

**GEEK  
& CO.  
CRAFTS!**

**INSTRUCTION MANUAL**

# Do-it-YoURSeLF UFOs



**THAMES & KOSMOS**

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## **SAFETY INFORMATION**

### **WARNING.**

Not suitable for children under 3 years of age. There is a risk of choking due to small parts that may be swallowed or inhaled. There is a risk of strangulation if long wires become wrapped around the neck. This kit contains sharp wires. Do not injure yourself! Save the packaging and instructions. They contain important information.

### **Dear Parents,**

The mysterious world of UFOs offers lots of opportunities to tinker, to experiment, and to play. This kit manual presents a variety of ideas for UFO construction as well as encourages your child to come up with ideas of his or her own. On top of that, the techniques applied here allow for re-use of important individual components such as the UFO dome, so the kit can be used over and over for an endless wealth of inventive fun. The assembly ideas are kept simple, but your help will still be needed, so please

be prepared to offer your assistance in your child's exploration of outer space.

Wire and pieces of wood will have to be cut. Please handle these steps for your child or show your child the proper way to use the tools for completing them. Be sure to return the tools to a location out of the reach of children after use.

**We wish all UFO  
engineers lots of fun  
with the projects!**



# PART 1

# OFF WE GO!

## Creating a UFO

*Have you ever seen an actual UFO? No? That's OK, because here's where you get to create one of your very own!*

### What sort of shape does a UFO have?

Does it look round like a ball, or more like an egg? Does it have legs and a window? And what about the door?



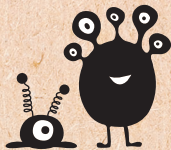
### What color will your UFO be?

Will your UFO be an inconspicuous silver, suitable for carrying out a secret mission? Or will it come visiting all decked out in

bright, gaudy colors?

### What will its crew look like?

Will they be out-of-this-world small, big, thin, or fat? Will they have



antennas? And above all: How many eyes will they have?

To make a record of your ideas, try drawing a picture of your UFOs against the outer space background on the opposite page. If you have more ideas, just take another sheet of paper and keep drawing!

Draw or attach a  
picture of your UFO and  
its crew here!



## PART 2

# THE BASICS OF BUILDING A UFO

### Attaching the UFO dome

#### You will need:

UFO dome, round box, hobby paint, paintbrush, pencil, scissors, compass or round object, ruler

#### Here's how:

- 1 Paint the outside of the round box with hobby paint, maybe gray or silver. Ideally, paint the shallow and the deep box pieces separately, so they don't stick together when they dry.
- 2 Set the UFO dome on the tall box piece and draw around its outline with the pencil. That's the red line in the drawing. Then, about 1 cm inside that circle, draw a smaller circle (the blue line in the drawing). You can use a suitably-sized round object or a compass.

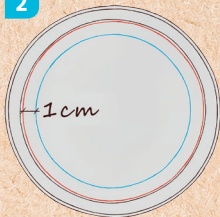
1



### TIP!

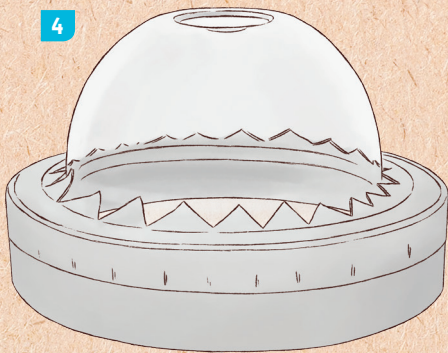
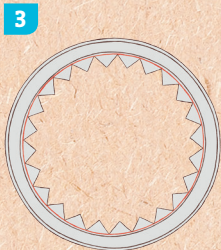
You can also just try decorating your UFO with blue and silver foil. See page 11 for ideas.

2



**3** Cut along the inner blue line. Next, cut into the area between the blue and the red lines in a jagged or zigzag manner.

**4** Push the UFO dome through the jagged edge from below. The teeth will get pushed up and hold the dome firmly in place. This way, you can easily remove the dome and use it again in other UFO models.



Countdown!

## TIP!

On the next page, you will see instructions for making the UFO's legs. Before you start this, think about how many legs you will need in total — for the UFO, for the exploration capsule, and maybe another UFO model. The more legs you need, the shorter they will have to be. Keep in mind that you can always use other wooden skewers or toothpicks.



