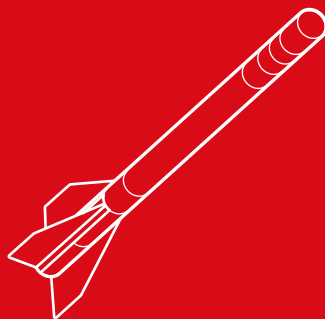
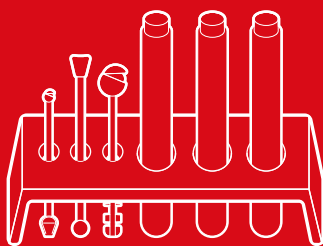
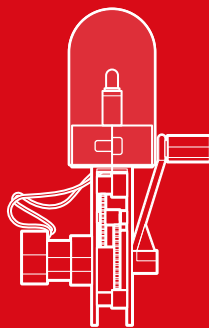




bestchoiceproducts



INSTRUCTION MANUAL

4-in-1 STEM
Science Experiments

! NOTICE

Please retain these instructions for future reference.

- Read all instructions before beginning any experiment.
- Adult supervision and assistance is recommended.
- This product is intended for children of 8 years or older.
- Immediately clean or rinse any spills to prevent stains.
- Immediately flush with water if chemicals or substances contact your eyes.
- Wear shoes when operating the rocket toy.
- Keep out of the reach of children when not in use.
- If any parts are missing, broken, damaged, or worn, stop using this product until repairs are made and/or factory replacement parts are installed.
- Do not use this item in a way inconsistent with the manufacturer's instructions as this could void the product warranty.
- Wear protective eyewear during any experiment.

! WARNING

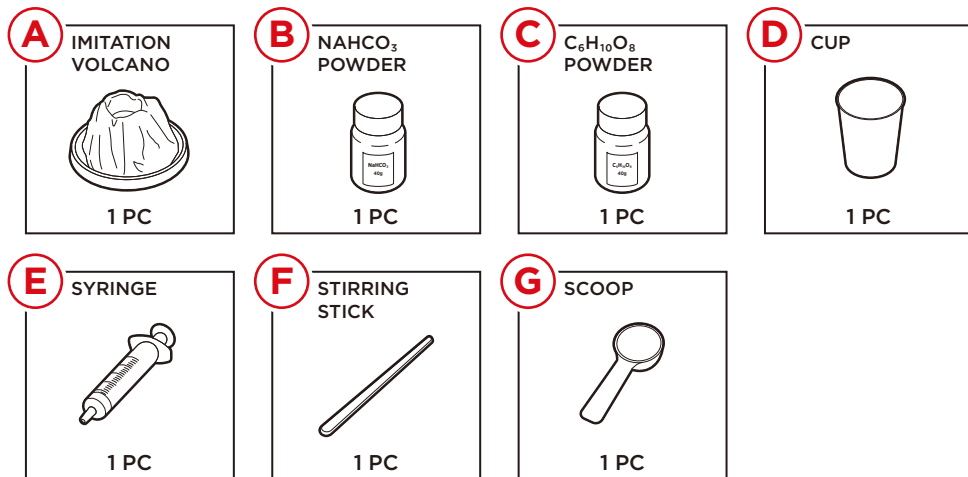
- This product contains small parts, which may result in a choking hazard.
- This product is intended children 8 years and older.
- Do not allow use without adult supervision.
- Do not drink or consume any liquids or powders included.
- Do not point the rocket toy at yourself or others.
- Do not connect any parts of this product with an AC wall outlet or batteries.
- Do not place any substances on your face.
- Do not immerse electrical components in water.

VOLCANO EXPERIMENT

TOOLS REQUIRED



PARTS

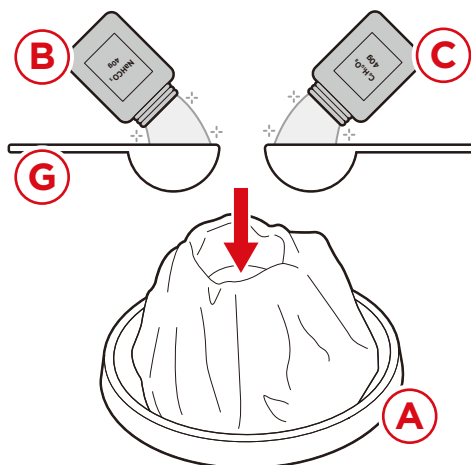


PROCEDURE MANUAL

1

Locate the part B & C powders, and use the part G scoop to place the powder into the part A imitation volcano.

NOTE: We recommend starting with $\frac{1}{2}$ a scoop of each powder for a slow, controlled reaction.

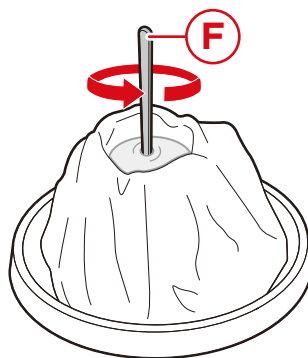


PROCEDURE MANUAL

2

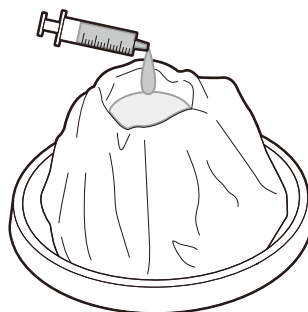
Mix the two powders inside the imitation volcano with the part F stirring stick until the powders are evenly mixed. Set the volcano aside.

NOTE: Do not place your hands directly over the volcano.



3

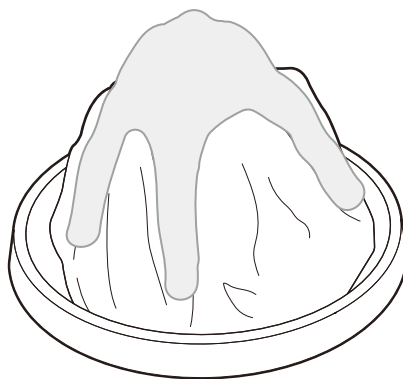
Fill part D cup with water then fill the part E syringe and drop its contents into the part A imitation volcano. Set aside the syringe and observe.



