

# PENGUIN

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**Turn on the basic purple mode to move your penguin forward! You can use a remote control to control it remotely.**

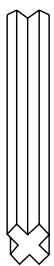
Attention! For your penguin to move forward, the wheels of the Thymio must go backwards!

2x

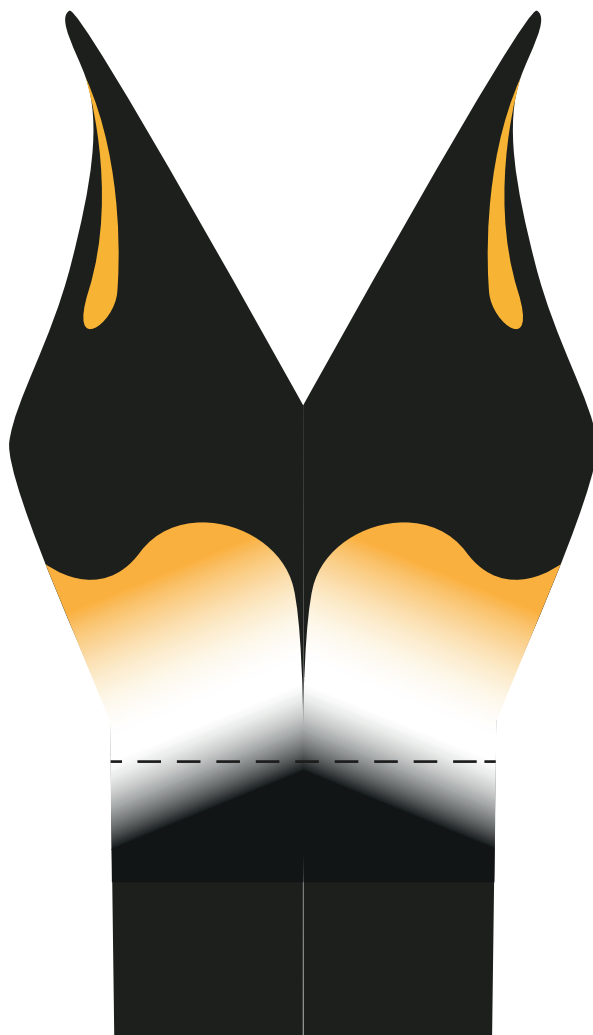
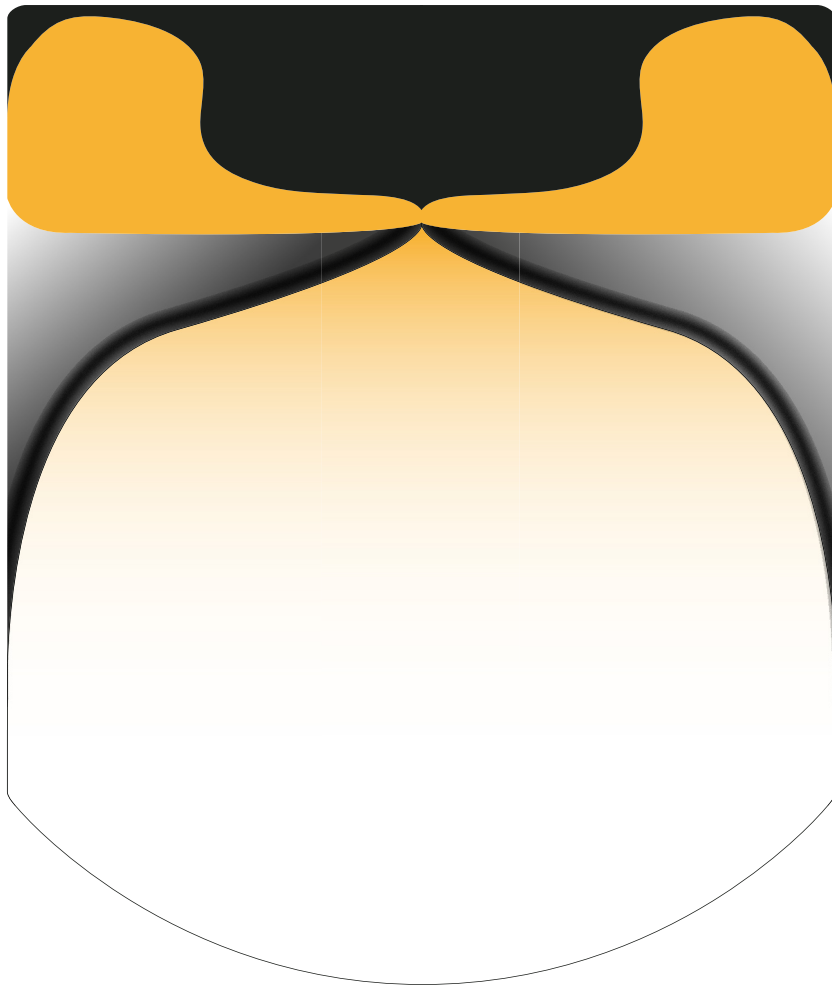


