BUILD YOUR OWN®

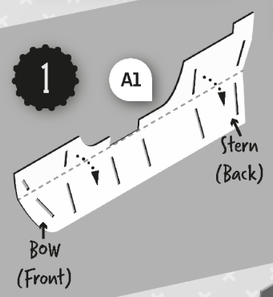
PIRATE SHIP

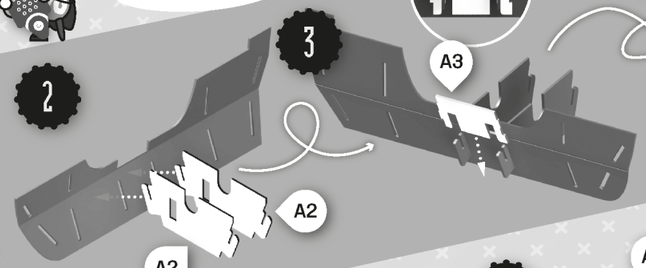
INSTRUCTION BOOKLET 1

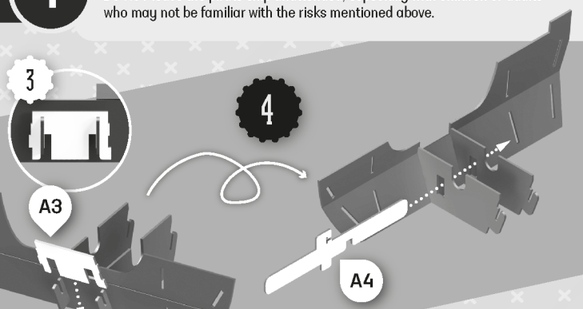
WARNING!
- Recommended age 8+
- Not suitable for children under 3 years due to small parts
- DO NOT discharge an object other than the projectiles provided with this toy
- DO NOT point cannon directly at the face
- Rubber bands may contain latex
- Use only under adult supervision and/or guidance - Only to be used by persons capable of understanding the safety aspects concerning misuse of the product.
- Check product regularly for signs of damage or breakage and if found discontinue use.
- DO NOT leave the pirate ship unattended, especially with children or adults who may not be familiar with the risks mentioned above.

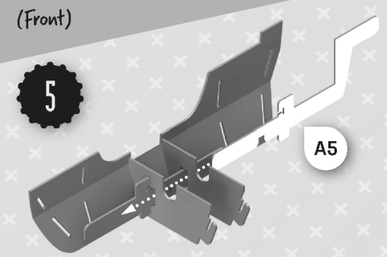
BEFORE YOU START
The 4 elastic bands (plus 2 spares) are in the brown envelope in the top pocket of the outer box.

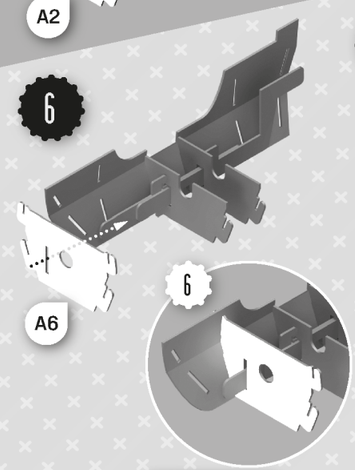
Yo! Use the removal tool to help push out the smaller bits of card!

