# The Amazing <br> codk 

Build Your Own Real Wind-Up Clock!

## Instruction Booklet

## Introduction

Welcome to The Amazing Clock Kit. This booklet will guide you through building your clock. As with any self-assembly kit, it is important to ensure that you use an appropriate working area with a clear, flat surface. All pieces will fit together simply and in accordance with the instructions. Please always check that you are using the correct piece and that you are putting it into place the right way round!

Please also ensure that you keep the pieces of the kit away from children under the age of 36 months, as the small pieces present a potential choking hazard.

It is important to remember that this is an educational kit, designed to help children aged from 5 to 15 understand how a wind-up clock works. When fully wound, the clock should run for around six hours. It is not intended to be a long-term time piece.

Some younger children may benefit from adult assistance in constructing the clock.

## How the clock works:

When the clock is wound, the clock's spring is tightened. As the spring gradually releases its tension, it transfers the energy that makes the clock run, and one by one, the cogwheels turn. The pendulum controls the speed with which the energy is released and in so doing, it helps the clock to keep time and regulates the speed at which the cogwheels turn and the spring loosens. Eventually, when the spring has unwound, it will have no energy left to transfer to the cogwheels, and so the mechanism will need to be rewound to start the process again.

So now, let's build the clock! We'll start on page 2 with showing you the different pieces in the kit. Before you start, familiarise yourself with the pieces and check to make sure you have all of them to hand! Then, from page 3, you will be able to see a step-by-step guide to building the clock. Good luck!!

## Contents



## Step 1

Place base of clock on a flat surface.

## Step 2

Position the clear circle with tail (number 11) on the small pillar as pictured.

Then place the silver bell (number 5) and the large clear stopper (number 6) on the pillar directly underneath the clear circle with tail.

Now attach the silver hammer (number 3) on the pillar to the left of the clear circle with tail and secure with the second large clear stopper.


## Step 3

Place the green wind-up crank (number 20) through the back of the clock (to the right of the silver hammer).

Then position the white ratchet wheel (number 19) on top of the green wind-up crank pushing it down as far as it can go until the piece is secure.

Please note the white ratchet wheel must have the flat side facing upwards.

## Step 4

Place the red wheel (number 16), white wheel (number 17) and yellow wheel (number 15) in this order as pictured.


## Step 5

Connect the thicker end of the white gear (number 23) through the flat end of the black wheel (number 24).

Then place this in the middle of the base of the clock with the thin end of the white gear facing upwards.

Position the black cog with four legs (number 4) on the pillar to the left of the silver hammer.


## Step 6

Position the green wheel (number 27) on the pillar to the left of the black wheel.

## Make sure the green wheel is interlocked with both the black pieces.

Place the pink wheel (number 28) through the white gear that is connected to the black wheel.

## Step 7

Position the red and white wheel/spring (number 18) through the green wind-up crank.

Make sure the white ratchet wheel is still secure.
Place the blue wheel (number 14) on the last remaining pillar.

Make sure the blue wheel overlaps the red and white wheel/spring and interlocks with the yellow wheel.


## Step 8

Attach the face of the clock on top of the base of the clock.

Secure by putting the yellow pin (number 25) through the hole that is situated above the number 12 on the clock, and by putting the green stopper (number 10) through the hole between numbers 4 and 5 on the clock.


## Step 9

Place the hour hand (number 13) over the pink wheel in the middle of the clock.

Then put the minute hand (number 12) over the hour hand.

The clear triangular stopper with grooved ends (number 9) is then placed over the two hands to secure them into position.


## Step 10

## Now flip the clock over.

Connect the clear fork (number 22) and the yellow lever (number 26) together making sure it clicks into place.

Once together the shape should look like a Z with the arms of the clear fork facing downwards. Put the clear fork through the hole at the top of the clock situated directly below the yellow pin holding the face and the base together.


## Step 11

Place the white stool (number 29) over the clear fork and yellow lever and through the yellow pin so that the mechanism is secure.


## Step 12

Connect the top and the bottom of the yellow pendulum (number 21) by locking the ridged edges together.

Place the completed pendulum on top of the white stool and the yellow lever making sure the print ' + fast and slow' is facing you.

Put the clear triangular stopper with solid ends (number 8) over the end of the white stool to hold the top of the pendulum in place. Then attach the small clear stopper (number 7) on top of the yellow lever.

## Step 13

The clock is now complete. In order for the clock to start working just wind-up the green crank at the back of the clock and tick-tock - let it rock!!!


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