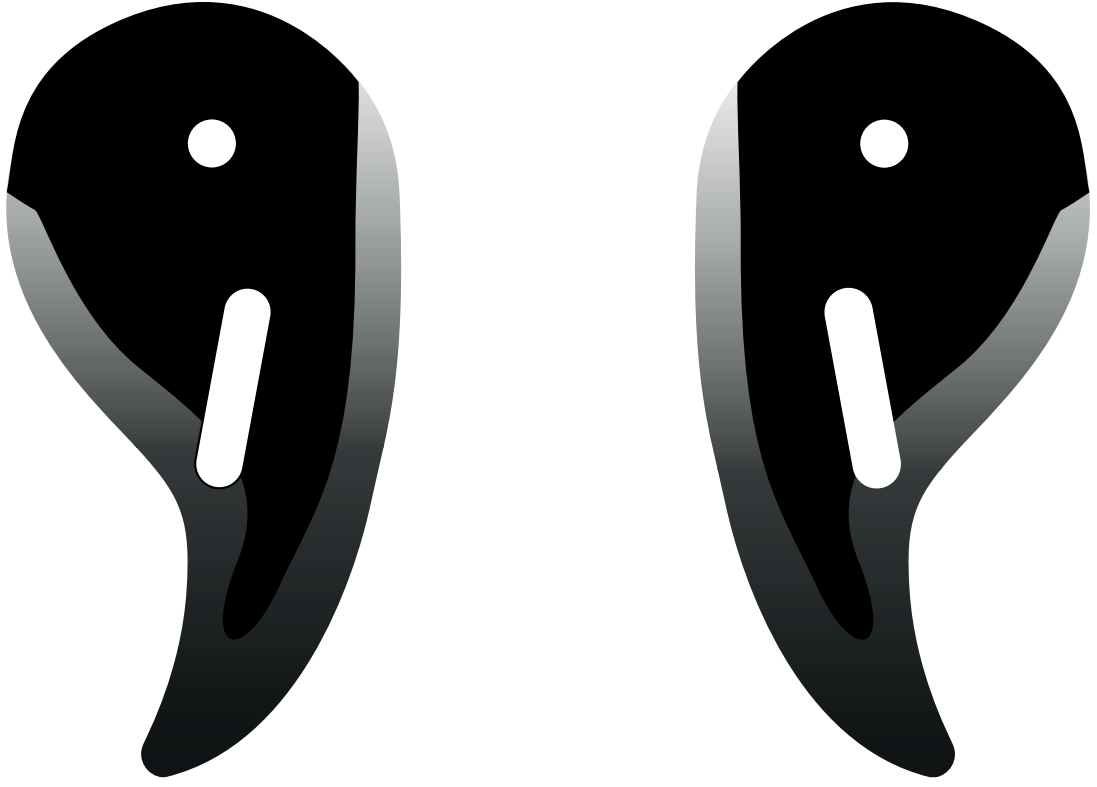
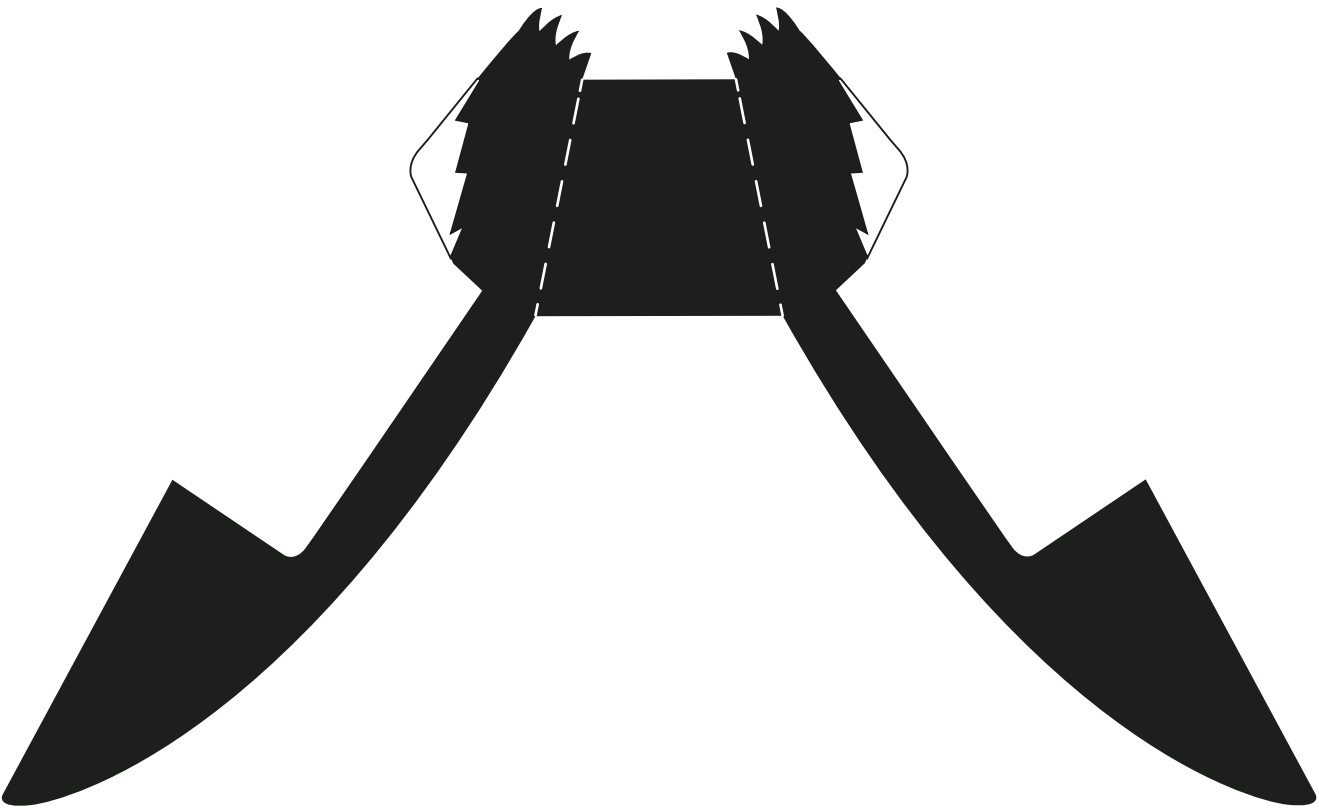
A

2x

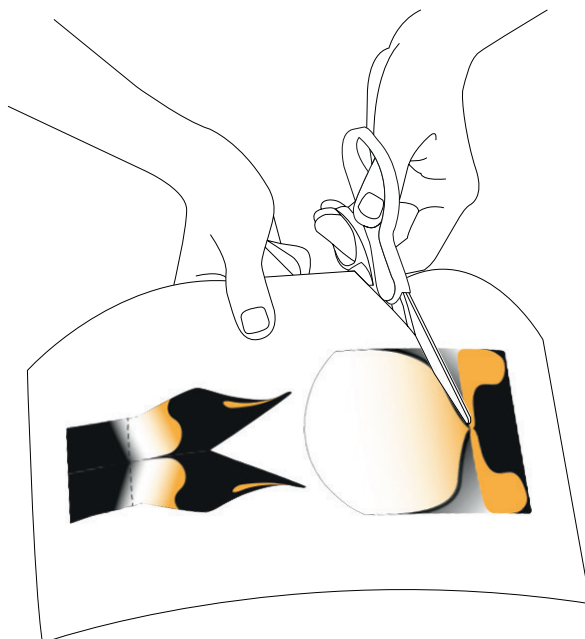


B





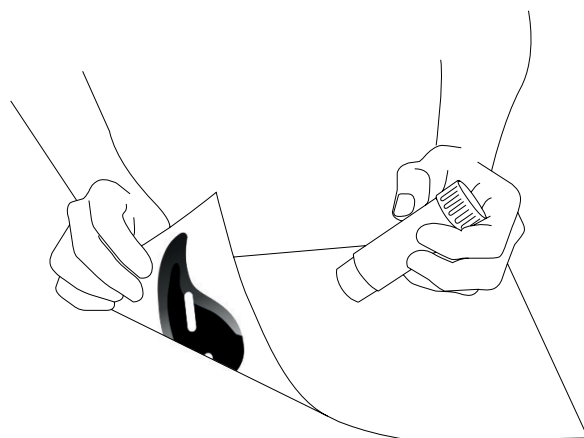
# 1



# 2

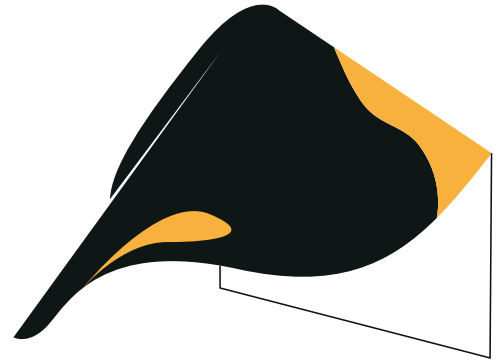
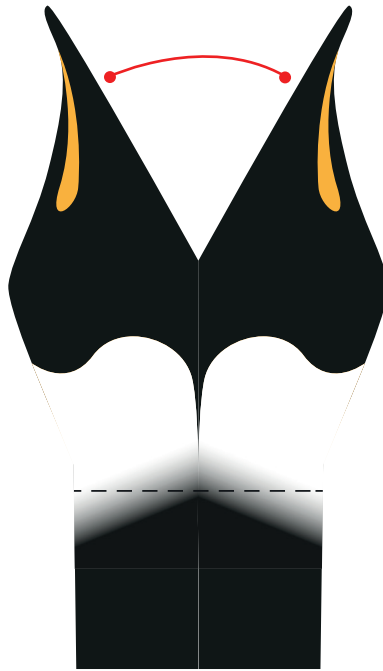
**Stick the page with its feet  
and wings on cardboard.**

Then, cut each part.



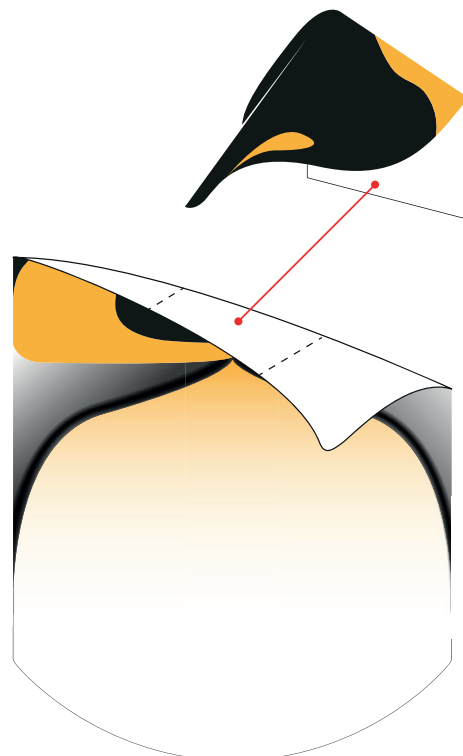
# 3

Fold the head following the dotted line and glue the two parts of the beak with tape or glue.