## Attaching the UFO legs

### You will need:

4 wooden dowels, green clay, shallow part of the round box, pencil, pin, garden shears, hobby glue

### Here's how:

**1** For the UFO legs, use the pin to bore four holes into the shallow part of the box. The holes should be a little smaller than the diameter of the wooden dowels, and they should all be the same distance away from the edge.

**2** Does your UFO have long or short legs? Shorten the legs to the desired length. You can do that with a pair of garden shears — and a little force.

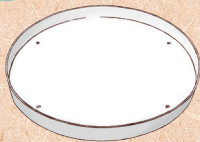
**Have an adult help you!**

**3** Apply a little glue to the holes you bored in the box, and let the glue dry a little. Meanwhile, mold the green clay into feet for your UFO and stick one onto the end of each dowel. Then, push the other ends of the dowels into the holes in the box.

Adjust the legs so that the UFO is stable. Apply a little more glue to the holes and let everything dry completely.



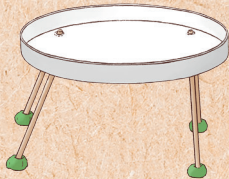
**1**



**2**



**3**





# The search for extraterrestrial life

## Are we alone?

This is a question that has been on scientists', explorers' and many other people's minds for centuries. **SETI**, or the **Search for Extraterrestrial Intelligence**, is the name for all sorts of ideas and activities that involve the search for intelligent life on other planets.

The first question we should consider is: Are there planets that may be able to support life in the universe? You may find the answer a bit surprising. In just our galaxy alone, the Milky Way Galaxy, there are anywhere from 200 to 400 billion stars and 50 billion planets. In recent studies, it has been estimated that 500 million of these planets may be able to support life or have environments similar to Earth.

One of the most common ways scientists look for possible life in space is by listening for and looking at electromagnetic radiation. Electromagnetic radiation exists all

around us, all the time. Anytime you watch TV, listen to the radio, or use your microwave, there are electromagnetic waves present. We can tell the difference between types of electromagnetic radiation by comparing the distances between their wavelengths.

Scientists at the Search for Extraterrestrial Intelligence Institute use large radio telescopes to listen and see if there is intelligent life somewhere in the universe that is trying to communicate using a type of technology that emits electromagnetic radiation. What would you do if we received a signal? Do you think we should respond?



*A radio telescope*

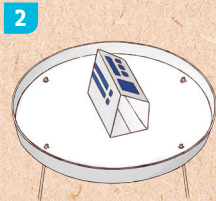
## Building the cockpit

### You will need:

Silver-colored cardboard, blue hologram foil, scissors, pencil, ruler, hobby glue

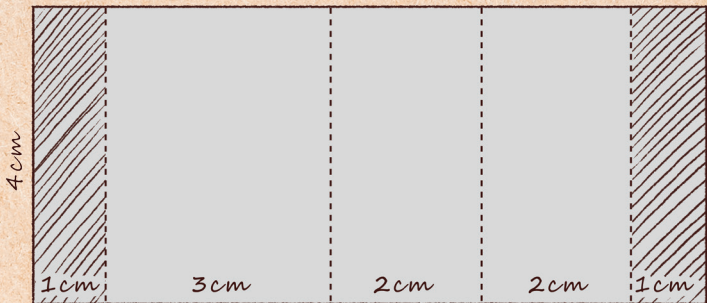
### Here's how:

- 1 For the command console, cut a rectangle out of silver cardboard as shown in the illustration. Fold the cardboard along the dotted lines. It will be easy to fold if you make a groove beforehand on the back side of the cardboard with the pencil and ruler.
- 2 Set up the control console and glue the shaded surfaces to the floor of the round box. Cut buttons and switches out of the hologram foil, and glue them on as well.



1

9cm



## The crew

### You will need:

Green and white clay, wire, wire cutter or combination pliers, pencil, ruler

### Here's how:

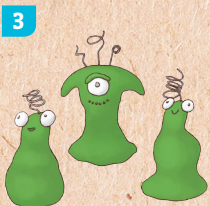
- 1 Divide the green clay into several pieces and roll the pieces into logs about 3 cm long.
- 2 Are your extraterrestrials lanky, triangular, or roundish? Do they have necks, ears, and feet? Mold the creatures out of the clay however you want. Make sure they won't topple over when they stand.
- 3 Now, equip their heads with antennas made out of wire. Use the wire cutter or combination pliers to cut pieces of wire of a suitable length. **Have an adult help you!**

To create wire spirals, wrap the wire around a round pen and then pull off the coil. Make eyes out of white clay. Create mouths by scratching the clay with a piece of wire or embedding wire in the clay.