4

Observe as the bubbles climb out of the volcano and pool in the rim to simulate a volcanic eruption. For larger reactions, increase the amount of chemical powder by $\frac{1}{2}$ a scoop. Do not exceed $1\frac{1}{2}$ scoops.

Clean the volcano (see "Cleaning" section) and repeat with different measurements to create your own experiments.



VOLCANO CLEANING

1. Deposit the powder residue from the imitation volcano into a trashcan.
2. Rinse the surface and inside of the imitation volcano with warm water and a light soap.
3. Make sure no soap residue remains after cleaning and wipe with a dry cloth.

DYNAMO TORCH EXPERIMENT

TOOLS REQUIRED



PHILLIPS
SCREWDRIVER

HARDWARE

1

SCREWS

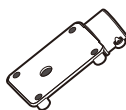


9 PCS

PARTS

A

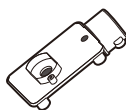
DYNAMO
CASING I



1 PC

B

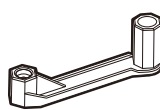
DYNAMO
CASING II



1 PC

C

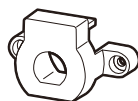
CRANK
HANDLE



1 PC

D

MOTOR CAP



1 PC

E

CRANKSHAFT



1 PC

F

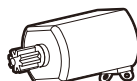
LAMP COVER



1 PC

G

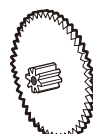
MOTOR



1 PC

H

GEARS



2 PCS

I

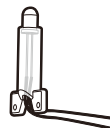
GEAR SHAFT



1 PC

J

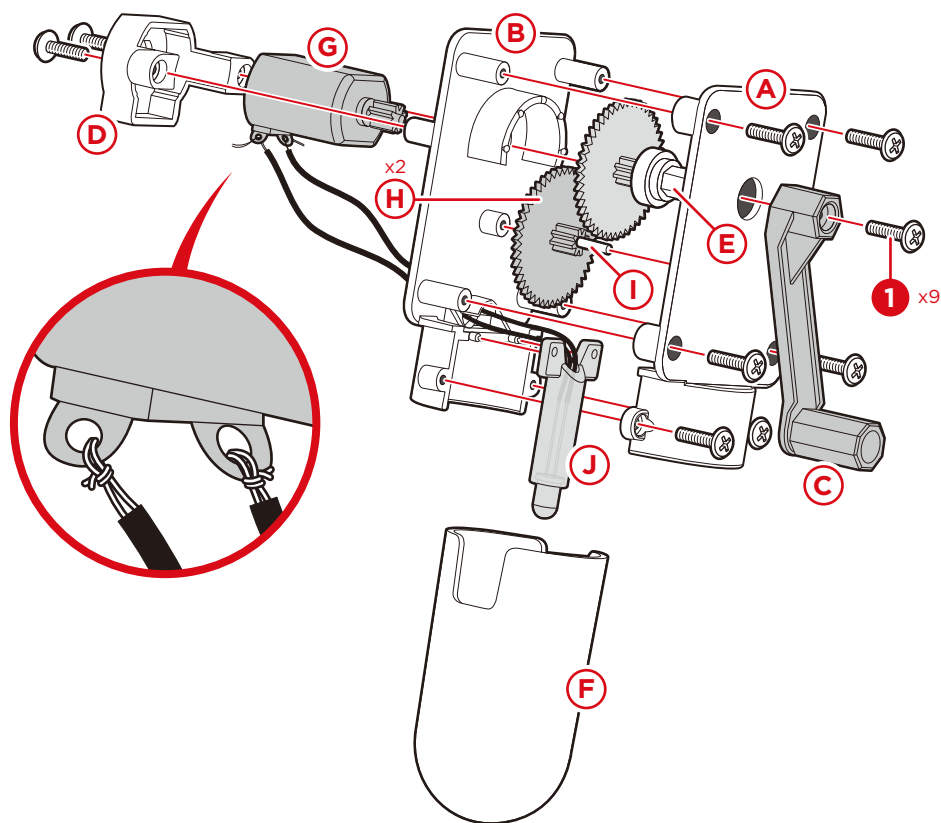
LED LAMP



1 PC

PROCEDURE MANUAL

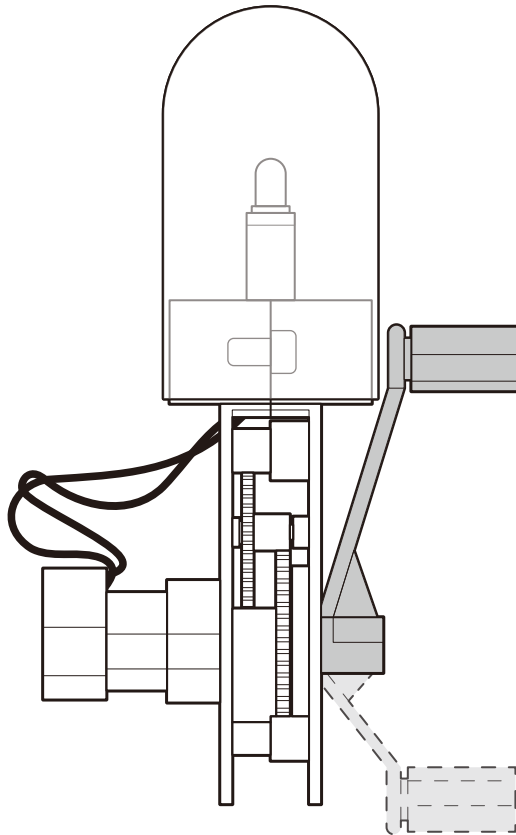
1. Locate the part B dynamo casing and attach the part J LED lamp. Locate the mounting pins in the collar of the dynamo casing and place the LED as shown below. Guide the wires attached to the LED lamp through the opening in the casing.
2. Use the part I gear shaft to attach one part H gear to the central receiver in the part B dynamo casing, then Set aside.
3. Locate one part H gear and attach the part E crankshaft by gently pushing shaft over the extended gear. Locate the part A dynamo casing and insert the crankshaft through the hole in the center of the casing. Place the part c crank handle over the crankshaft and secure it with one part 1 screw.
4. Align the corresponding holes on part A and B dynamo casings and secure with six part 1 screws.
5. Locate the two wires attached to the part J LED lamp and attach them to the metal hoops on the part G motor.
NOTE: Do not overlap or twist the wires together.
To attach the wires, locate the metal hoops on the bottom of the motor, then thread the exposed wire ends through the hoops. Gently fold the wire ends and twist to secure.
6. Insert the part G motor into the part A dynamo casing. Place the part D motor cap over the motor and secure two part 1 screws.
7. Push the part F lamp cover over the LED lamp until it's secure. The dynamo is now assembled.