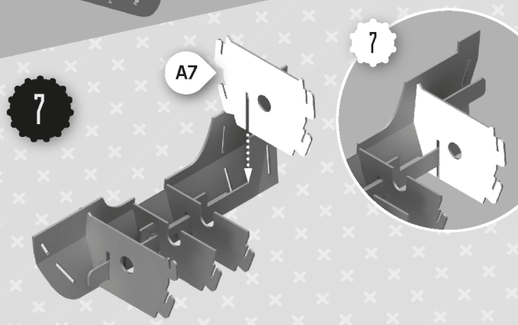


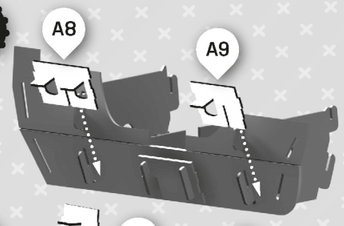


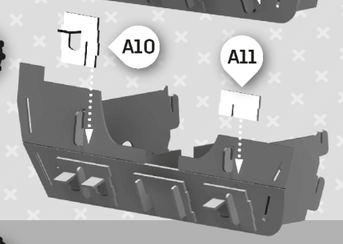


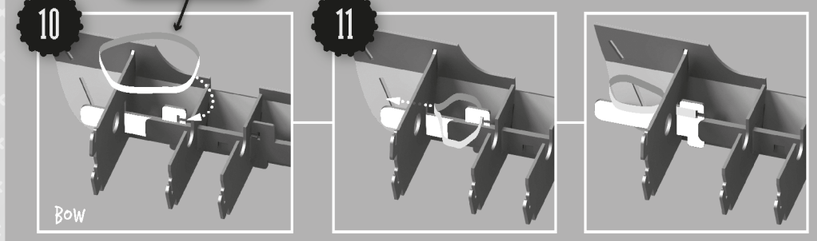


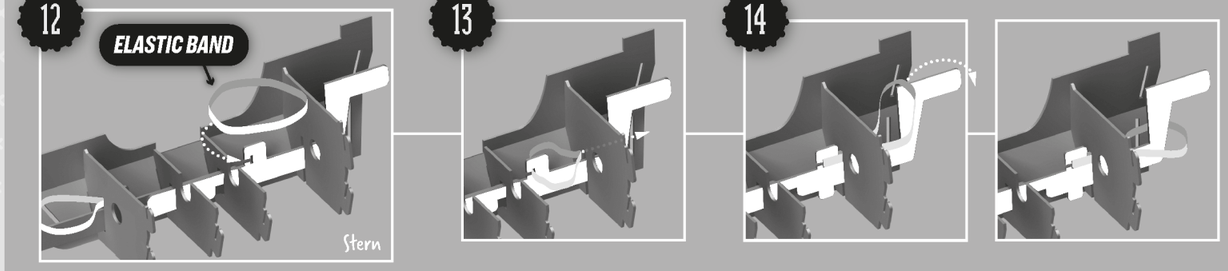




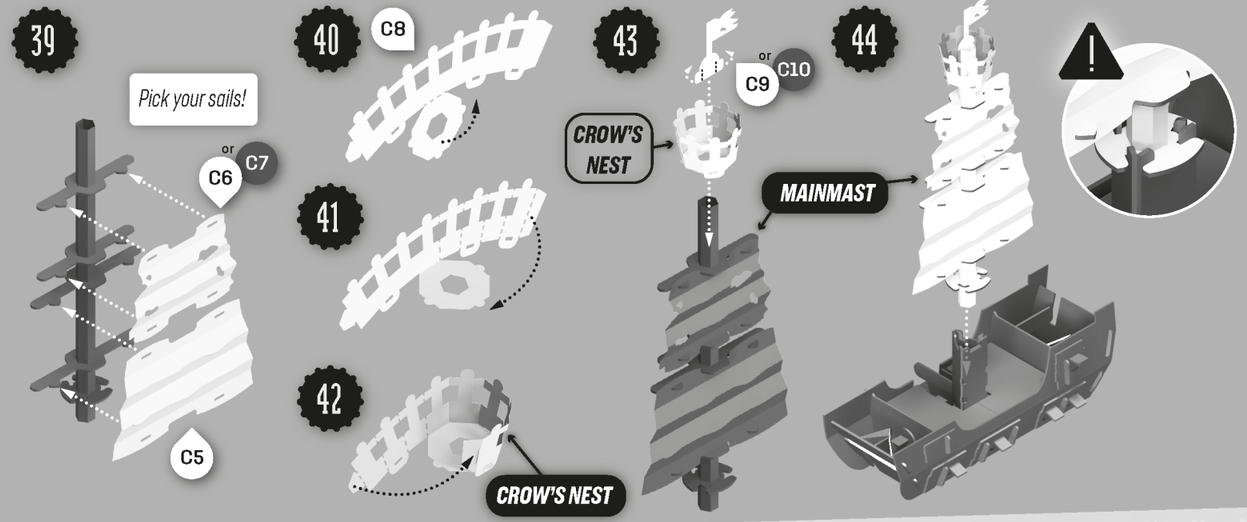


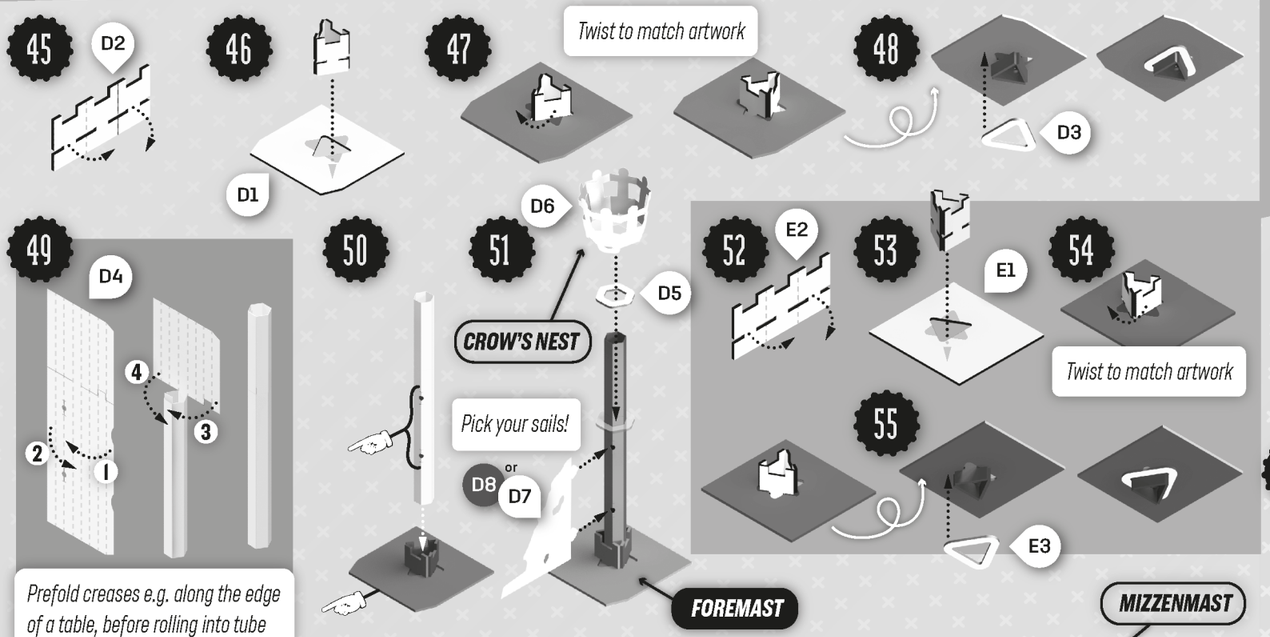




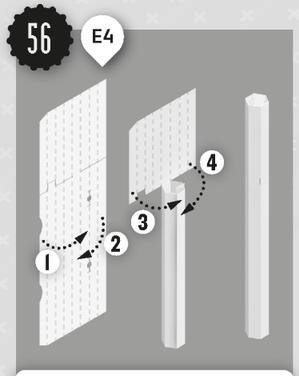


SCAN FOR VIDEO INSTRUCTIONS AND MORE FUN STUFF!
buildyourownkits.com





Prefold creases e.g. along the edge of a table, before rolling into tube



