

EXCAVATION KIT

THAMES & KOSMOS

DIGIT! SEALIFE

OCEAN LIFE

Wow!
Find all the sea
creatures!



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Kit Contents

- 1 Excavation block containing hidden
ocean creatures:
 - A Whale shark
 - B Swordfish
 - C Ray
 - D Whelk
 - E Lionfish
- 2 Hammer
- 3 Chisel
- 4 Sponge

Do you have any questions?
Our tech support team will be glad to
help you!
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Dear Parents and Supervising Adults,

Please assist, support, and accompany your child while excavating the ocean creatures. Read the manual together before starting the experiment and follow it. Also, please be sure not to allow any of the pieces to get into the hands of small children, especially the plaster pieces that are left over after excavating the figurines. These can be disposed of in the household trash.

SAFETY INFORMATION

WARNING! Not suitable for children under 7 years. For use under adult supervision. Read the instructions before use, follow them and keep them for reference.
This kit contains functional sharp edges or points. Do not injure yourself!

WARNING! Not suitable for children under 3 years. Choking hazard — small parts may be swallowed or inhaled.

Follow the instruction manual when performing the excavation. Keep small children and animals away from the experiment area. Do not eat or drink at the experiment area. Process the plaster block slowly and moisten it to prevent the formation of chips and dust. Do not place the plaster material in mouth or eyes. Clean all equipment and the work area after use. Wash your hands after the experiment.

Keep the packaging and instructions as they contain important information.

HOW TO EXCAVATE THE SEA CREATURES

1. Start by preparing a suitable workplace.
Ideally, find a room where it won't
matter if a few pieces of plaster or a
few drops of water fall here and there.
You should have enough room available
on a level table surface that can risk
getting a little messy. Spread out some
old newspaper to protect the surface.
Get the excavation block, sponge,
hammer, chisel, and a bowl of water
ready. You will also need a small ruler.



2. Proceed with the excavation as a
paleontologist would. A paleontologist is
a scientist who studies the history and
process of evolution by examining the
preserved traces of animals and plants,
often by digging up fossilized remains.
Divide your site into squares with the
help of the dry sponge. Use the chisel
and ruler to scratch a grid pattern into
the surface. The individual squares
should be about the size of the sponge.



HOW TO EXCAVATE THE SEA CREATURES

3. Now start excavating in any one of the search squares. First, soak the sponge in the bowl of water, then place the sponge on a square, and carefully squeeze out the water.



4. The plaster in the square will then become softened by the water, and you can use the chisel to scratch away the surface. When you come to harder spots, wet the plaster again to soften it. Use the hammer and chisel to carefully dig around them. As soon as you come across an object, dig around it gently. Dig very carefully, removing only small bits of plaster at a time, or else you risk damaging the object.



5. Now, continue step by step in the other squares just as you did in the first, until you gradually uncover all of the creatures.

6. Once you have recovered all of the creatures, you will still have to clean off any plaster remains that may be stuck to them. Rinse them one by one under running water, rubbing their surfaces with the sponge. It is best to put the stopper in the drain so you don't lose anything. Finally, dry your discoveries with a paper towel.



After excavating and cleaning your creatures, you should thoroughly wash your hands and clean the workplace. You can throw the newspaper with any plaster bits into the household trash.

CHECK IT OUT



Excavate like a true archaeologist

ARCHAEOLOGY is essentially the study of old things. Scientists who work in this field of study are called archaeologists. They search for preserved works of art, remains, and tools that belonged to ancient cultures and civilizations. Archaeologists use these objects that have been left behind to gain new information about the development of humankind. Although you won't find the same kinds of artifacts in your plaster block, you're excavating in much the same methodical way that a real archaeologist would!

LOCATING SMALL PARTS

THE WASTE EXCAVATED DURING AN ARCHAEOLOGICAL DIG IS CAREFULLY SIFTED AND EXAMINED AGAIN TO MAKE SURE THAT NO TINY ARTIFACTS THAT MIGHT BE CONCEALED IN THE DIRT ARE MISSED. YOU DON'T HAVE TO DO THIS FOR YOUR OCEAN DIG EXCAVATION! SIMPLY COMPARE YOUR FINDINGS WITH THE LIST OF CONTENTS PROVIDED WITH THIS KIT.

Wow!
Real treasure!



UNDERWATER ARCHAEOLOGY

Not all archaeologists work on land and dig in the dirt for artifacts. Some also dive to the bottom of seas, lakes, rivers, wells or caves in search of exciting discoveries. Old **shipwrecks** are particularly interesting. In 1984, the researcher Barry Clifford discovered a shipwreck and found the greatest known **pirate treasure** of all time. This treasure was more than 250 years old and worth millions of dollars.

Why search in a grid?