OPERATION MANUAL

Firmly grasp the assembled dynamo and rotate the crank counterclockwise to engage the LED light.

NOTE: The light will disengage after you stop rotating the crank.



TROUBLESHOOTING

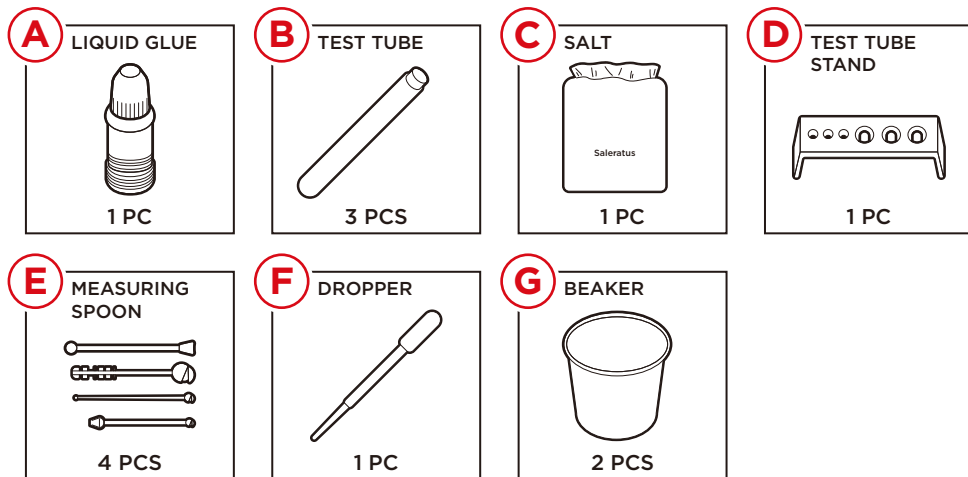
ISSUE	SOLUTION
Crank is not turning smoothly	Apply oil or lubricant to the gears
Torch not lighting	Make sure all the connectors are intact
	Turn the crank in the opposite direction. If the light activates, the wires are incorrectly connected. Reverse the wires
Crank is not turning at all	The gears are not properly aligned. Reassemble the gears according to the directions

CHEMICAL STARTER SET

TOOLS REQUIRED



PARTS



PROCEDURE MANUAL






- When removing powders from containers, only use an experiment spoon. Do not pour directly from the container.
- When transferring chemicals between test tubes, pour slowly to avoid spillage.

CHEMISTRY SET CLEANING

- After conducting an experiment it is extremely important to clean all the instruments used.
- Use warm water and a light soap to thoroughly wash away any residue from your experiments.
- Rinse again to clear any soapy residue and dry with a clean cotton cloth.

BOUNCY BALL EXPERIMENT

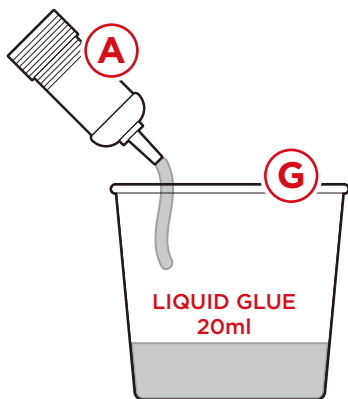
ITEMS REQUIRED

BEAKER	TEST TUBES	MEASURING SPOON	SALT	LIQUID GLUE
				
x1	x1	x1	x1	x1

PROCEDURE MANUAL

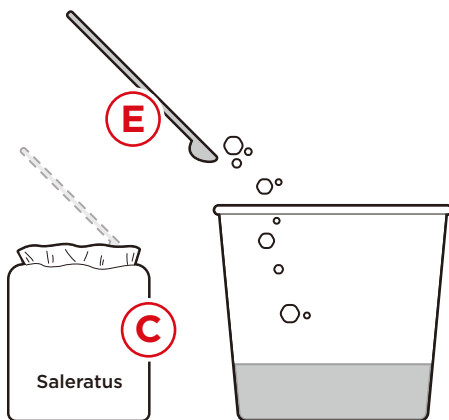
1

Add 20ml of part A liquid glue to the part G beaker.



2

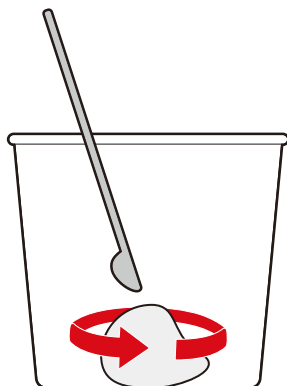
Use a part E measuring spoon to add five scoops of part C salt to the part G beaker.



3

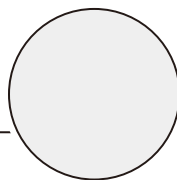
Mix until white granules begin to form, then press the granules into a ball.

NOTE: If the granules do not form, add one spoonful of salt.



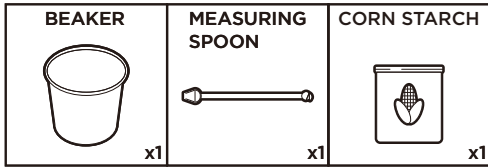
4

You have now completed the bouncy ball experiment.