Prefold creases e.g. along the edge of a table, before rolling into tube

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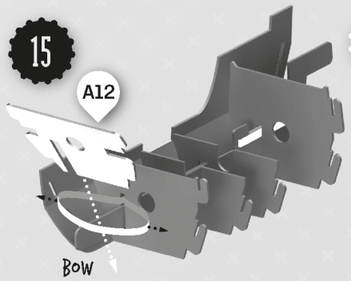

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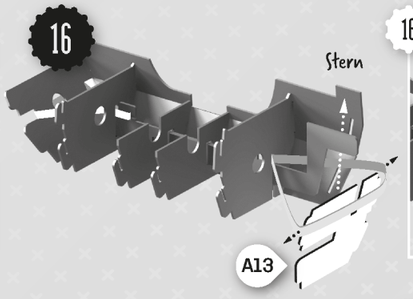

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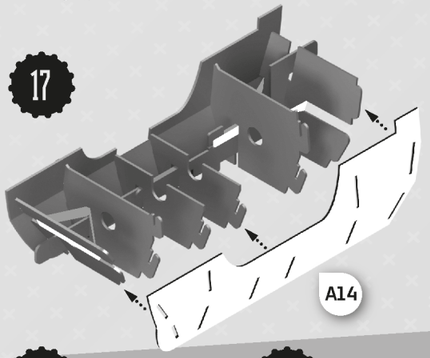

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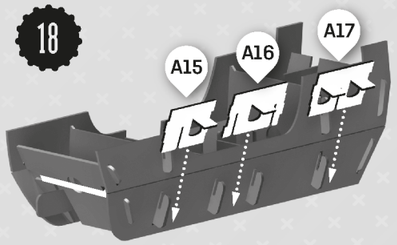