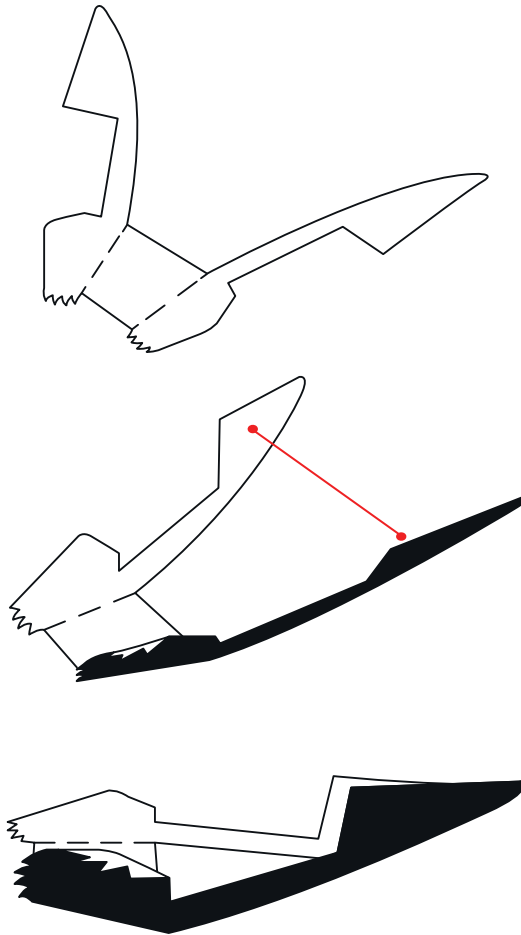
# 4

Glue the head behind the body of the penguin.



# 5

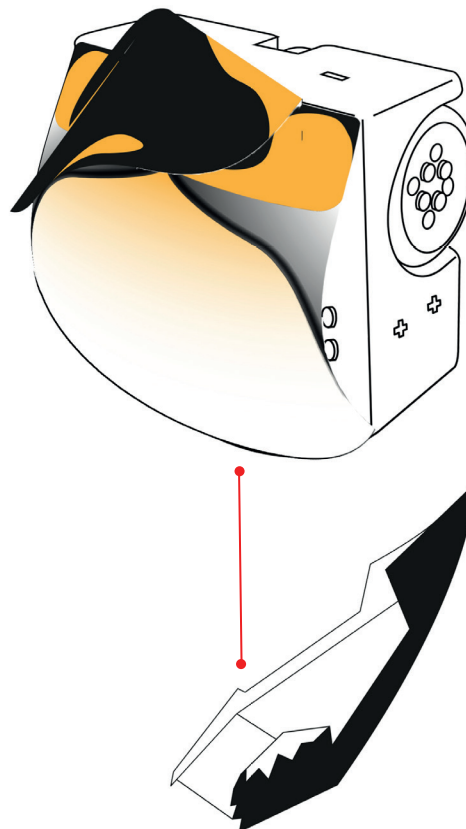
Now, take the piece corresponding to the feet and fold it as follows. Then, glue the tail.



# 6

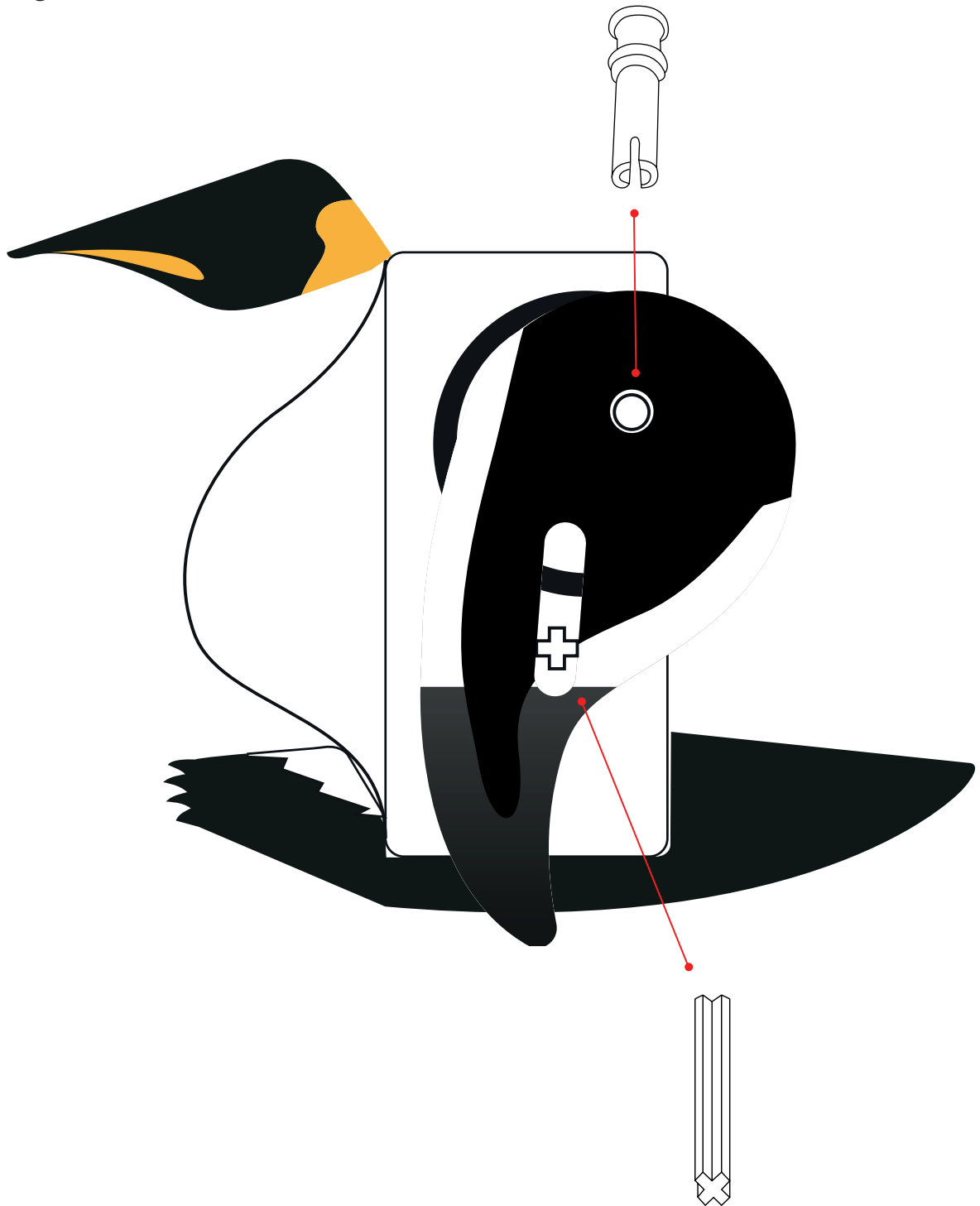
Put a piece of tape between the head and the Thymio. Then take the feet and fix them to the Thymio.

In the same time, stuck the bottom of the body.