DILATANCY EXPERIMENT

ITEMS REQUIRED

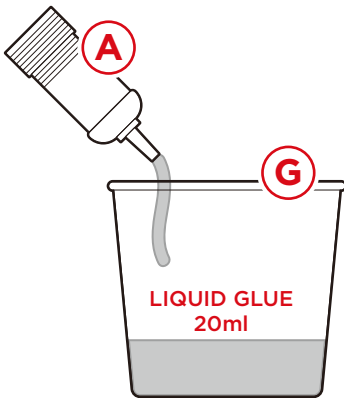


(NOT INCLUDED)

PROCEDURE MANUAL

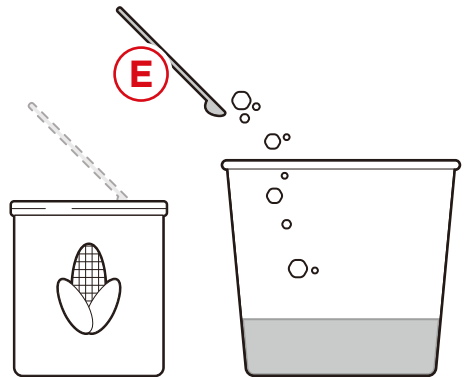
1

Add 20ml of part A liquid glue to the part G beaker.



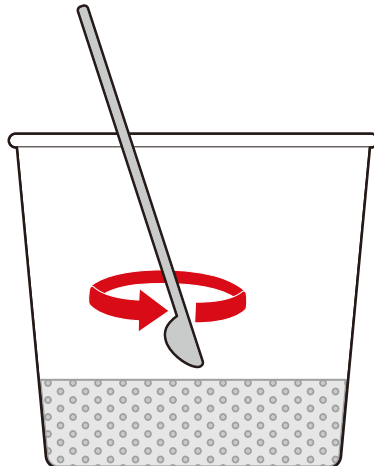
2

Use a part E measuring spoon to add ten scoops of cornstarch to the part G beaker.









3

Stir the two substances until completely combined.



CHEESE EXPERIMENT

ITEMS REQUIRED

BEAKER  x2	MEASURING SPOON  x1	TEST TUBE  x1	CLEAN CLOTH  x1	MILK  x1	VINEGAR OR LEMON JUICE  x1
--	---	---	---	--	--

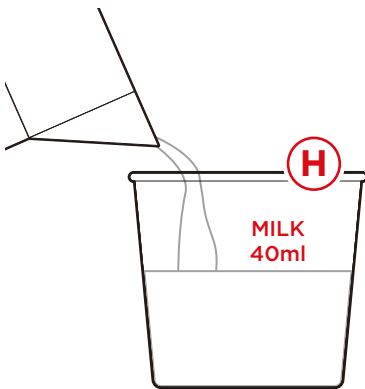
(NOT INCLUDED) (NOT INCLUDED) (NOT INCLUDED)

PROCEDURE MANUAL

1

Add 40ml of milk to one part G beaker.
Heat in a microwave for 30 seconds.

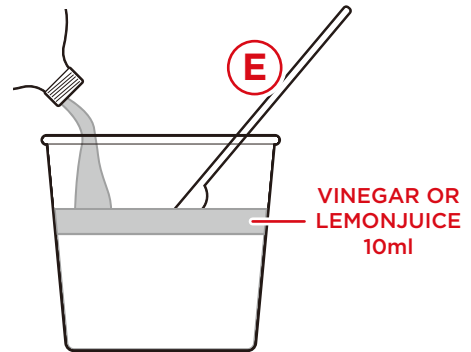
NOTE: Do not allow the milk to boil.



2

Add 10ml of vinegar (or lemon juice) to the beaker. Use the part E measuring spoon to stir thoroughly.

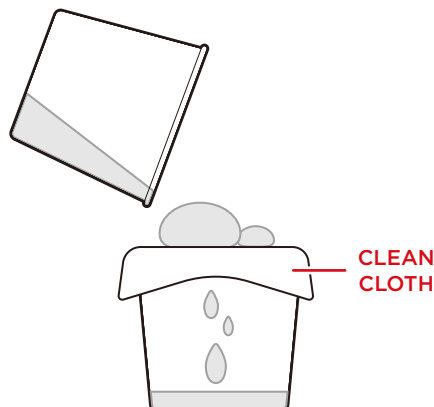
NOTE: If the beaker is too hot use the clean cloth to hold it.



3






Stir until white chunks begin to form, then place the dry cloth over another part I beaker.

Pour the contents of the first beaker over the cloth to strain out the liquid. You have completed the cheese experiment.



NEUTRALIZATION EXPERIMENT

ITEMS REQUIRED

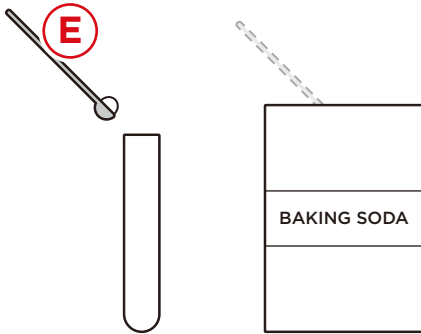
BEAKER  x1	TEST TUBES  x2	BAKING SODA  x1	VINEGAR OR LEMON JUICE  x1	FUNNEL  x1
--	--	---	--	--

(NOT INCLUDED) (NOT INCLUDED) (NOT INCLUDED)

PROCEDURE MANUAL

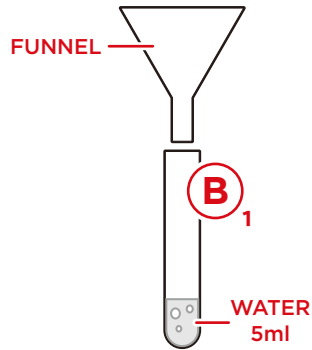
1

Use a part E measuring spoon to add one scoop of baking soda to one part B test tube.