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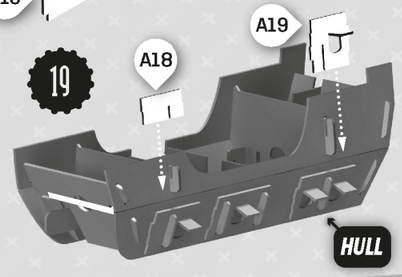

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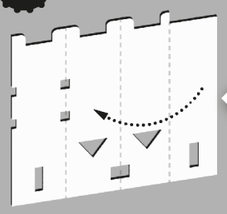

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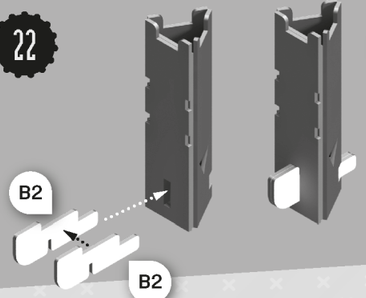
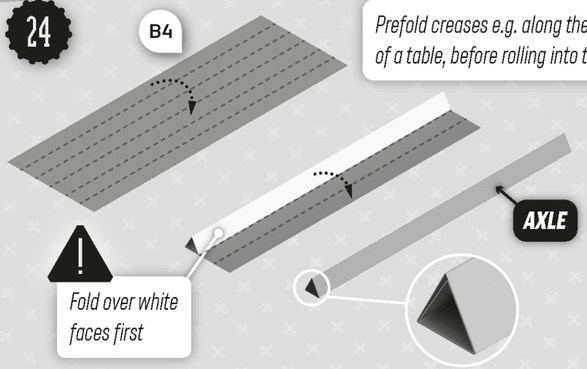


23

MAST BASE

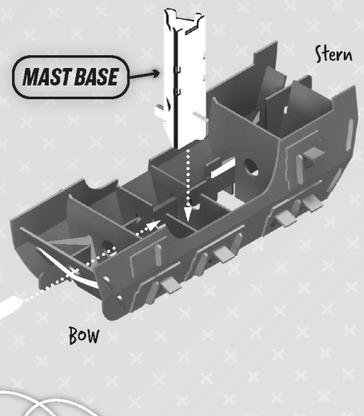
24



Fold over white faces first

Prefold creases e.g. along the edge of a table, before rolling into tube

25



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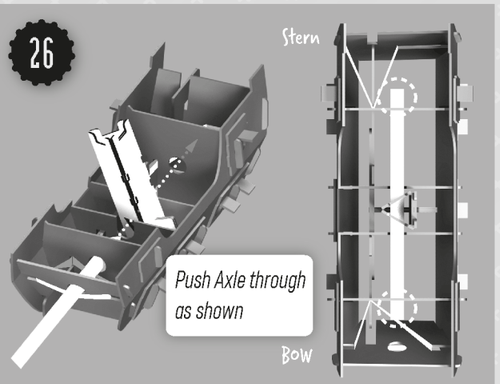
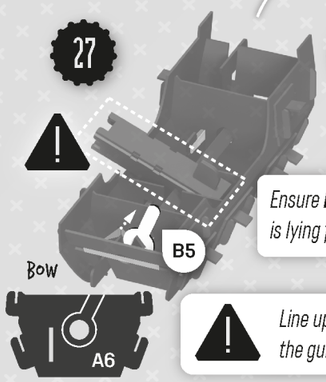


Push Axle through as shown

27



28

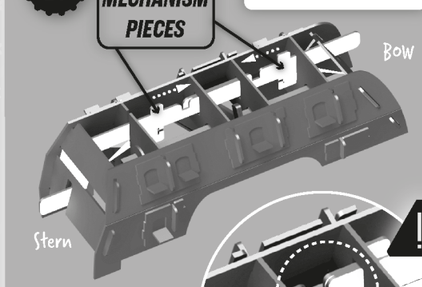
Ensure **Mast Base** is lying flat

Line up pieces B5 and B6 with the guides on pieces A6 and A7

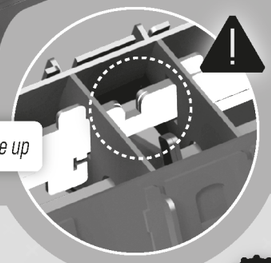
29

MECHANISM PIECES

Turn **Hull** upside down



Ensure the slots line up



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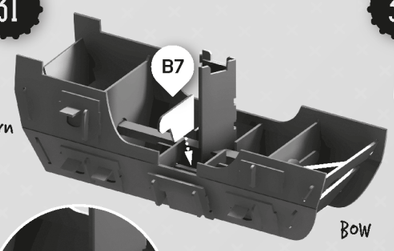
With one hand push the mechanism pieces together, then hold them in place. With the other hand rotate the **Mast Base** so that the pin goes into the slots, locking them in place