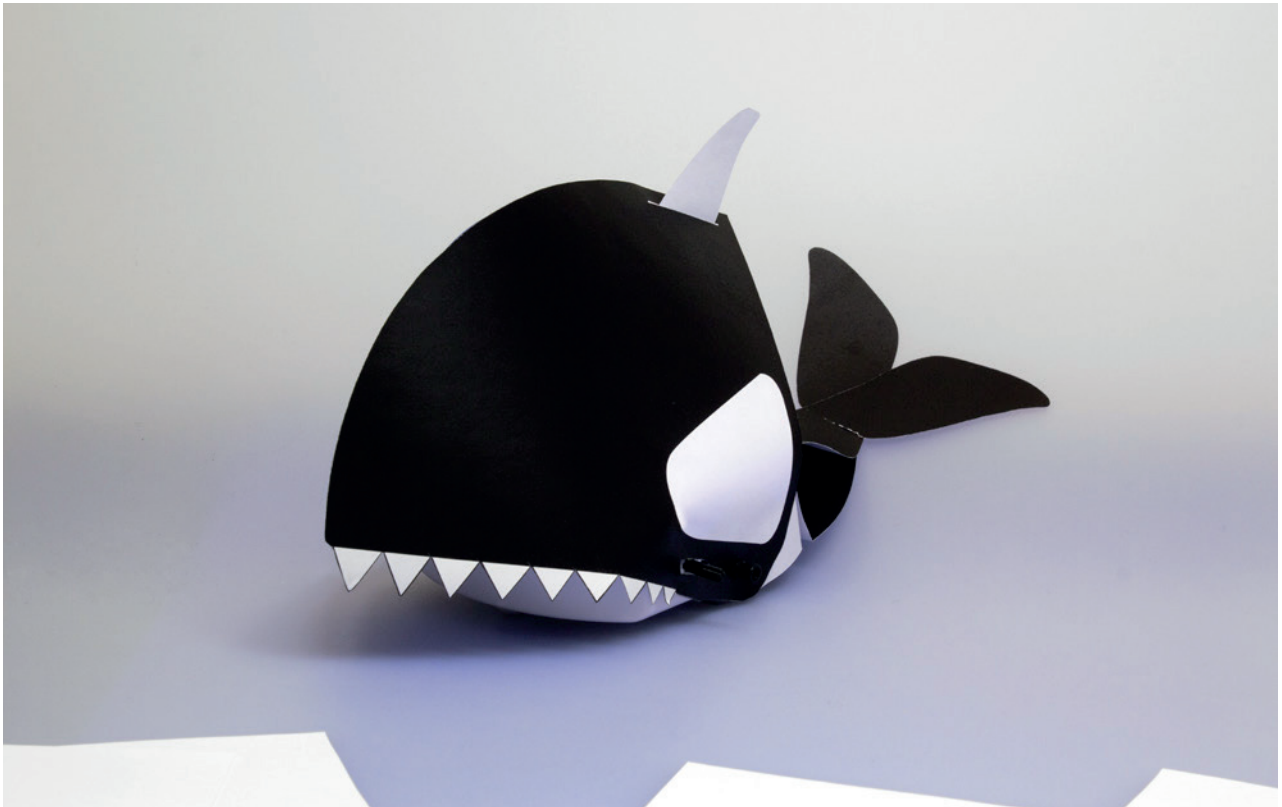
# 7

You just need to fix the wings on the wheels with the lego pieces. This is it, your penguin is finished!

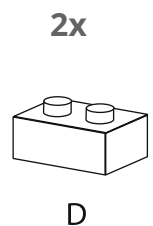
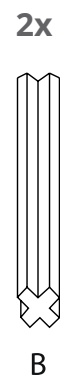


# ORCA

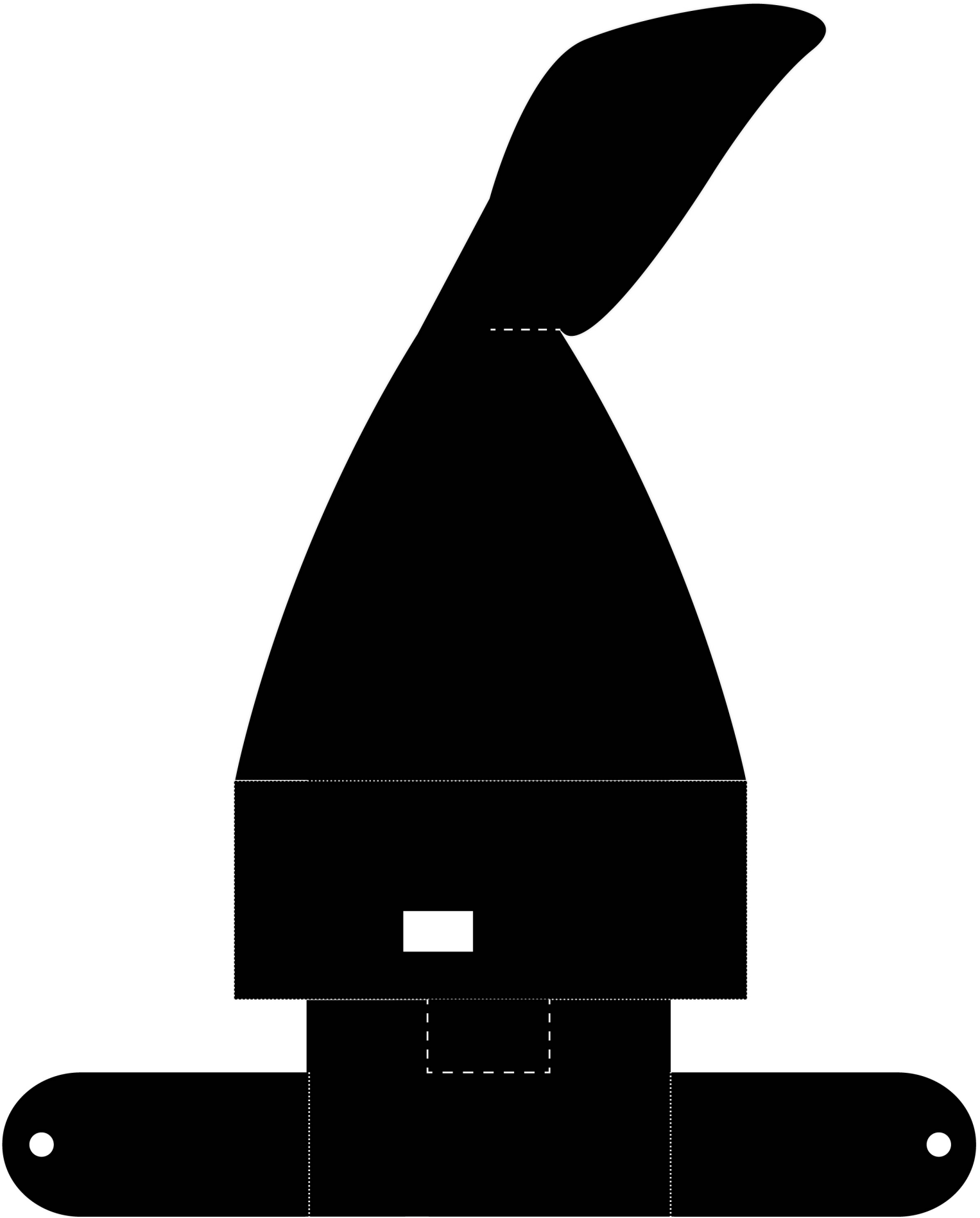
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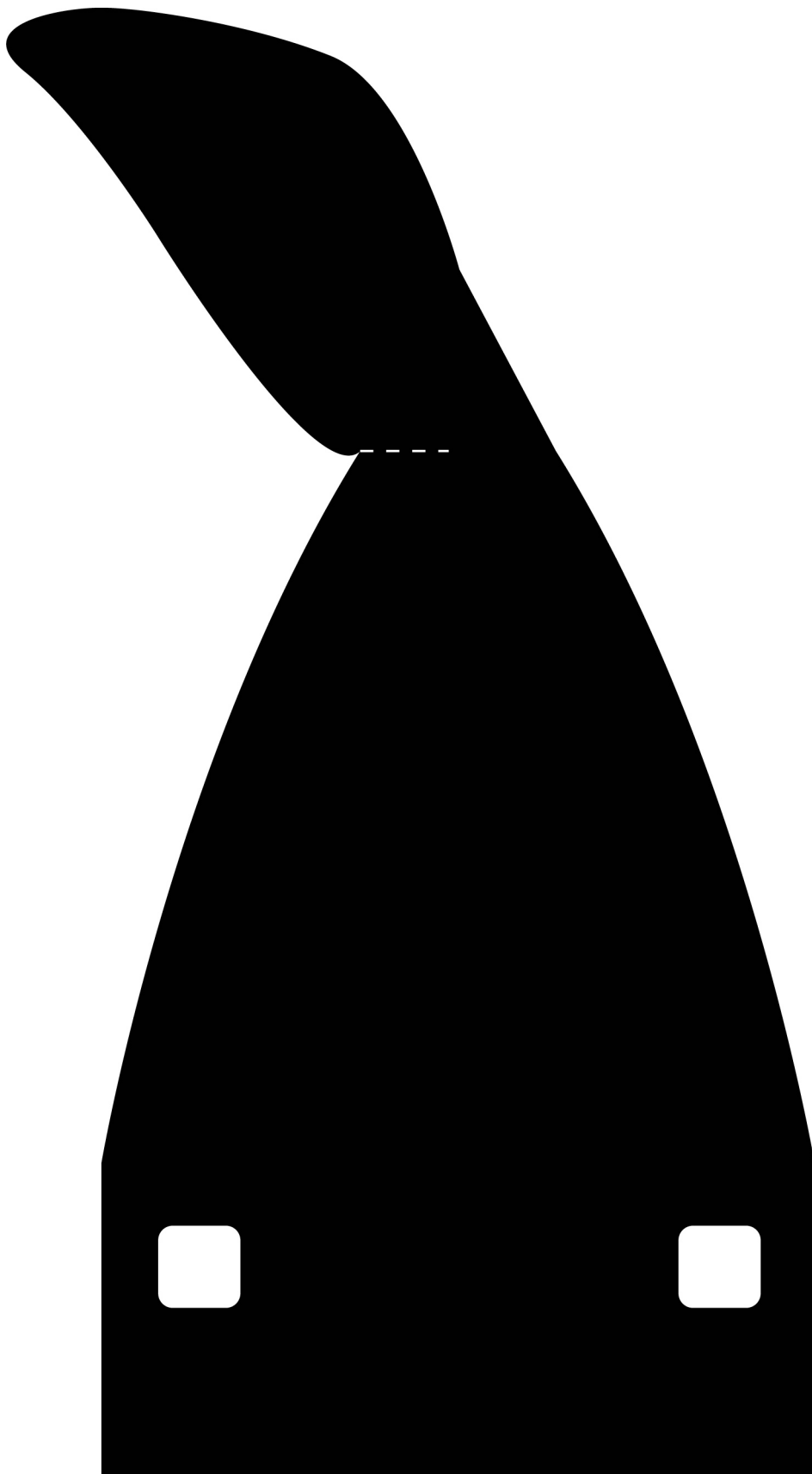