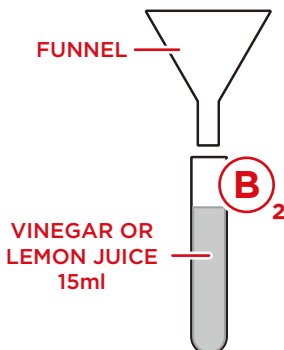
2

Add 5ml of water to the test tube and allow powder to completely dissolve.



3

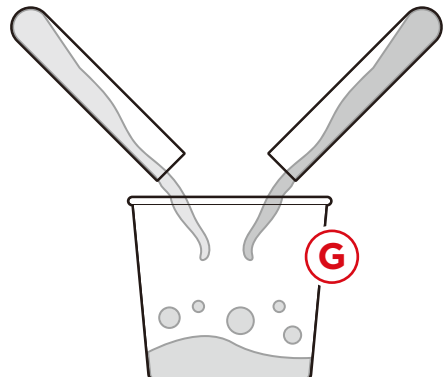
Add 15ml of vinegar or lemon juice to another part B test tube,



4

Pour the contents of both test tubes into the part G beaker. You have now completed the neutralization experiment.

Observe as the bubbles erupt from the mixture.

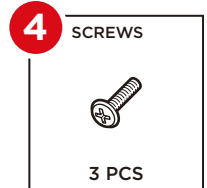
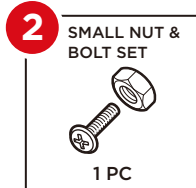
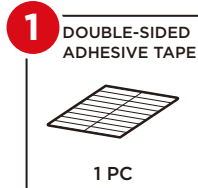


GREEN ROCKET EXPERIMENT

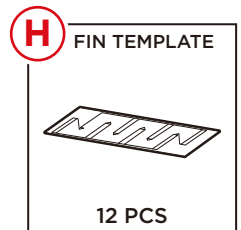
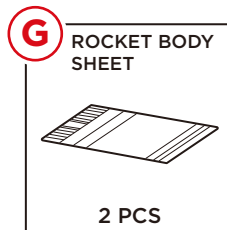
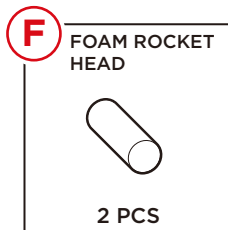
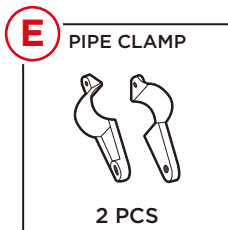
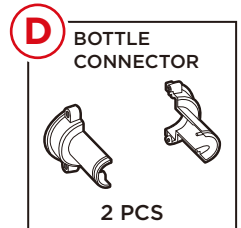
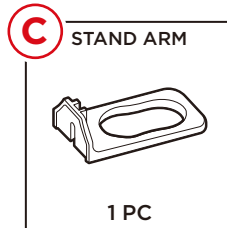
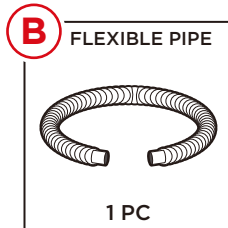
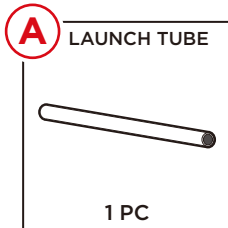
TOOLS REQUIRED



HARDWARE



PARTS

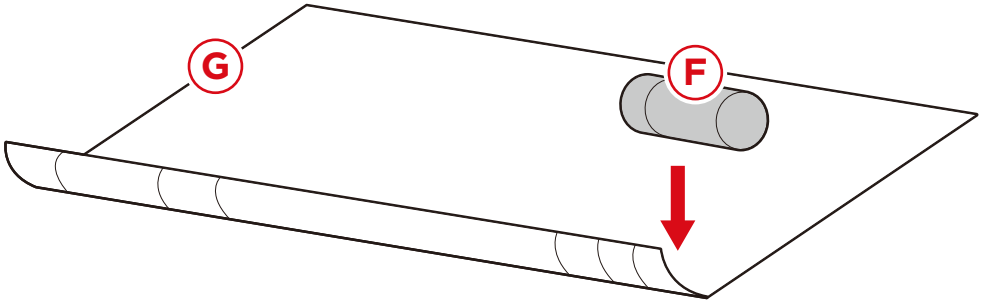


PRODUCT ASSEMBLY

1

Locate one part G rocket body sheet and use the scissors to separate it from the fin templates, set aside.

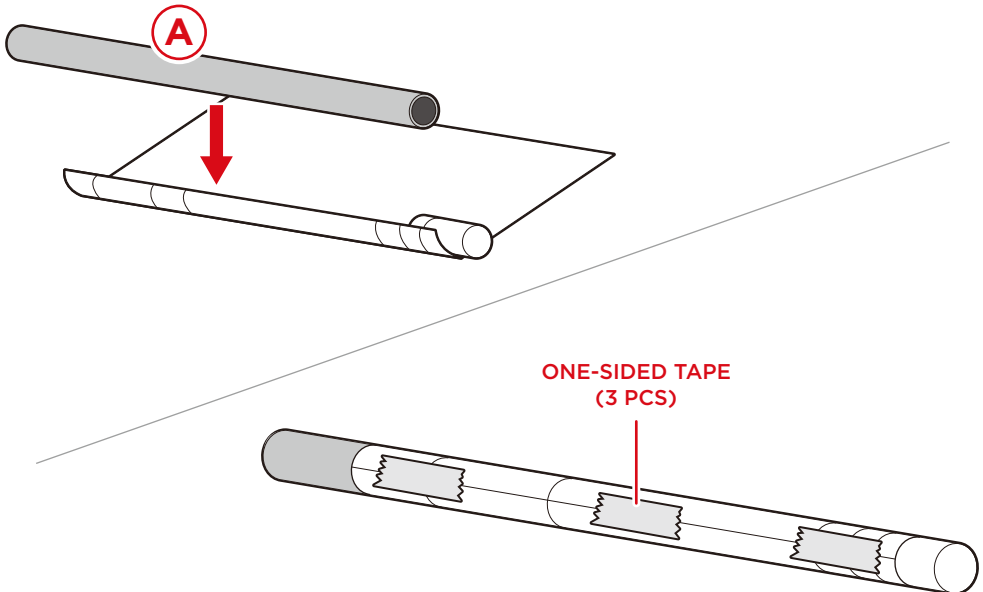
Place one part A launch tube and one part F rocket head onto the body sheet.