31

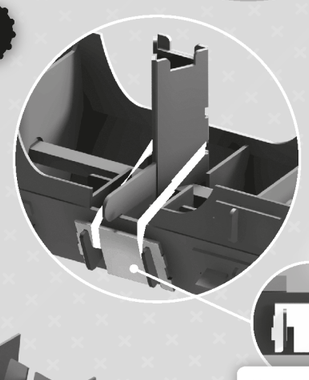


The **Locking Piece** ensures that the mechanism won't activate until you're ready

32

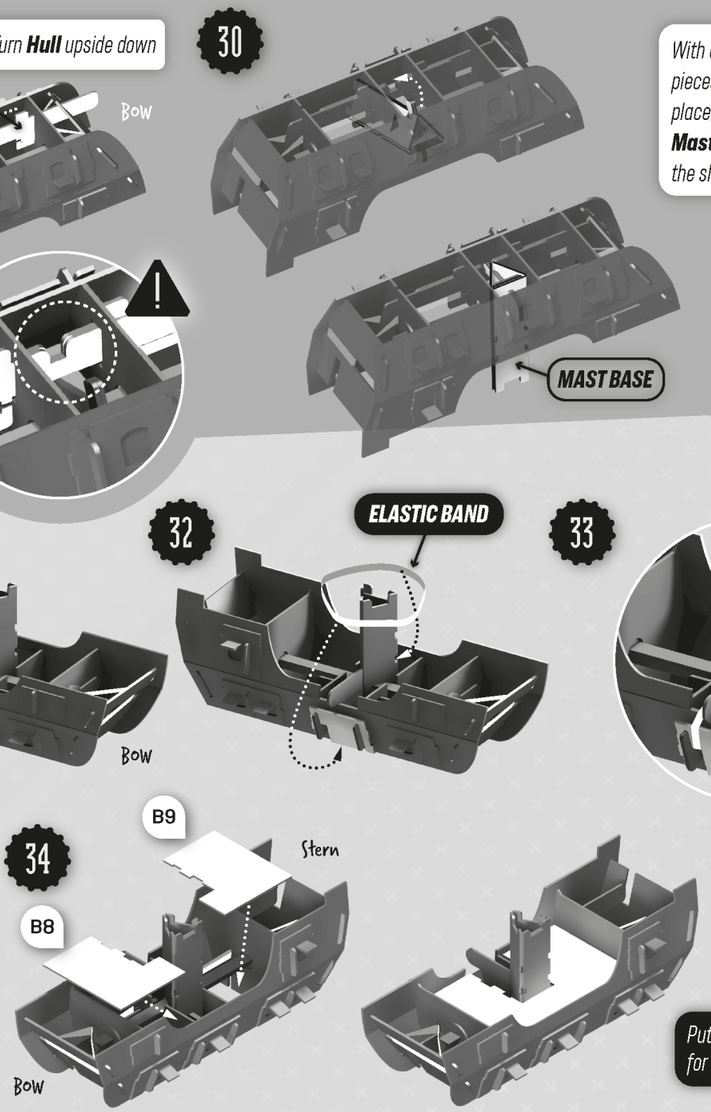
ELASTIC BAND

33



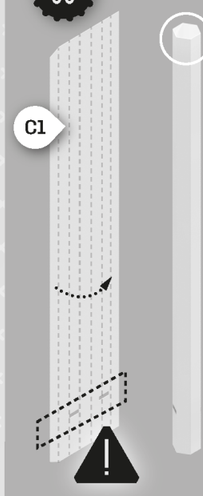
Hook elastic band under this piece

34



Put to one side for **step 59**

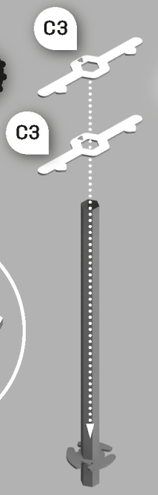
35



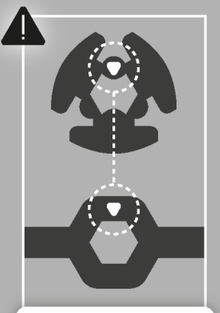
36

Prefold creases e.g. along the edge of a table, before rolling into tube

37

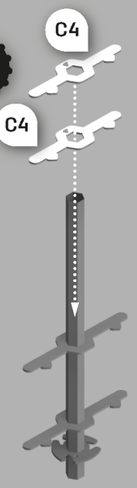


Ensure the tabs on C2 lock into the slots in C1



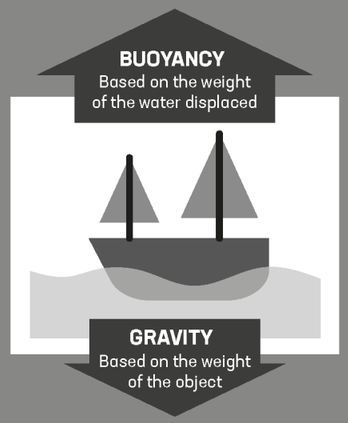
Line up the triangles on the pieces so they're all on the same side

38



How do ships float?

An ancient Greek scientist named *Archimedes* worked out the science of floating. One day when having a bath, he noticed that as he got in the level of the water rose. The water must be being pushed out of the way to make room for his body. This is called **displacement**.

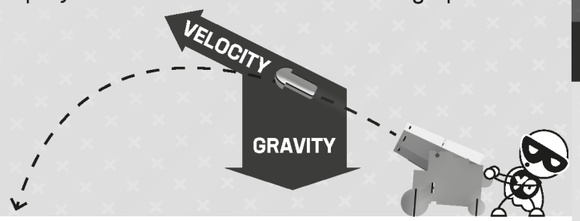


He figured out that the amount of water displaced must be equal to the volume of the object. He got so excited he jumped out of the bath, forgot to get dressed and ran down the street crying 'Eureka!' (*I've got it!*)