### TIP!

Remember that your extraterrestrials, along with their antennas, will have to be able to fit under the UFO dome.



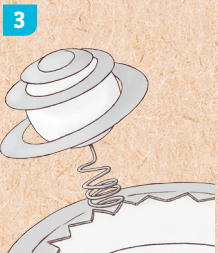
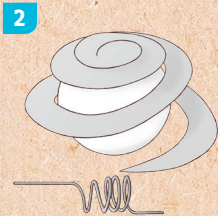
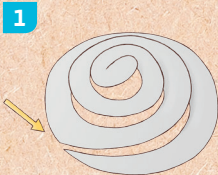
## Deploying the space antenna

### You will need:

Silver cardboard, small cotton ball, wire, pencil, hobby glue, scissors, wire cutter or combination pliers, pin, compass or drinking glass, ruler

### Here's how:

- 1 Use the compass or glass to help you draw a circle about 5.5 cm in diameter on the rear side of the silver cardboard. Then cut a spiral out of the circle.
- 2 Glue the spiral onto the cotton ball. Next, make a wire coil. **Have an adult help you cut the wire!** At one end of the coil, leave a straight section of wire about 2 cm in length, and at the other end leave a straight section about 1 cm in length.
- 3 Use the pin to puncture a hole in the edge of the deep box piece. This is where you will insert the shorter end of the wire coil, and then bend the end and press it firmly in place against the box from the bottom. Stick the cotton ball onto the longer end of the coil. Use a little hobby glue to help secure the wire to the ball.



## Decorating the UFO

### You will need:

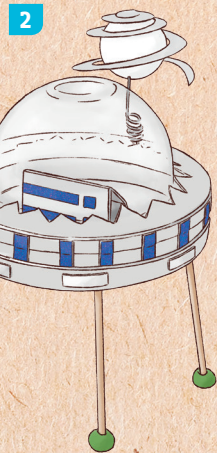
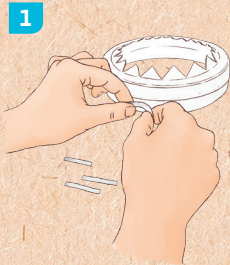
Silver cardboard, blue hologram foil, scissors

### Here's how:

**1** You can decorate your UFO however you like. If you didn't paint the box with hobby paint, you can try gluing long strips of silver foil around the edges. Both the silver foil and the hologram foil are self-adhesive.

Be sure not to glue or stick the two box pieces together. If you do that, you won't be able to open the UFO.

**2** Now it's time for the blue hologram foil. You can cut short sections of it and stick them onto the edge. Or maybe you'd prefer circles? You can also stick on short strips of silver foil. Your UFO is ready!



## TIP!

Is your UFO missing a stairway? No problem: You will see how to make one on page 15.

# PART 3

## EVEN MORE UFO IDEAS

### Building the exploration capsule

#### You will need:

Silver cardboard, one small and one large cotton ball, blue hologram foil, wire, wooden dowels, green clay, pencil, hobby glue, scissors, wire cutter or combination pliers, compass or drinking glass, garden shears, pin, ruler

#### Here's how:

- 1 For the platform, cut a disk of silver cardboard with a diameter of about 5 cm. You can use a compass or drinking glass to trace the circle. Glue the larger cotton ball onto the disk.
- 2 Use the garden shears to cut the wooden dowels into four legs of the desired length. **Have an adult help you!**

1



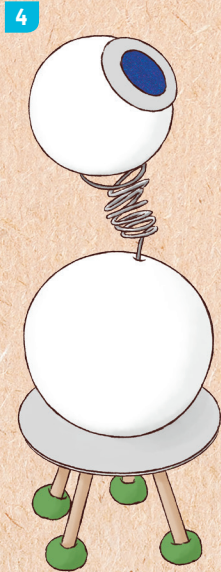
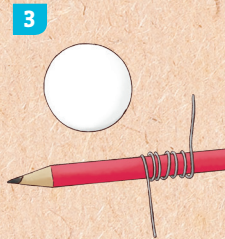
2



Use the pin to bore four small holes into the platform and the cotton ball. Then, insert the legs into the holes at an angle. You can also secure them in place with the hobby glue. Make four balls of clay for the feet.

**3** Cut a piece of wire and use a pencil to help you shape it into a coil. **Have an adult help you cut the wire!** Stick one end of the wire into the smaller cotton ball. Use a little glue to fix the wire firmly in place.