2

Tightly roll the sheet over the tube. Secure with three pieces of one-sided tape. Remove the part A launch tube and set aside.

NOTE: Be careful not to tear the body sheet.



PRODUCT ASSEMBLY

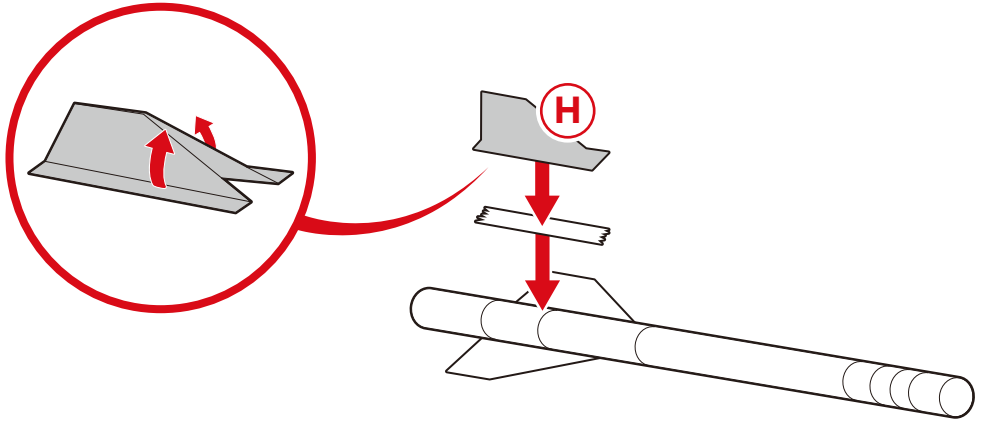
3

Locate the part H fin templates, and cut out 4 fins.

Take one template and fold along the lines. Repeat four times.

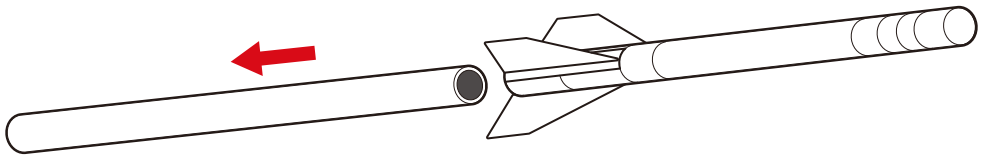
Place one piece of part 1 double-sided adhesive tape onto the bottom of the rocket body sheet.

Place the fins onto the double-sided tape. Repeat four times.



4

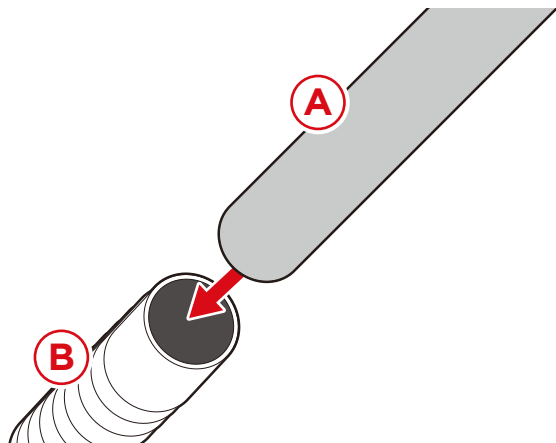
The rocket is now assembled. Repeat the previous steps to build another rocket.



PRODUCT ASSEMBLY

1

Push the part A launch tube into the part B pipe.

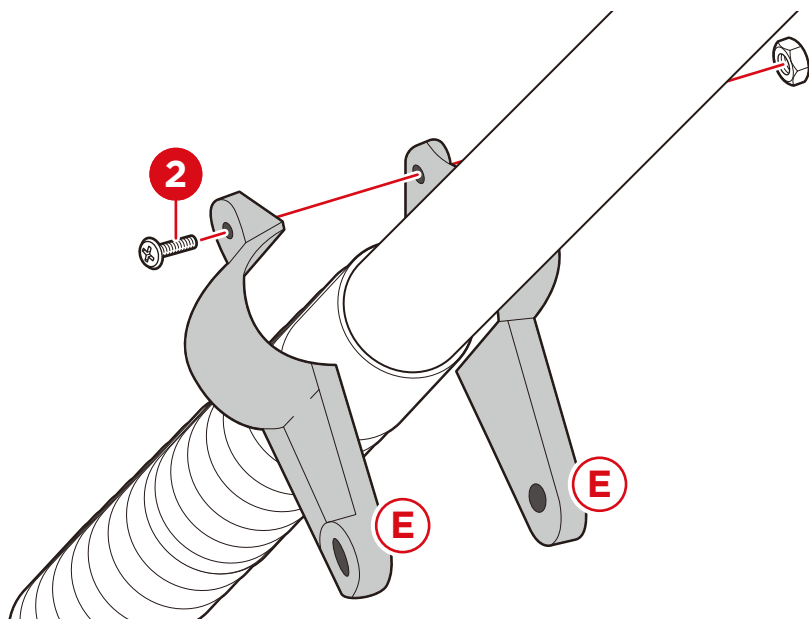


2

Locate the part E pipe clamps and place the two halves around the flexible pipe end with the launch tube attached.

Use a screwdriver to connect the two halves of the pipe clamps with the part 2 small nut and bolt set.