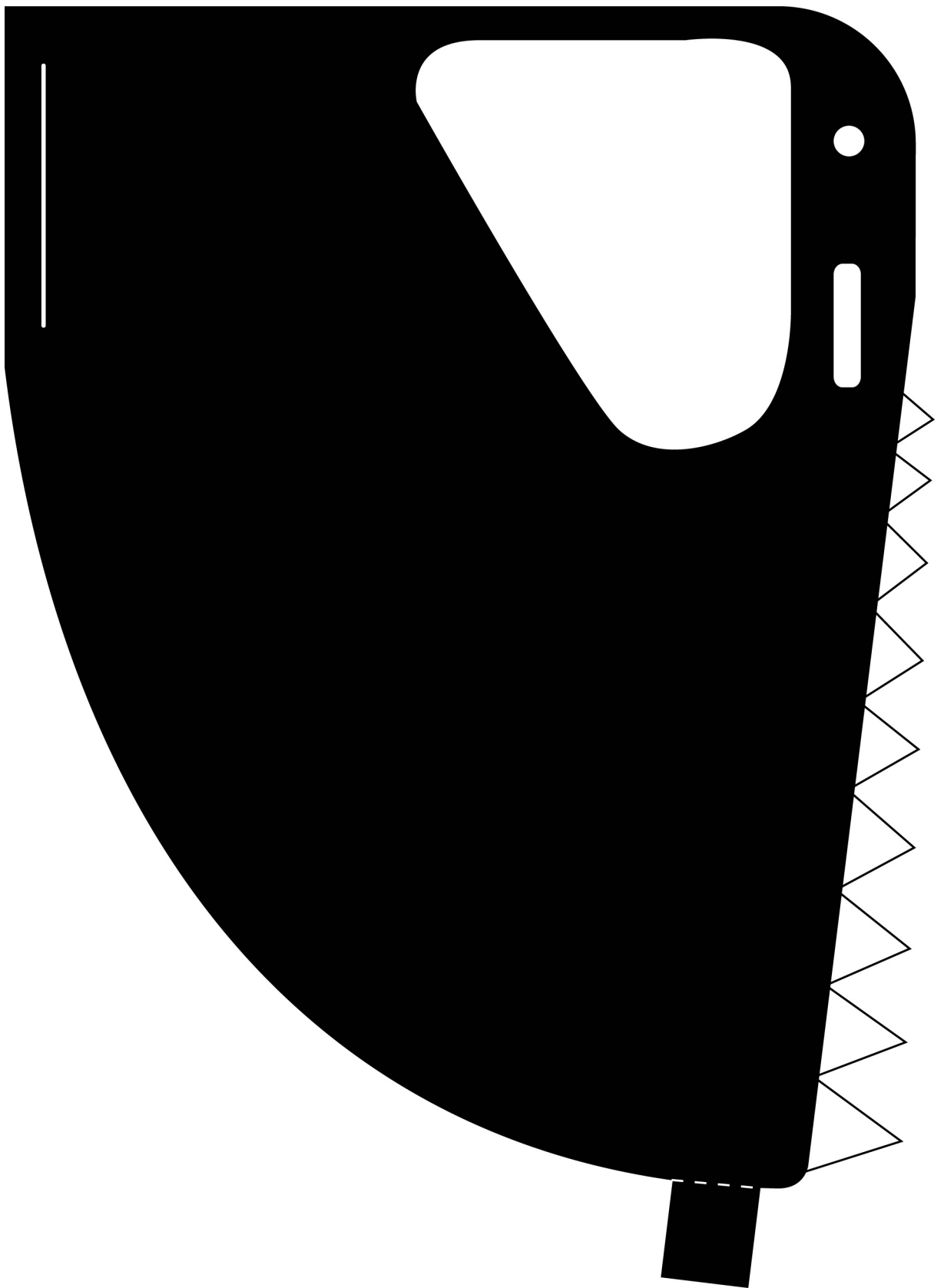
**Teach your orca how to chase sea lions!**  
**Construct a black route (with scotch or a black pencil) that your orca will follow using one of the ground sensors.** With the other ground sensor, program your Thymio to ring when it detects a sea lion.

