

⚠️ WARNING: This set contains chemicals that may be harmful if misused. Read cautions on individual containers carefully. Not to be used by children except under adult supervision.
Read chemical information on back panel of instructions before using.

StellarNova™ Jet Car

Instruction Manual



20-30
min. activity



1-2
players



ages 8 and up
with parental
supervision

What You Need:



jet car base



spoon



acid & base



rubber bands



basket



bottle cap

NOT INCLUDED:

16-20 oz soda bottle
2 cups of water
container for water

⚠️ WARNING:
CHOKING HAZARD
Small Parts.



Not for children under 3 years

How does it work?

When you add an acid to a base, you get a chemical reaction! The base you use is called sodium bicarbonate (baking soda), and it has a gas called carbon dioxide trapped inside it. When you add an acid, you release the carbon dioxide, which fills up the bottle. When you open the spout, the gas pushes the water out. This is called propulsion - and according to the laws of physics it makes the car fly in the opposite direction!

This will make a great fun mess.

Take your kit, your empty soda bottle (a water bottle won't work!), another container or bottle with about 2 cups of water in it, and go outside!

1 with the spoon, put **3 scoops of base** into the empty soda bottle

2 fill the bottle halfway with **water** from your container, about one cup

3 put **3 scoops of acid** into the basket

4 take off the clear bottle cap covering and **make sure the spout is closed**

remove the **safety seal** from the bottom of the cap

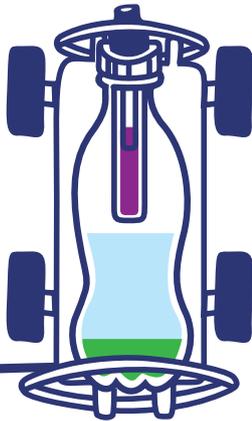
put the basket in the bottle and close the cap

The diagram illustrates the following steps:

- Step 1:** A green bottle labeled 'b' is shown next to a spoon. The spoon is shown adding green liquid to a soda bottle. The text says 'with the spoon, put 3 scoops of base into the empty soda bottle'.
- Step 2:** The soda bottle is shown partially filled with blue liquid. The text says 'fill the bottle halfway with water from your container, about one cup'.
- Step 3:** A purple bottle labeled 'a' is shown next to a spoon. The spoon is shown adding purple liquid to a test tube. The text says 'put 3 scoops of acid into the basket'.
- Step 4:** The test tube containing purple liquid is placed inside a basket, which is then placed inside the soda bottle. The bottle cap is shown being closed. Labels 'spout' and 'safety seal' point to the cap and the basket respectively. The text says 'take off the clear bottle cap covering and make sure the spout is closed', 'remove the safety seal from the bottom of the cap', and 'put the basket in the bottle and close the cap'.

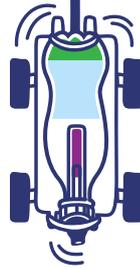
5

while the bottle is **standing up straight**, attach the bottle to the base by tying rubber bands as tightly as possible (2 or 3 times around) over the bottle and connecting to the hooks on the base



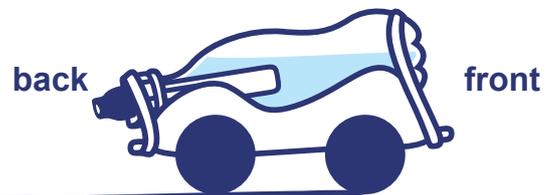
6

turn the bottle with cap pointing down and shake it really well so that everything mixes (keep the cap closed with one hand while you shake the bottle) **Do you feel the bottle blowing up with gas?**



7

place the base on a flat surface and make sure it has plenty of room to fly



8

Don't hold onto the car too tightly and keep your face far away from the opening. Stand to the side and twist open the cap's spout. (Be careful not to unscrew the cap from the bottle itself - any gas leak will make your jet car not work.) **Watch it fly!**



Want to show your friends?

Wash out your bottle, and start again!

Run out of gas?

Ask an adult to help you get more! For acid, you can use citric acid, found next to canning items in most grocery stores. You could use vinegar instead- as much as fits in the basket. The base is sodium bicarbonate, also known as baking soda, found next to baking goods in most grocery stores.

Sometimes our experiments don't do what we want...

Did the gas escape before it drove the car?

Make sure the bottle cap is closed tightly before mixing. Make sure you used a soda/cola bottle!

Did you make sure you had base in the plastic bottle and acid in the basket?

Was the bottle firmly connected to the base?

Remember, you had to tie the rubber bands a few times to secure them tightly on the hooks.

Have a different problem?

Email us at help@stellarnova.co
www.stellarnova.co

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Important safety instructions. Read before using the enclosed chemicals:

Base

Contains Sodium Bicarbonate (baking soda)

In case of eye contact: Remove any contact lenses. Flush eyes with water for at least 15 minutes. Seek medical attention if irritation occurs.

In case of skin contact: Wash with soap and water. Get medical attention if irritation occurs.

Acid

Contains Citric Acid

WARNING: Skin, lung, and eye irritant

In case of eye contact: Remove any contact lenses. Flush eyes with water for at least 15 minutes. Seek medical attention.

In case of skin contact: Flush skin with water. Remove contaminated clothing and shoes. Get medical attention.