

# Optical Collection

## 8 IN 1 ILLUSION SET

### Advice for Supervising Adults

This experiments kit is only intended for use by children over the age of 8 years. The instructions should enable adults to assess the experiment's suitability for the child concerned. Before starting the experiments, read through the instruction manual together with your child and discuss the safety information. Check to make sure the kit has been assembled correctly, and assist your children with the experiments.

### Notes on Using Batteries in Experiments:

**Warning!** Only for use by children aged 8 years and older. Instructions for parents or other supervising adults are included and have to be observed. Keep the packaging and instructions as they contain important information.

### COMPONENTS:

- A. Base
- B. Spring connectors x3
- C. Switch box
- D. Motor
- E. Spin tray
- F. Pattern cards x2

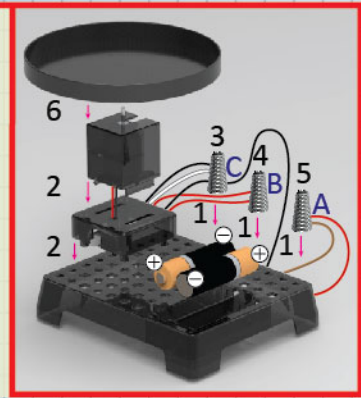


### Additional items needed:

- Pair of scissors, Cutter,
- Felt pens, Paper

### Setting up the Spin device:

1. Install three spring connectors onto the base at position A, B and C narrow end down, push the spring as far as it will go.
2. Install the switch box on the base and motor on the switch box
3. Connect the black and white cables of the switch box, the black motor cable and the black battery cable to the spring connector at position C. Bend the spring over to create a gap into which the exposed metal wire is inserted.
4. Connect the red motor cable and the red cable of the switch box to the spring connector at position B.
5. Connect the red battery cable and the brown cable of the switch box to the spring connector at position A.
6. Install the spin tray on the pin of the motor.



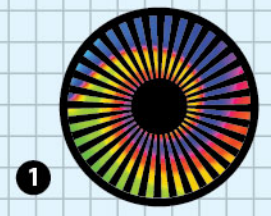
### Battery Installation:

Insert two AA batteries into the battery compartment according to the polarity as shown.

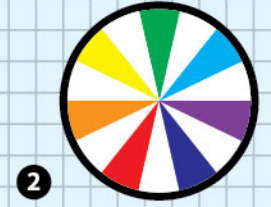
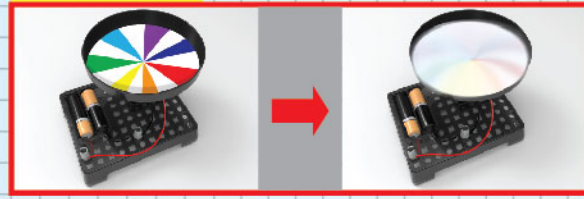
### How to use:

Separate the circle or pattern from the card by following the die-cut line carefully. Put the circle on the spin tray. Use the slide switch to select the desired speed (off-low-hi) Experiment with different speeds on the illusion effect. The tray may need a slight push to start at the lowest speed setting.

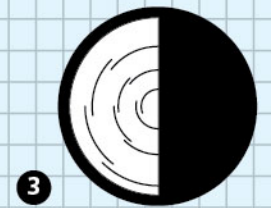
### Experiment 1: Color Swirl (use Circle 1)



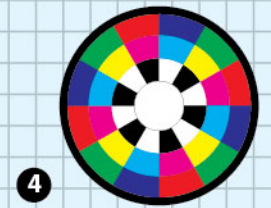
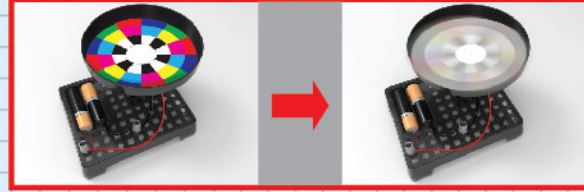
### Experiment 2: Color Mixer (use Circle 2)