Archaeologists often divide their excavation sites into a **grid of squares**, allowing them to record the exact location of each artifact. This helps archaeologists come up with ideas about what the **individual parts** of a discovery may have been used for, which can lead to theories about the ancient culture as a whole.



SALT WATER AND FRESH WATER



EXPERIMENT

The creatures you have unearthed are all at home in the ocean. If you have ever swallowed any water while swimming in the sea, you will know that it is really salty. But you don't have to taste water in order to tell the difference between salt and fresh water! You can also test it using the following experiment.

You will need:

- 2 drinking glasses
- 2 raw eggs
- Ocean life figurines from this kit
- Teaspoon
- Salt
- Grapes
- Water

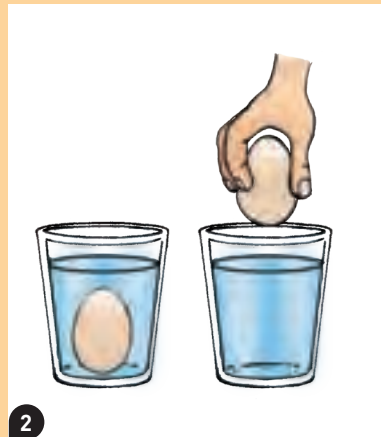
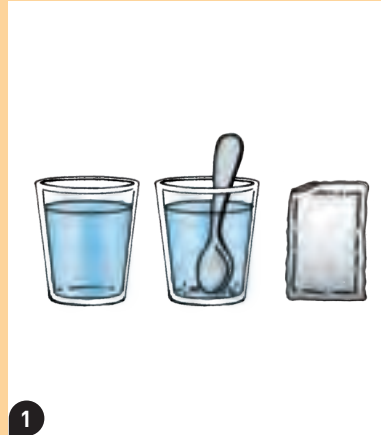
Here's how:

1. Fill two glasses with tap water. Add six teaspoons of salt to one of the glasses and stir until you can no longer see the salt at the bottom of the glass and the water looks clear.

2. Now place a raw egg into each of the glasses of water.

What do you notice?

3. Can you make the ocean creatures and grapes float in the glasses?



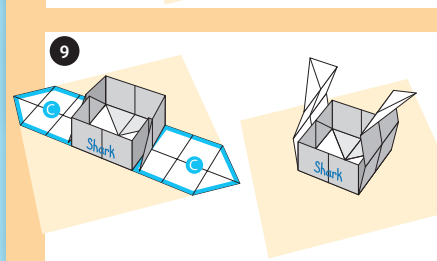
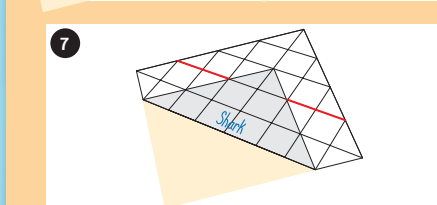
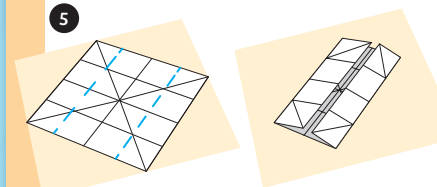
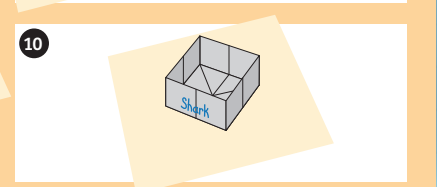
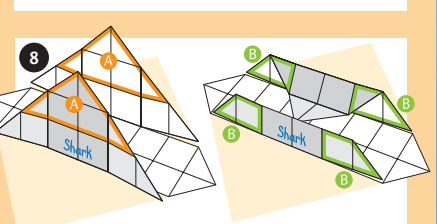
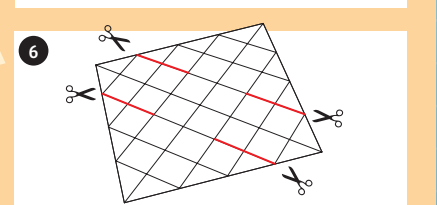
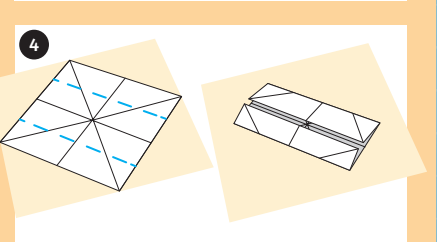
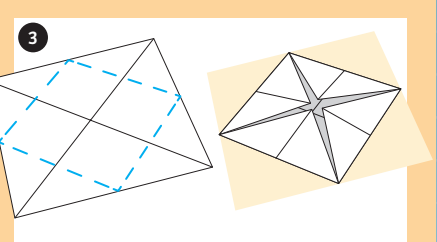
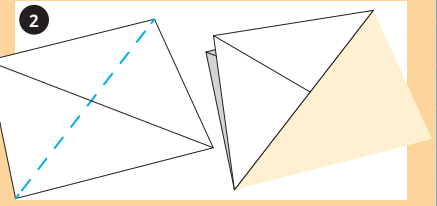
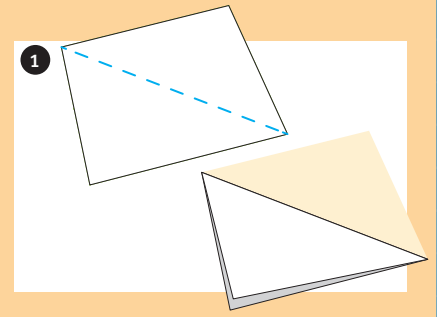
WHAT'S HAPPENING?