The boat will float if the force of **GRAVITY** is less than the **BUOYANCY**. In other words, the boat has to weigh less than the volume of water it displaces.

Projectiles

When you fire a cannonball with your cannon in this kit, the cannonball moves as a projectile and has two forces acting upon it:



The **potential energy** stored in the elastic band as you pull it back is transferred to the cannonball to make **kinetic energy** which gives the cannonball **VELOCITY** - horizontal acceleration.

GRAVITY gives the cannonball vertical acceleration, pulling the cannonball down.

The combination of horizontal and vertical acceleration means the cannonball fires in a curved shape (*parabola*).

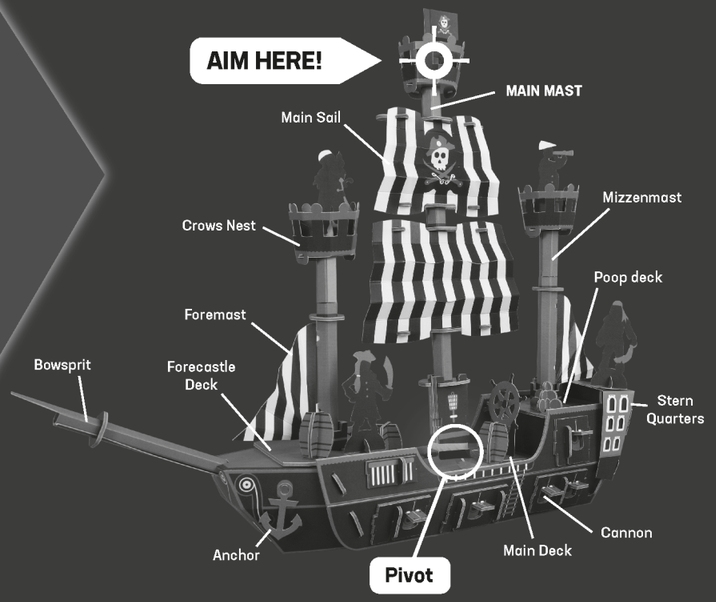
Moments

A moment is the turning effect of a force.

MOMENT = FORCE X DISTANCE

This means that the further you move the object from the pivot, the greater the moment. e.g. If you double the distance you double the moment:

And if you double the force you also double the moment:



To use this to your advantage when trying to sink the Pirate Ship, you should aim for the very top of the **MAIN MAST**. This is because it is furthest from the pivot point, so the force from the cannonball will have the greatest effect and you're more likely to knock over the mast.