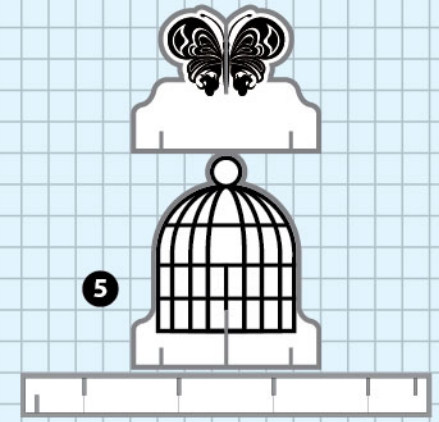
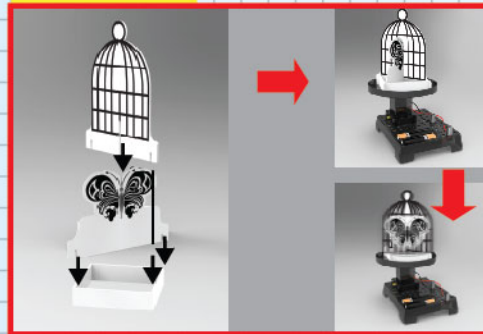
### Experiment 3: Black and White (use Circle 3)



### Experiment 4: Component color mixer (Red-Green-Blue) (Cyan-Magenta-Yellow) (use Circle 4)



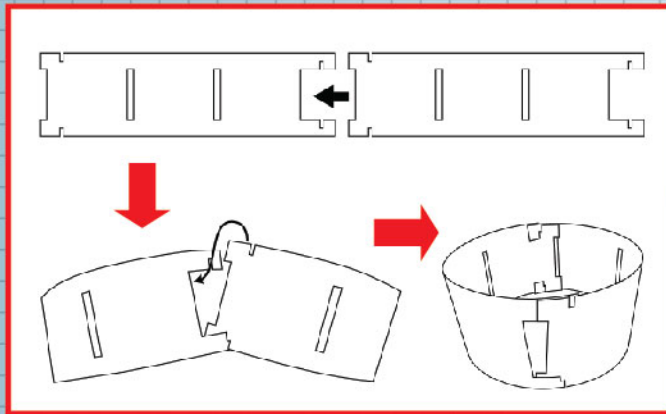
### Experiment 5: Butterfly house effect (use Cards 5)



Slide the butterfly house into the slot of the butterfly card at right angle. Reinforce the feet with a square made of the long paper strip



## Experiment 6: Animation effect (use Cards 6)

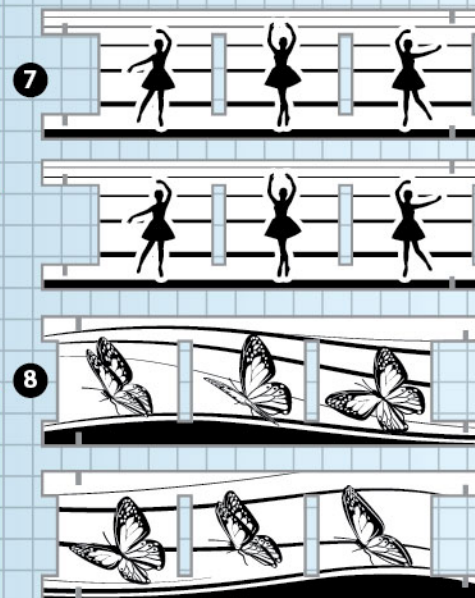
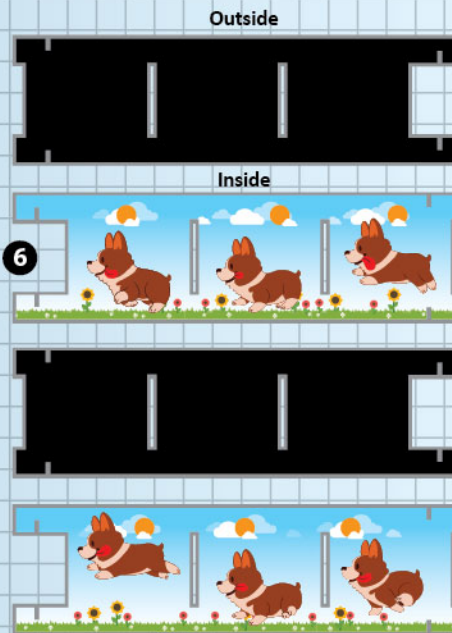
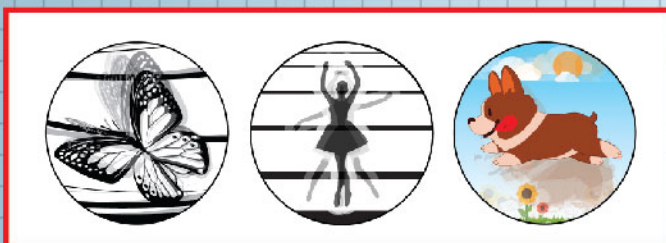