Eggs are heavier than fresh water and therefore sink to the bottom of the glass. If you dissolve salt in the water by stirring it in, the water becomes heavier. In technical terms, we say that its density has increased. As soon as the water reaches a higher density than the egg, it will float instead of sinking. You may have experienced this effect yourself while on vacation at the beach: You can float much more easily in salty ocean water than in a pool or freshwater lake. However, the density of the water cannot be increased indefinitely, so even if you add more salt, you will not be able to make the ocean creatures float.

A PLACE TO KEEP YOUR SEA CREATURES

Make boxes to store your sea creatures in! You just need a sheet of heavy paper, scissors, and a ruler.

1. For each box, cut a piece of paper 10 cm by 10 cm (4 in. by 4 in.) in size.
2. Fold the sheet diagonally, or from one corner to the opposite corner, and then fold the paper back again.
3. Fold each corner to the center and leave folded.
4. Fold one side to the center and then do the same with the opposite side.
5. Unfold the two sides again and then do the same with the other two sides.
6. Unfold the sheet and cut along the lines shown in red.
7. Now you can label the side section. Fold up the lower corner, and write the name of the specimen in the proper place as shown. If you prefer not to, of course, you can apply an adhesive label later on.
8. Lift the two triangular side pieces and fold the A sections inward, with their tips meeting in the middle of the box.
9. Then fold the B sections inward at a right angle, and fold the C sections in over the B sections.
10. This is how the box should look. If it is not stable enough, you can help hold it together with a few drops of all-purpose glue. Place some cotton balls in the box, and rest your figurine on top.





CHECK IT OUT

SPEARFISH: SPEEDY HUNTER

A spearfish is a large **predatory fish** with a long, streamlined body and a distinctive spear at the front of its head. In contrast to the flattened sword of the swordfish — a close relative of the spearfish — the spearfish's spear is slightly shorter and round in cross-section.

Spearfish are very fast swimmers who hunt in groups for smaller fish such as sardines and mackerel, sending out signals to each other as they encircle their prey.

Lionfish:

Pretty, prickly pal

Lionfish belong to the scorpionfish family. Like their namesake on land, scorpionfish are highly **poisonous**. The poison is located in the tips of the fins and is used to ward off enemies. For humans, contact with a scorpionfish fin is very painful, but not fatal.

To the human eye, lionfish are quite striking, with their bright color, intricate pattern, and spiky shape. However, in their natural habitat — the coral reef — lionfish are perfectly camouflaged!

Ray: Flat bottom dweller

Rays make up a very large group of **fish** comprising more than 600 species. These include small species measuring just 30 cm, but also huge animals that measure up to 9 meters in length and weigh up to 3 tons!

A typical characteristic of all species is their long, thin tail and flat shape, which results from the fusion of their **pectoral fins** with their heads. Most rays are bottom dwellers, who bury themselves in the ocean floor up to their eyes and breathing hole to hide while waiting for their prey.



WHALE SHARK: GIANT OF THE SEA

Despite its deceptive name, the whale shark is in fact a **fish**. With a length of up to 12 m, it is actually the largest fish in the world! Despite being such a giant, the whale shark only eats plankton and small fish. Nevertheless, people should also keep their distance. Anyone who gets too close could be pulled into a whale shark's mouth by the tremendous suction produced by its gills, or could be injured by a blow from its huge tail fin.

Cool!

My house comes with me wherever I go!



Whelk: Skilled builder

Whelks are sea snails. These **scavengers** are at home in all of the world's oceans.

They are born with a tiny soft shell. In order for the shell to harden and grow along with the snail, the snail must absorb calcium from its food. The snail then excretes this calcium in the form of **calcium carbonate** onto its back, where it solidifies. With every spiral segment, the snail gradually forms its solid shell, which protects it from predators and injuries.

