4} \overset{\wedge}{2} \overset{\wedge}{2}$

9. $\overset{|}{8} \overset{|}{6} \overset{\wedge}{4} \overset{\wedge}{8} \overset{|}{3} \backslash \overset{|}{3} \overset{|}{5} \overset{\wedge}{4} \overset{\wedge}{6} \overset{\wedge}{4} \backslash \overset{|}{3} \overset{\wedge}{6} \overset{\wedge}{6}$

10. $\backslash \overset{|}{2} \overset{\wedge}{8} \overset{\wedge}{7} \overset{|}{8} \overset{|}{7} \backslash \overset{\wedge}{2} \overset{\wedge}{5} \overset{\wedge}{4} \overset{\wedge}{2}$

Answers to Exercises: Telephone Cipher

1. 2̇6̇6̇3̇2̇ 2̇2̇5̇

2. 5̇3̇2̇8̇3̇ 8̇6̇3̇2̇9̇

3. 4̇3̇2̇7̇7̇ 4̇8̇3̇3̇

4. 8̇4̇3̇9̇9̇ 3̇6̇8̇

5. 4̇3̇4̇7̇2̇ 6̇6̇4̇6̇4̇

6. 7̇3̇8̇3̇2̇ 5̇

7. 4̇6̇2̇4̇3̇ 2̇3̇

8. AMERICA

9. UNITED KINGDOM

10. AUSTRALIA