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BUILD YOUR OWN®

PIRATE SHIP

INSTRUCTION BOOKLET 2

WARNING!
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- Use only under adult supervision and/or guidance - Only to be used by persons capable of understanding the safety aspects concerning misuse of the product.
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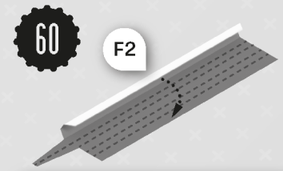
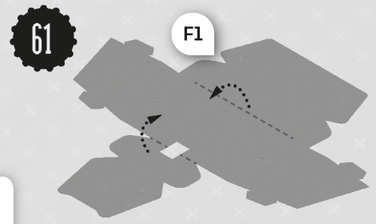
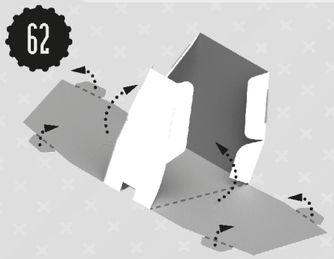
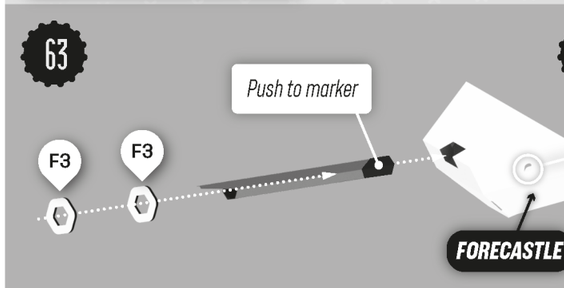
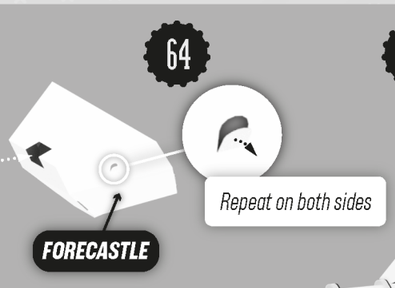


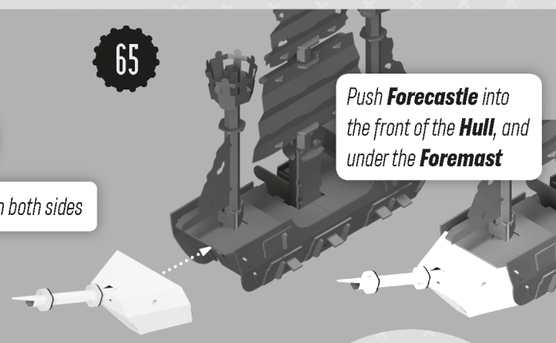
Prefold creases e.g. along the edge of a table, before rolling into tube