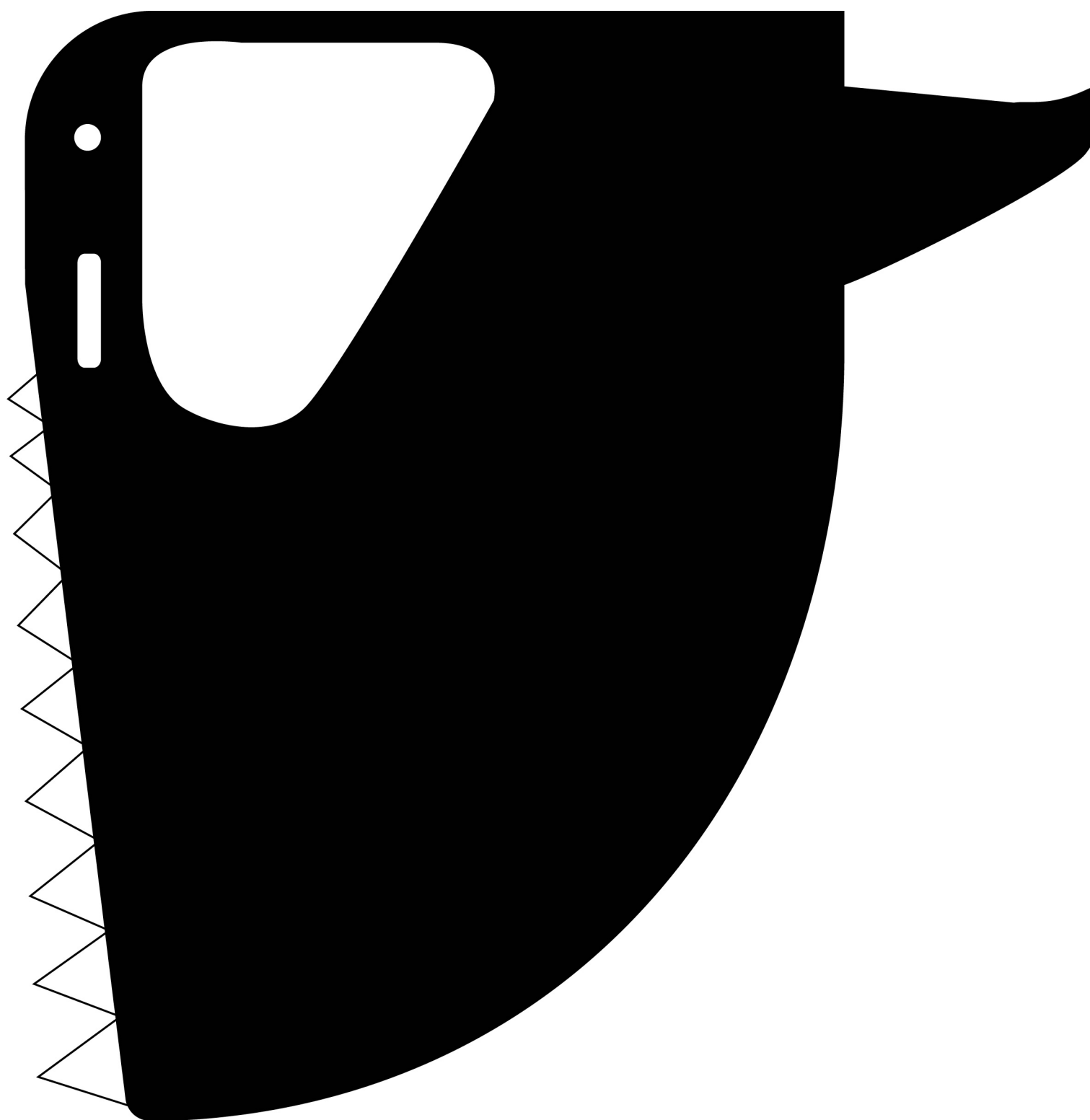


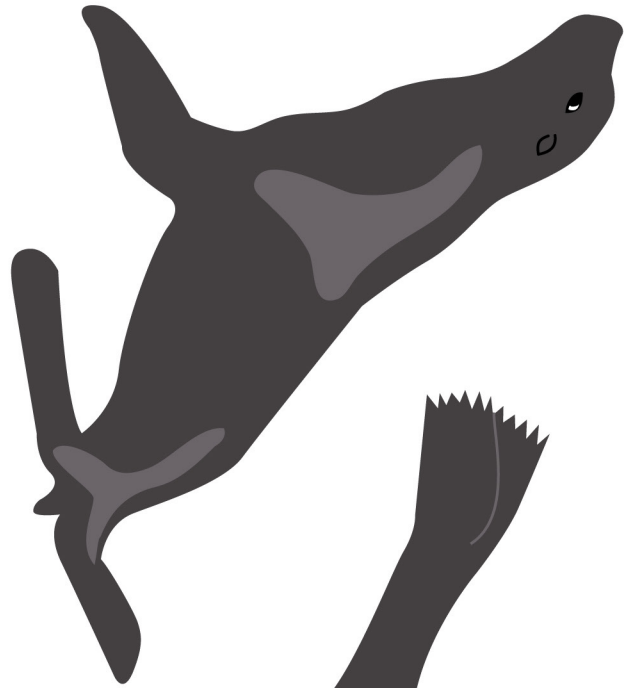
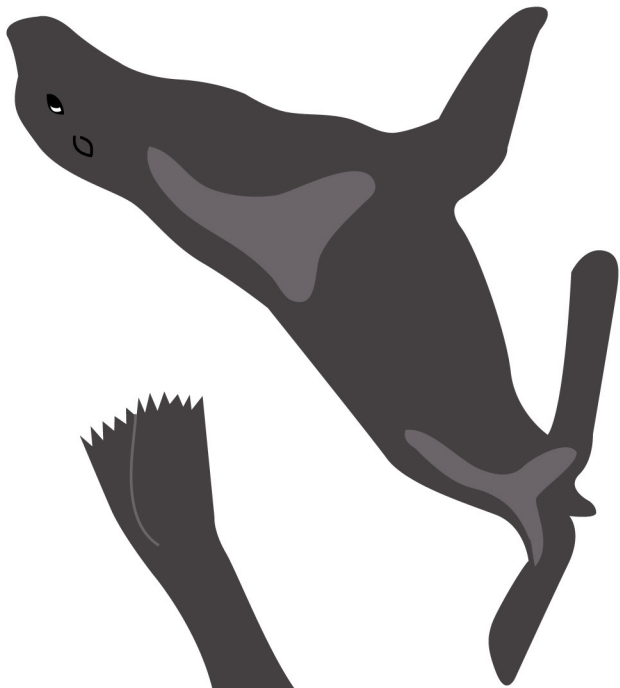






