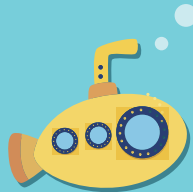


## FUN FACTS

THE ORIGINAL CARTESIAN DIVERS WERE MADE  
OUT OF GLASS MEDICINE DROPPERS.



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PARK PARADE, LONDON, NW10 4HT. MANUFACTURED BY HANGZHOU ZT MODEL COMPANY LIMITED. ADDRESS: NO 6  
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# LEARNING BOOKLET

## Deep Diving Seahorse



**WARNING:**  
CHOKING HAZARD - Small parts,  
Not for children under 3 years.

AGES **3+**

# WARNING MESSAGE

## GENERAL WARNING

Before you begin, please read through the instructions together with your children. Make sure you understand the safety messages. Please keep the packaging and instructions, as they contain important information.

This kit is designed for children over 3 years of age.

**CHOKING HAZARD** - Small parts, not for children under 3 years.

Children should have parental supervision when assembling the product.

Please clean the product with a clean cloth when necessary.

## Package Contents



## Auxiliary tools



## Installation steps

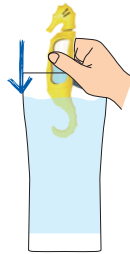
1. Insert the rings into the marine creatures.
2. Fill the plastic bottle with water.



3. Put the starfish, scallop and conch into the bottle.



4. Pinch the dropper inside the seahorse's body, and absorb appropriate amount of water.



5. Put the seahorse into the bottle, observe the floating state, and repeatedly adjust the quantity of water in the dropper depending on the floating state.

#### State I

With too much water in the dropper, the seahorse rapidly sinks to the bottom after entering water.

#### Modification Method:

Take the seahorse out with a hook (you can make one with wire), gently squeeze the dropper to let out a small amount of water. Put the seahorse back into the bottle for observation.

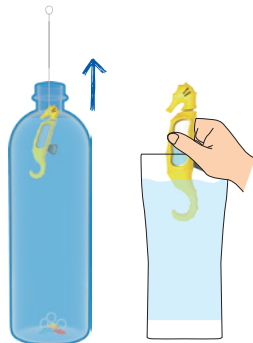


#### State II

With too little water in the dropper, the seahorse floats up to the water surface after entering the water.

#### Modification Method:

Take the seahorse out with a hook, continuously absorb a small amount of water from the cup, and put it into the bottle for observation.



#### State III

With a moderate amount of water in the dropper, the seahorse is vertically self-suspended, floating just below the water surface.

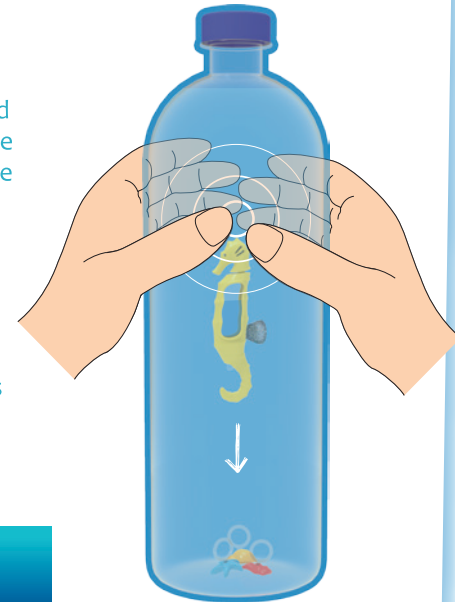


Ideal state

### Method of application

Screw the cap onto the water bottle with the seahorse adjusted to the ideal state, grasp the bottle and squeeze with both hands, the seahorse will slowly sink to the bottom. See how the seahorse slowly floats back to its initial position after releasing pressure with your hands.

Apply the sticker on the bottle as the background of the seahorse.