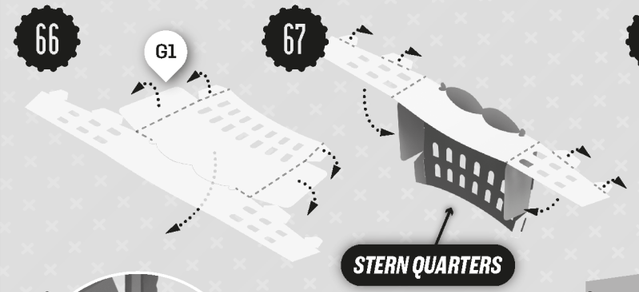


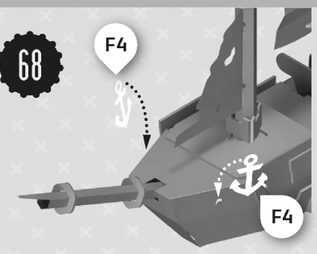


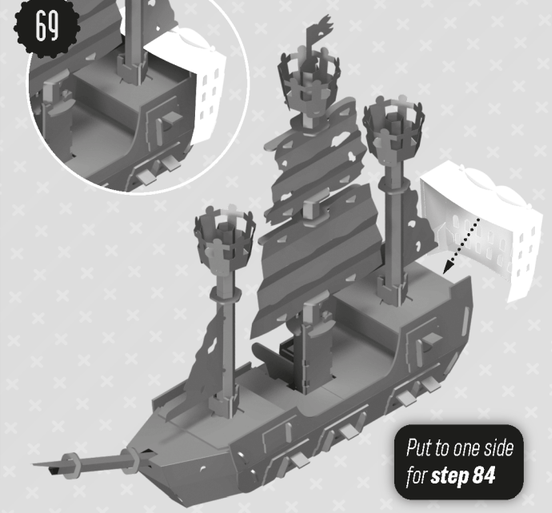




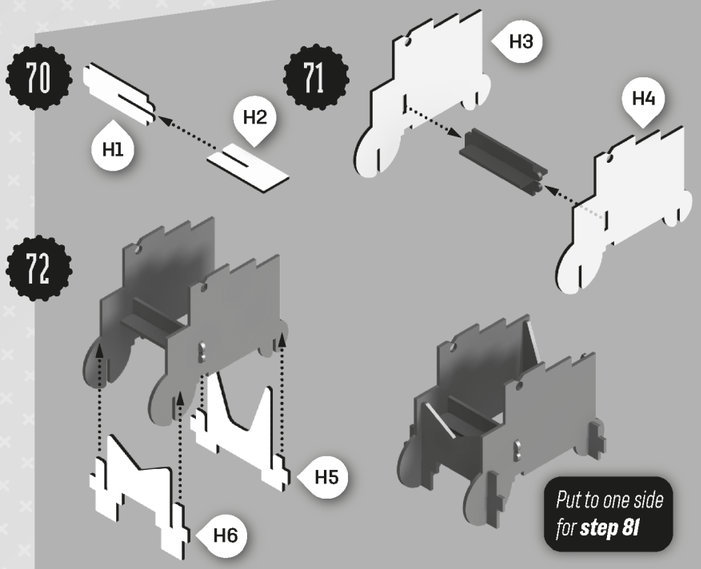








*Put to one side for **step 84***



*Put to one side for **step 81***

73
H7
H8
74
75
Make sure band clicks into holes
ELASTIC BAND
76
H9
77
H10
78
Front Face
79
Front Face
Ensure band goes through slot
80
81
Make sure band clicks into holes
82
CANNONBALL x5
H11
H12
83
CANNON
84
I7
I8
YOU'RE A BYO BUILDER!
I10
I11
85
I4
I5
I6
86
I1
I1
x3
87
I3
I2
x2
88
I9
I8
89
I12
I13
90
I14
I15
YOU DID IT!
#BYOPirateShip

How to use your Pirate Ship

1 LOAD AIM
2 PULL BACK
3 FIRE!

WARNING!
- *Only fire the cannonballs supplied in this kit*
- *DO NOT point cannon directly at the face*

Use the cannon to fire cannonballs at your Pirate Ship! There are a few ways to play, see below for some ideas:

Where to aim

Remember to remove the locking piece from behind the main mast before you start.

1
2
3
4
5
6

***Main Mast* - 50 points**
Hit the Main Mast to destroy and sink the ship and end the game

2
***Smaller Mast Tops* - 30 points**
Snap the Foremast or Mizzenmast in half

3
***Smaller Masts* - 20 points**
Hit the sails to knock the masts off entirely

***Characters/Objects* - 10 points each**
Knock the characters/objects off the ship

4 5 6

Pick your sails

In your kit there are two options for each sail. Gold or Black? If you and a friend each have a BYO Pirate Ship you can each have a unique look.

Ways to play

Highscore
See how many points you can score before sinking the ship.

Traitor
There's a traitor onbaord! Try to hit all the Pirates without damaging any part of your ship.

Shootout
Play with a friend. You each have 5 cannon balls, how many points can you score?

Speed Round
Try to hit the main mast and destroy the ship as quickly as possible! ***I shot - Captain.*** *2-4 shots - First Mate.* ***5-7 shots - Deck Cadet.*** *8-10 shots - Parrot.* ***11+ shots - Walk the plank!***

2
1

Main Mast Mechanism
When you first put this elastic band on it will be quite stiff so put the band in position **1**. *If the elastic band gets loose or the Main Mast is too difficult to knock over, move the band up to position* **2**.

How to reset

1. Once you have destroyed your ship, remove all the loose parts.

2. Push in both mechanism pieces with one hand to match up the slots in the centre.

3. With the other hand raise the Main Mast so that the locking pin goes into the slot and locks into place.

4. Replace ***Foremast, Mizzenmast, Forecastle, Stern Quarters*** *and characters/objects*