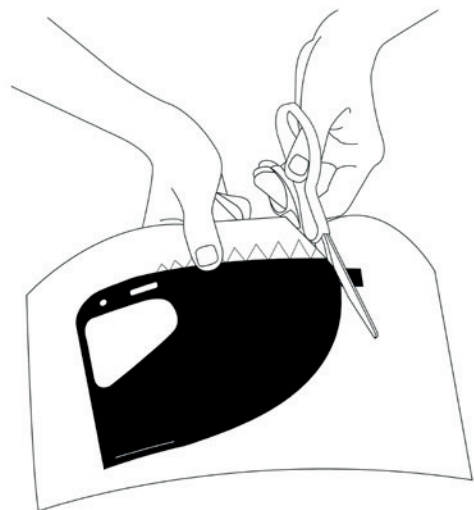
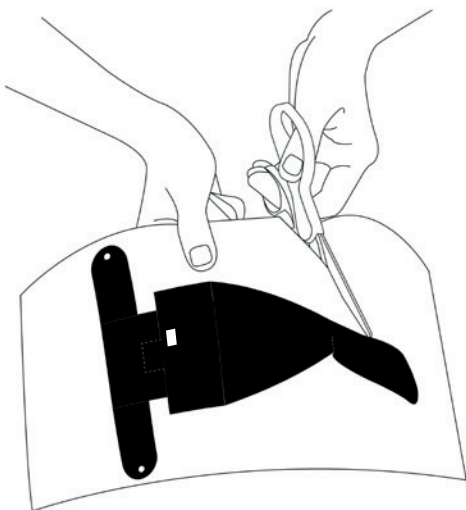
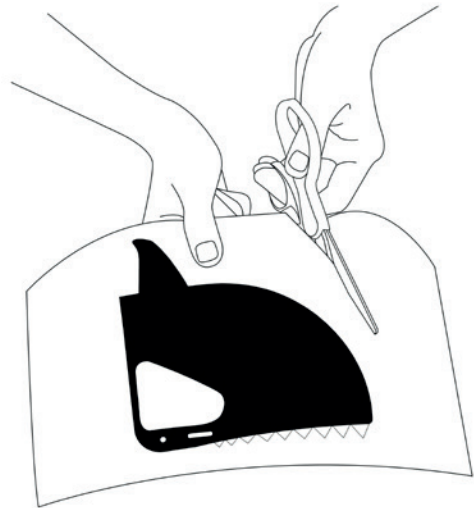
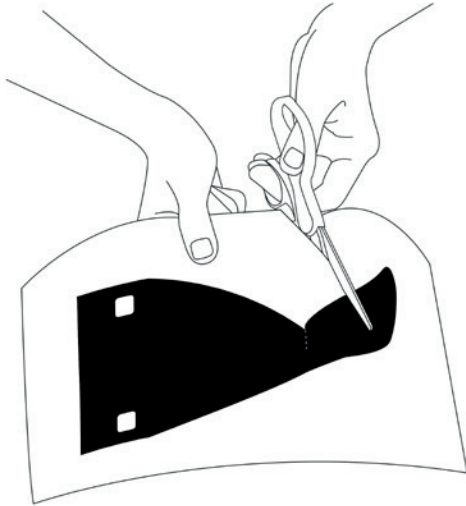






# 1

Print the PDF of your orca (4 x A4 paper) and cut them.



# 2

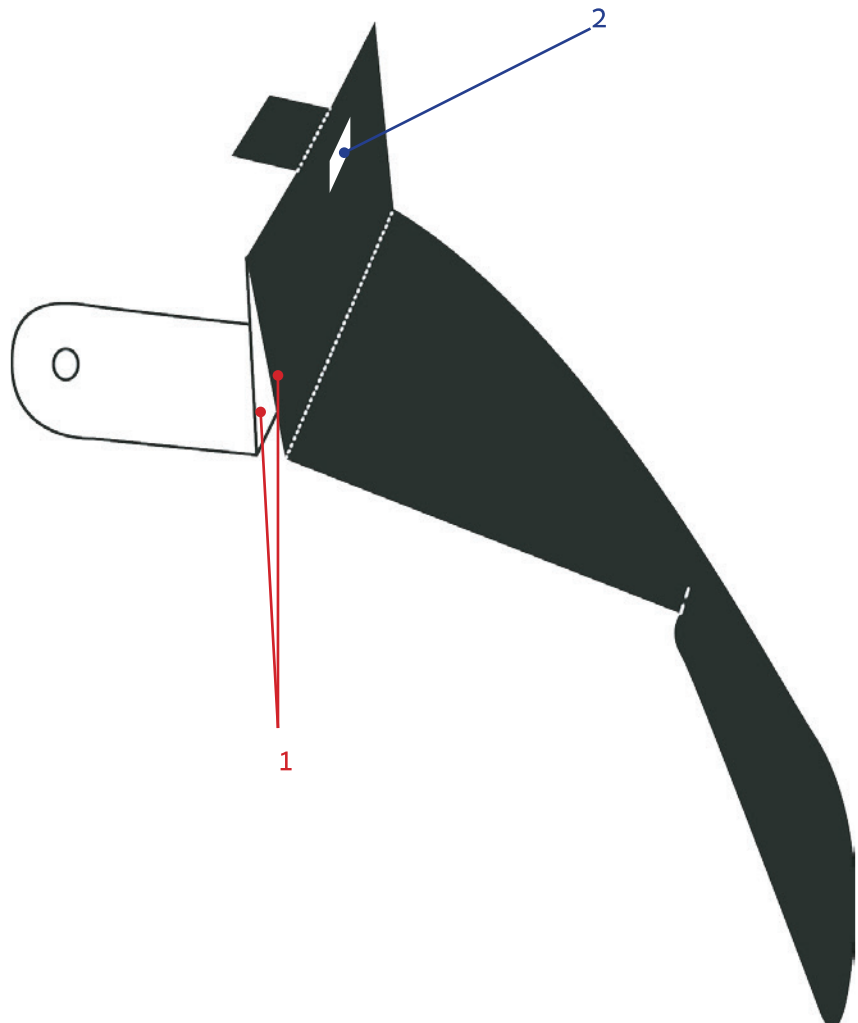
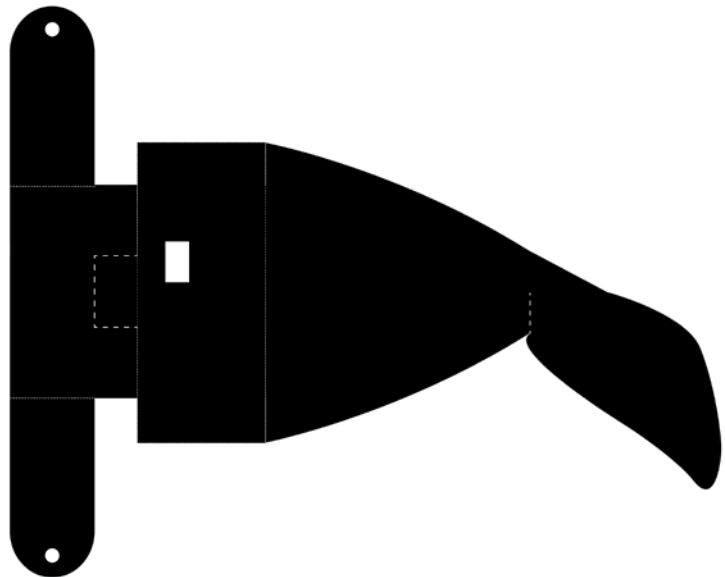
First, fold and glue the tail's lower part.

The white dotted lines indicate you where to fold.

The white dashed lines indicate you where to cut.

Finally, glue the two parts as you can see below (1)

After gluing it, cut the little white square (2): it will be easier for you later to connect your Thymio to your computer to program!