Connect the strips together to make two rings (Black and Animation) as shown. Note the face with the animation pictures is on the inside. Black color is on the outside.



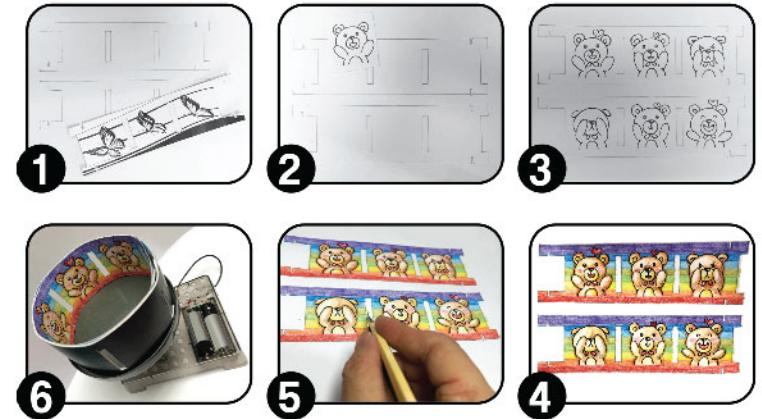
Align the slots of both rings and place on the spin tray. Look through the slots when spinning.

use (Cards 7) stick figure and (Cards 8) butterfly to see more animations



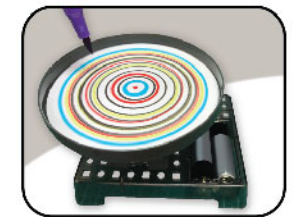
## Create your animation strip

1. Use one of the provided animation strip as template. Draw the outline on a piece of paper (not included). Draw one more below it.
2. Draw the animation in each frame from left to right.
3. For smooth animation, make small changes from frame to frame.
4. Add color if needed.
5. Cut out the strips. Remember to cut the slots.
6. Replace the supplied animation strip with your own.



## Experiment 7: Make spin art

Cut a paper disc (not included) to fit in the spin tray. You may add double sided tape or a glue dot on the back to hold it in place. Switch on the tray. Press the felt pen lightly on the paper to make circular patterns. Move it in or out as it spins to create spirals or thick circles.



### Batteries Required:

2 X AA / LR 6 (Not Included)

Alkaline Batteries Are Recommended. Do Not Use Rechargeable Batteries. If The Toy Is Not Used For A Long Time, Remove The Batteries.

Non-Rechargeable Batteries Are Not To Be Recharged. Different Types Of Batteries Or New And Used Batteries Are Not To Be Mixed. Rechargeable batteries are to be removed from the toy before being charged. Rechargeable batteries are only to be charged under adult supervision. Exhausted Batteries Are To Be Removed From The Toy. The Supply Terminal Are Not To Be Short-Circuited.



If any time in the future you should need to dispose of this product please note that Waste Electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice. (Waste Electrical and Electronic Equipment Directive)