**4** Stick the other end of the wire into the larger cotton ball, and bend everything in such a way that the exploration capsule is stable. Now all you're missing is a camera eye made of a small disk of silver cardboard and some hologram foil. And everything is finally ready for your UFO crew to go on their first reconnaissance mission!



## TIP!

*You can paint the cotton balls with hobby paint or just leave them white.*

## The double-decker

### You will need:

UFO dome, round box, wooden dowels, silver cardboard, silver foil, blue hologram foil, green clay, round cheese box, pencil, hobby glue, scissors, compass or round object, ruler, garden shears, hobby paint and paintbrush (optional)

### Here's how:

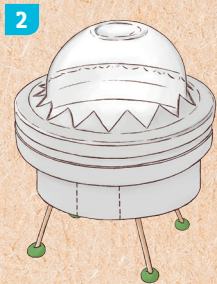
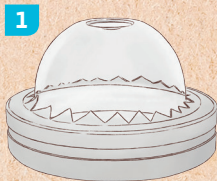
- 1 For the UFO command center, build the basic model together with the dome as described on pages 4 and 5.
- 2 Then take the cheese box, and cut an opening about 2 cm wide in the wall of the bottom part.

Also cut a 2-cm-wide opening in the wall of the lid. That's your UFO door, which will swing up. Then set the lid on the bottom part.

Now glue the command center onto the cheese box with the UFO door. Secure the legs in place as described on pages 6 and 7.

## TIP!

Cheese boxes come in various designs and sizes. Here, we used a small camembert box. But you can just use whatever cheese box you might find at home.

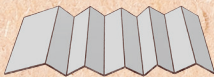




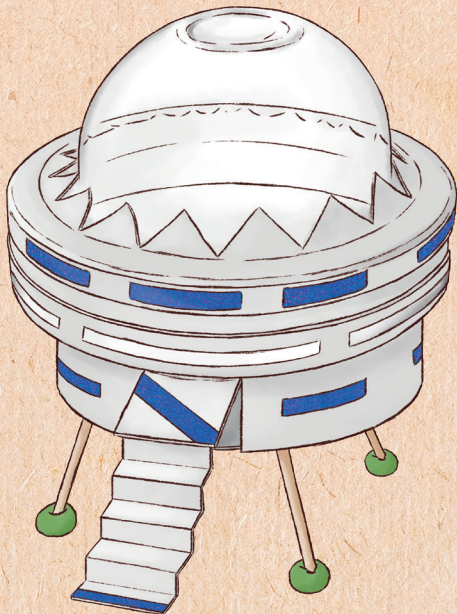
**3** For the stairs, cut a strip 2 cm wide out of the silver cardboard. The length is determined by the height of your UFO legs. Fold up the strip like an accordion. The final step should be a little longer.

**4** Glue the end with the long step into the UFO door. How would you like to decorate your double-decker UFO? Silver foil and hologram foil might help!

**3**



**4**



## Flying saucers

### You will need:

2 small cotton balls, silver cardboard, thread, wire, wooden dowels, pencil, hobby glue, scissors, wire cutter or combination pliers, compass, pins

### Here's how:

- 1 Attach the cotton ball exactly the way you attached the UFO dome (see pages 4 and 5), by cutting a disk 5.5 cm in diameter out of the silver cardboard. The inner and outer circle diameters will be determined by the size of your cotton ball.

For the hanging attachment, bend a piece of wire into an eyelet, bore the eyelet into the top of the cotton ball, and fix it in place with some glue. Four pins will become the UFO's legs. You can hang up your mini-UFO as-is...

- 2 ...or you can use it in a mobile. To make a mobile, you will need two mini-UFOs and two spirals made out of silver cardboard (see page 10). Make the hanging cross-piece out of two dowels tied together.

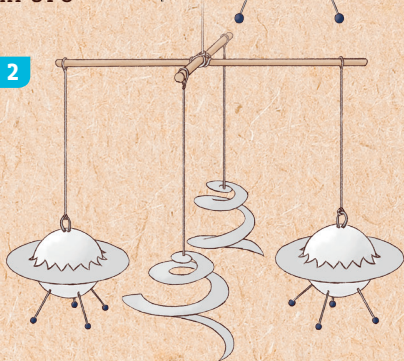
## TIP!

If you already used the small cotton balls that came with the kit, you can make new ones quite easily out of papier-mâché. Or just use Styrofoam balls if you already have some at home.

1



2





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