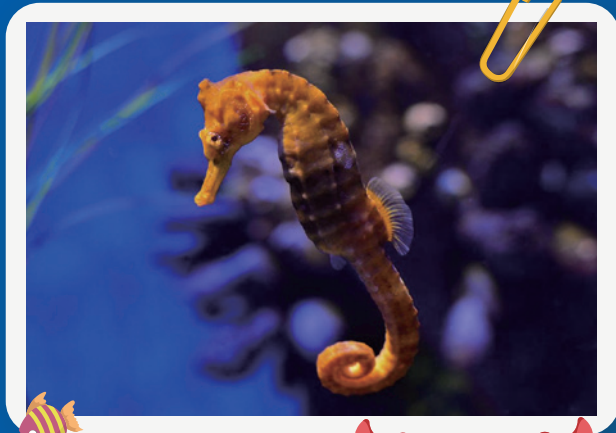
Stick here



# What does it do?



Learn about pressure and change in density with this fun Deep Diving Seahorse.



It will sink and float when you squeeze and release the bottle.



# How does it work?



If the water level is adjusted correctly in the dropper inside the seahorse, you can see the water in the dropper rising when you squeeze the bottle.



The air inside the dropper will be compressed into a smaller space and higher density.

When density increases, the dropper becomes heavier. The seahorse becomes less buoyant and it sinks.

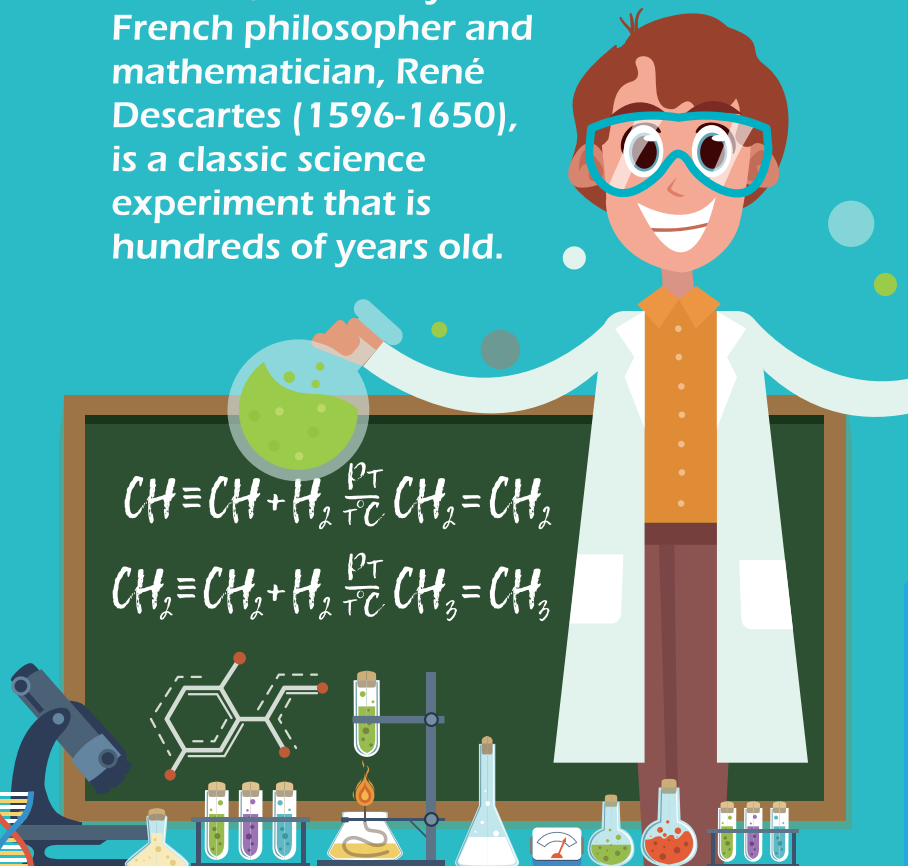


When you release, the compressed air expands and pushes the water out of the dropper, allowing the seahorse to float up again.



## The Cartesian Diver

, named by French philosopher and mathematician, René Descartes (1596-1650), is a classic science experiment that is hundreds of years old.



## FUN FACTS



**Divers float and sink** by controlling their breath. Their level is determined by the amount of air inside their lungs. The more air in their lungs, the higher the buoyancy, and vice versa.

