

# SCRUNCH!

Captain Scrunch scrunches numbers by adding their digits together. For example, if he sees the number 35, he scrunches it like this:

$$35 \longrightarrow 3 + 5 \longrightarrow 8.$$

What happens when he sees the number 87? If you guessed that it gets scrunched into 15 you are half right. But Captain Scrunch doesn't stop there – he keeps going until the number can't be scrunched any more. So from 87 he gets

$$87 \longrightarrow 8 + 7 \longrightarrow 15 \longrightarrow 1 + 5 \longrightarrow 6.$$

It turns out there is a message written in a secret code, called Scrunch Code. To decode it, you need to scrunch all the numbers in the list below. Then look up on the decoding chart to see what letter each scrunched number stands for.

- 1 O
- 2 C
- 3 M
- 4 Y
- 5 A
- 6 G
- 7 E
- 8 M
- 9 D

**8 7** 6

**3 8 8** \_\_\_\_\_

**4 0 1** \_\_\_\_\_

**7 4** \_\_\_\_\_

**8 1 5** \_\_\_\_\_

**7 2 9** \_\_\_\_\_

**9 7** \_\_\_\_\_

**2 9 6** \_\_\_\_\_

**7 3 3** \_\_\_\_\_

**G** \_\_\_\_\_

## THE SCRUNCH TABLE

There is another hidden message. To find it, you need to make the scrunch table. The scrunch table is a chart that tells you what happens if you add two numbers and then... SCRUNCH! See if you can fill out the entire scrunch table. For a lot of the numbers, you don't need to scrunch at all. One square is filled in for you, to show you how it works. After you have completed the table, look up the Scrunch Code letters for the numbers in the shaded squares. They will tell you what Captain Scrunch has to say to you!

	1	2	3	4	5	6	7	8	9
1									
2									
3									
4							2		
5									
6									
7									
8									
9									

## SCRUNCHED MATH

Here is a math problem. Can you figure out the answer?

$$\begin{array}{r} 28 \\ + 11 \\ \hline \end{array} \quad \begin{array}{r} \phantom{28} \\ + \phantom{11} \\ \hline \hline \end{array}$$
$$= \phantom{28} \quad = \phantom{28}$$

Now scrunch each of the numbers and write the answers in the blanks. Does the addition problem still work? Try another one:

$$\begin{array}{r} 25 \\ + 17 \\ \hline \end{array} \quad \begin{array}{r} \phantom{25} \\ + \phantom{17} \\ \hline \hline \end{array}$$
$$= \phantom{25} \quad = \phantom{25}$$

## THE SCRUNCH DETECTIVE

Tim the Tax Man has been adding up numbers all day. These numbers are so big, it is very hard to add them properly. He has done pretty well, but he has made one mistake. Can you use SCRUNCHED ADDITION to check on which problem Tim has made a mistake? Scrunch all the numbers and check which additions are still right. Remember, one and only one will be wrong!

$$\begin{array}{r} 2476 \\ + 6831 \\ \hline 9307 \end{array}$$

$$\begin{array}{r} 3629 \\ + 4488 \\ \hline 8117 \end{array}$$

$$\begin{array}{r} 1024 \\ + 5791 \\ \hline 6715 \end{array}$$

$$\begin{array}{r} 2727 \\ + 6131 \\ \hline 8858 \end{array}$$