

Make Your Own Cryptography Treasure Chest

Cryptography Treasure Chest Challenge

Create your own locked treasure chest and challenge someone to decrypt the message and gain access to the treasure!

What is it?

This activity uses a padlocked box and an encrypted message. First, the box will need to be set up and the clue encrypted. This can be done by following the step-by-step guide. Once done, it is time to break into the treasure chest! Challenge someone to decrypt the message. They will need the cryptography sheets to work out the cypher used and decipher the message to reveal the lock code and open the treasure chest!

What You'll Need

Box(e.g. Cereal Box, shoe box etc), Lock(e.g. Number locker/suitcase lock), Sellotape, Scissors, Encrypted messages, Deciphering sheets

Extra Challenge

Try using more than one box!
Place boxes of different sizes inside each other and link the encrypted messages! Try adding a timer! The boxes can be used numerous times – simply change the encrypted message!

Why are we doing this?

This is a fun and hands on activity that helps improve problem-solving skills. It helps to understand more about encryption and decryption.

Step by Step Chest Set Up Guide

Follow these steps to set up your cryptography treasure chest!



Step 1

Gather together the resources needed to create your treasure chest!



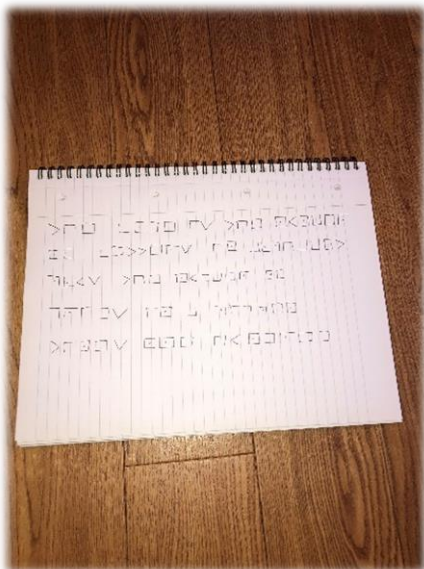
Step 2

Sellotape the ends of the boxes to stop them from opening. Next cut the box as shown in the photograph. Ask an adult to help with this.



Step 3

Carefully, with the help of an adult, make 2 holes for the lock to fit through. Push the "U" shaped shackle through each hole to make sure the holes are the right size. Reinforce the holes with Sellotape. Check you can get the lock through both holes before continuing.



Step 4

Now choose a cypher and encrypt your message. This message will work out the code for the lock. You can encrypt the word for the number itself (e.g. write SIX in binary letters) or make it harder and have sentences that need to be decrypted and then from the information work out what the number is. Example of encrypting words:

The = Code =



Step 5

Once you have your encrypted message, cut it to fit the lid of the box and Sellotape around the edges. Make sure you write the answers down somewhere!



Step 6

Pop the treasure in the box, close the lid and secure with lock! Now your treasure chest is complete!





Binary Alphabet

A	01000001
B	01000010
C	01000011
D	01000100
E	01000101
F	01000110
G	01000111
H	01001000
I	01001001
J	01001010
K	01001011
L	01001100
M	01001101
N	01001110
O	01001111
P	01010000
Q	01010001
R	01010010
S	01010011
T	01010100
U	01010101
V	01010110
W	01010111
X	01011000
Y	01011001
Z	01011010

a	01100001
b	01100010
c	01100011
d	01100100
e	01100101
f	01100110
g	01100111
h	01101000
i	01101001
j	01101010
k	01101011
l	01101100
m	01101101
n	01101110
o	01101111
p	01110000
q	01110001
r	01110010
s	01110011
t	01110100
u	01110101
v	01110110
w	01110111
x	01111000
y	01111001
z	01111010

Aa	• —	Jj	• — — —	Ss	• • •
Bb	— • • •	Kk	— • —	Tt	—
Cc	— • • — •	Ll	• — • •	Uu	• • —
Dd	— • •	Mm	— —	Vv	• • • —
Ee	•	Nn	— •	Ww	• — — —
Ff	• • — •	Oo	— — —	Xx	— • • —
Gg	— — •	Pp	• — — •	Yy	— • — —
Hh	• • • •	Qq	— — • —	Zz	— — • •
Ii	• •	Rr	• — •		

Morse Code

A	B	C	J	K	L
D	E	F	M	N	O
G	H	I	P	Q	R

S		
T		U
W		
X		Y
Z		

Pigpen chart

Cypher Wheel