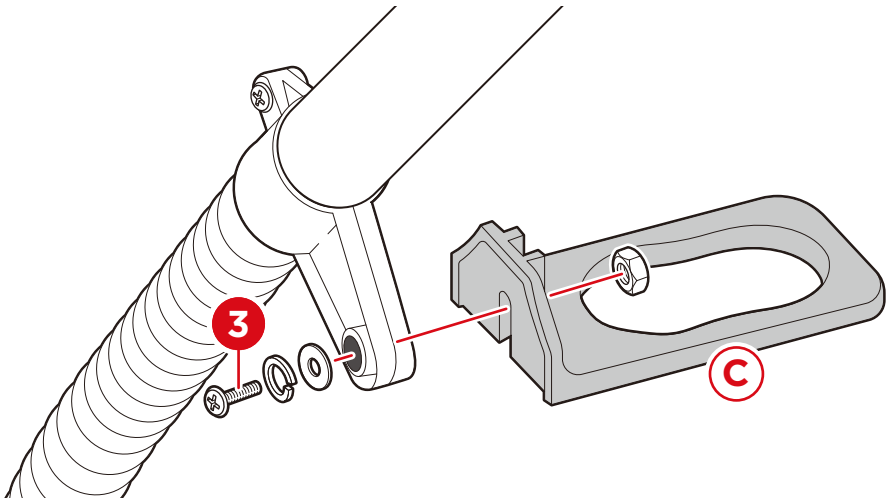
NOTE: There are two fastener holes on the clamp, use the smaller one.



PRODUCT ASSEMBLY

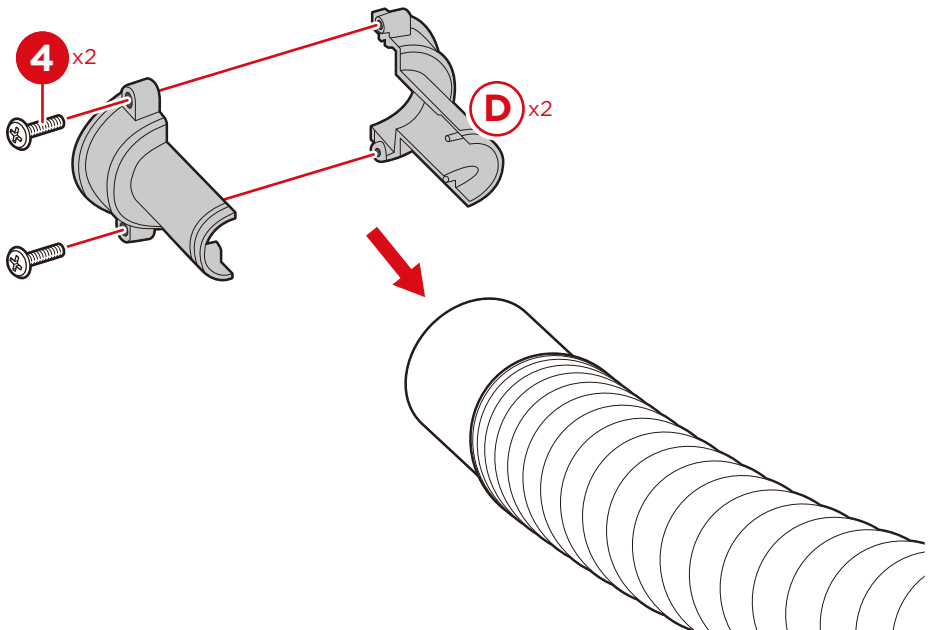
3

Locate the part C stand arm and align the holes with the lower opening in part E pipe clamps. Secure with the part 3 large nut bolt and washer set.



4

Locate the part D bottle connectors and connect with two part 4 screws. Push the bottle connector into the flexible pipe.

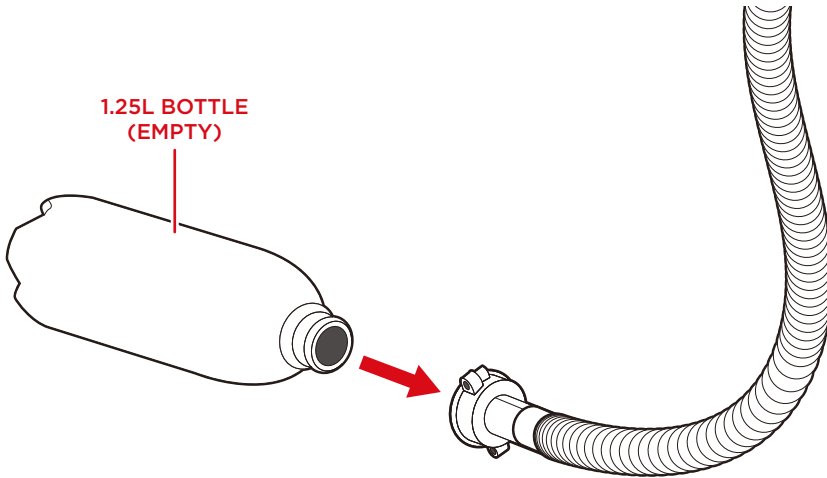


PRODUCT ASSEMBLY

5

Locate an empty drink bottle and screw the bottle into the part D bottle connector.

NOTE: This will be the “launch button”

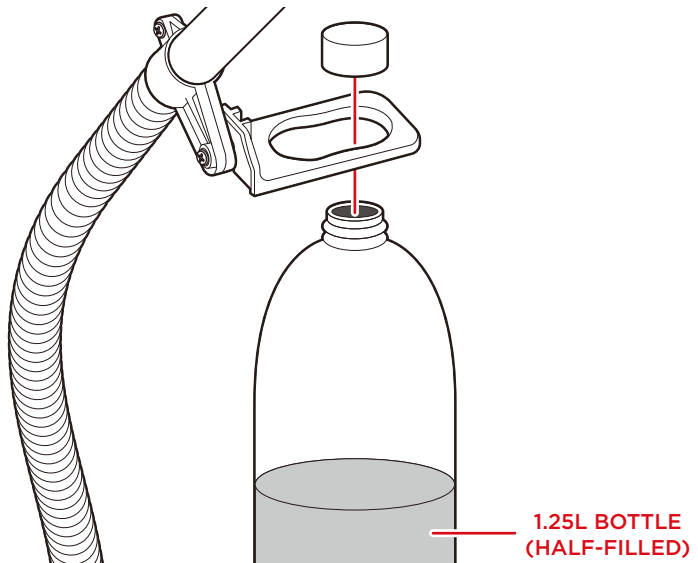


6

Locate another empty drink bottle and fill halfway with water.

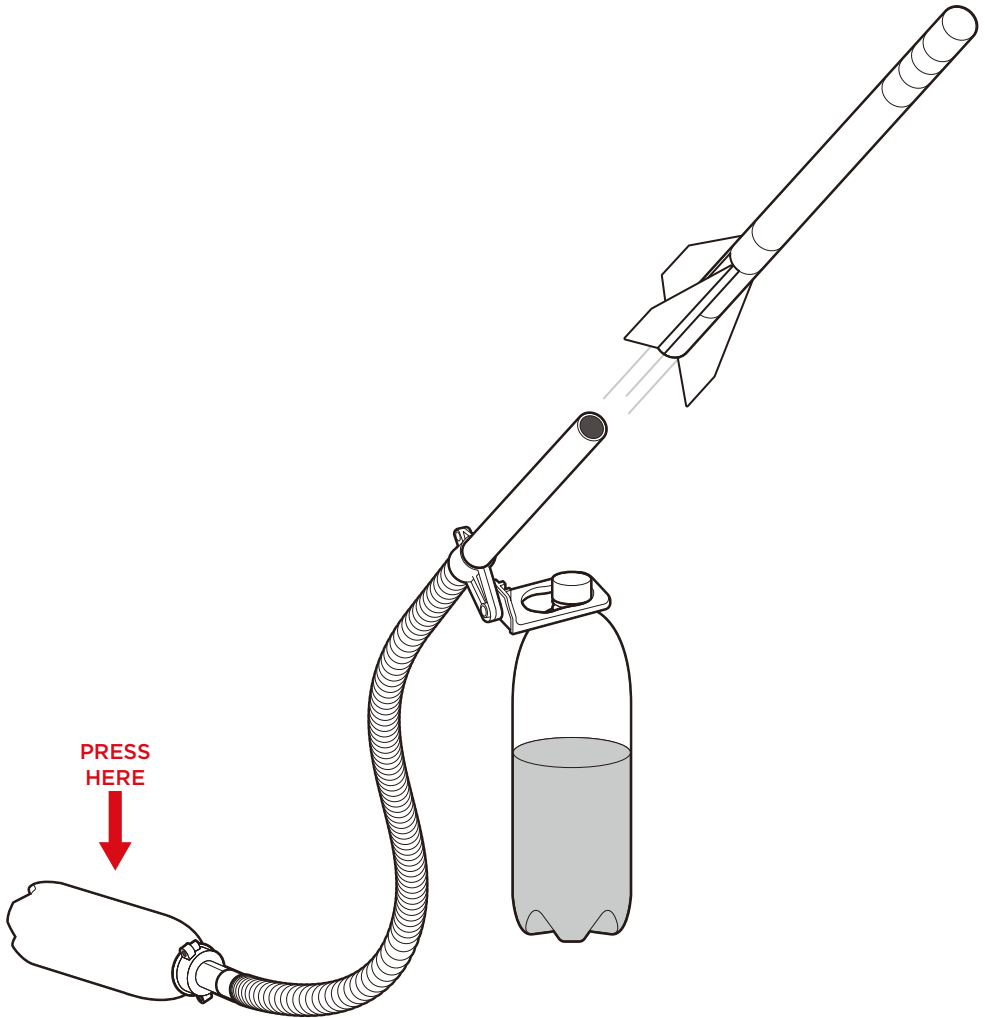
Attach the part C stand arm by placing the bottle opening through the hole in the stand arm, then twisting on the drink bottle's cap.

The launcher is now assembled.



PRODUCT ASSEMBLY

1. Place the assembled rocket over the part A launch tube.
2. Adjust the angle of the rocket.
3. Squeeze the empty bottle to launch the rocket.
NOTE: The rocket will go farther the harder you squeeze but will wear out the bottle faster.





HELP CENTER



Question about your product? We're here to help. Visit us at:

help.bestchoiceproducts.com



Chat Support



Product Inquiry



Orders FAQ



Product Assembly



Returns & Refunds

PRODUCT WARRANTY INFORMATION

All items can be returned for any reason within 60 days of the receipt and will receive a full refund as long as the item is returned in its original product packaging and all accessories from its original shipment are included. All returned items will receive a full refund back to the original payment method. All returned items will not be charged a re-stocking fee.

All returned items require an RA (Return Authorization) number, which can only be provided by a Best Choice Products Customer Service Representative when the return request is submitted. Items received without an RA may not be accepted or may increase your return processing time. Once an item has been received by Best Choice Products, refunds or replacements will be processed within 5 business days.

All returns must be shipped back to the Best Choice Products Return Center at the customer's expense. If the reason for return is a result of an error by Best Choice Products then Best Choice Products will provide a pre-paid shipping label via email. Boxes for return shipping will not be provided by Best Choice Products, and is the customer's responsibility to either use the original shipping boxes or purchase new boxes.

Pictures may be required for some returns to ensure an item is not damaged prior to its return. Items returned are not considered undamaged until they are received by Best Choice Products and verified as such. All damages to items are the customer's responsibility until the item has been received by and acknowledge by Best Choice Products as undamaged.



WARNING

Manufacturer and seller expressly disclaim any and all liability for personal injury, property damage or loss, whether direct, indirect, or incidental, resulting from the incorrect attachment, improper use, inadequate maintenance, unapproved modification, or neglect of this product.