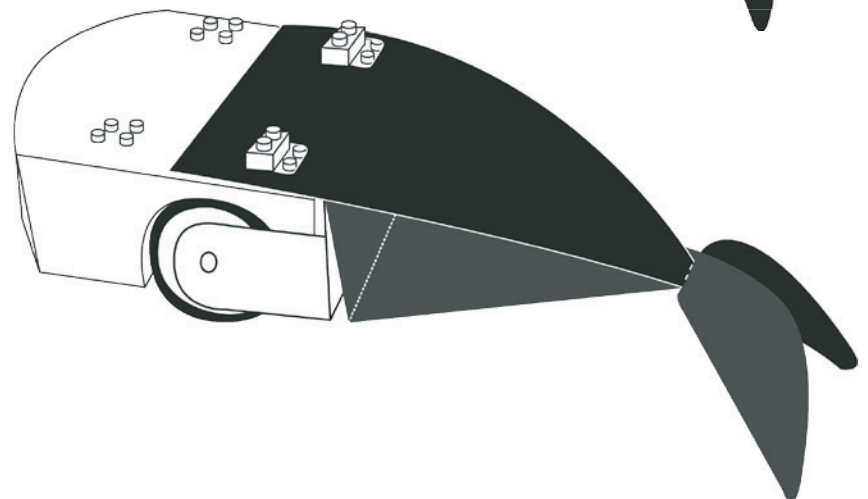
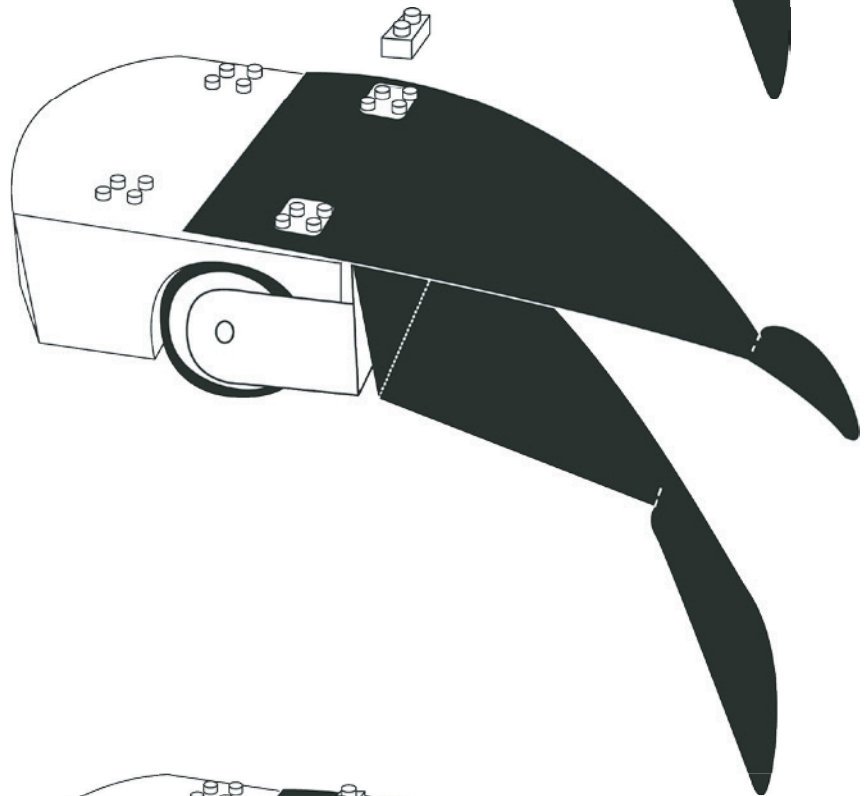
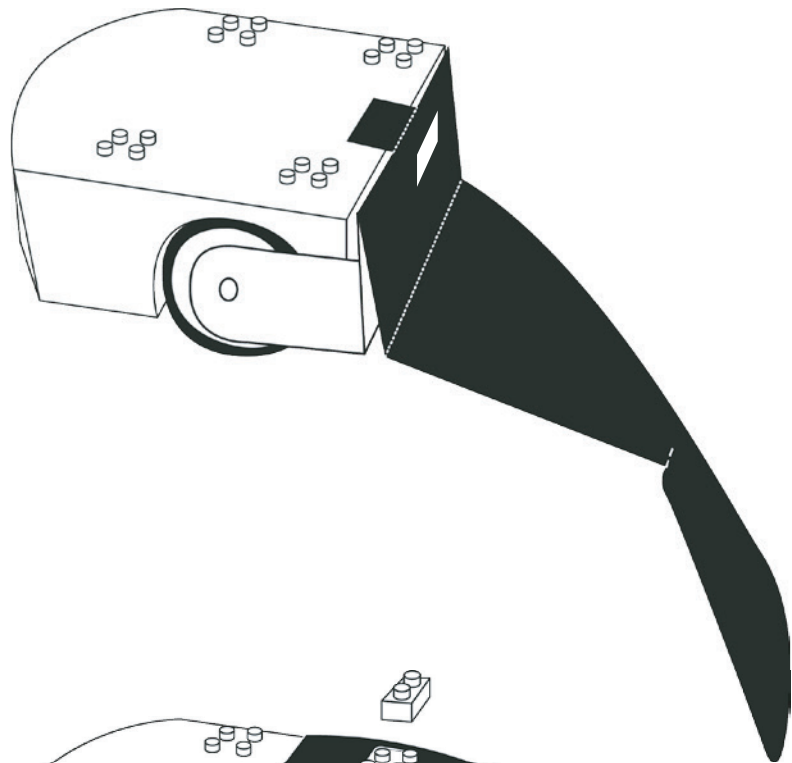
# 3

To fix the tail's lower part to Thymio, use the tab on the top of the tail. Scotch it on Thymio (it should be on the speaker).

Don't fix now the two tabs on the Thymio's wheels, you'll do it later!

Now, you can fix the tail's top part, using the two piece lego D as you can see on the drawing.

Finally, join the two parts of the tail using the two cuts situated on the tails' extremity. Slip them on: your whale's tail is finished!





# 4

The orca's head is made in two steps.

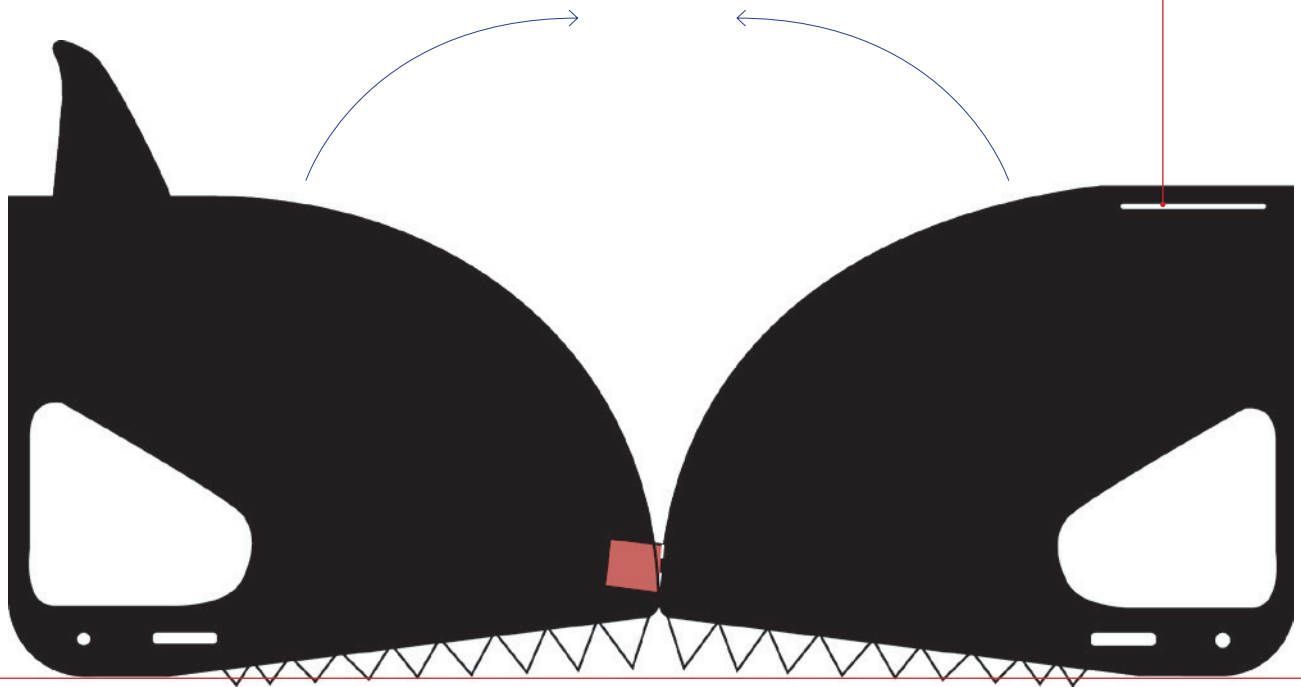
1. Use the tab situated on the top of the orca's head.

Glue it on the other part of the head, on the unprinted part.

Be careful before to glue, the two parts need to be aligned!

2. **Put together** the two parts using the dorsale fin.

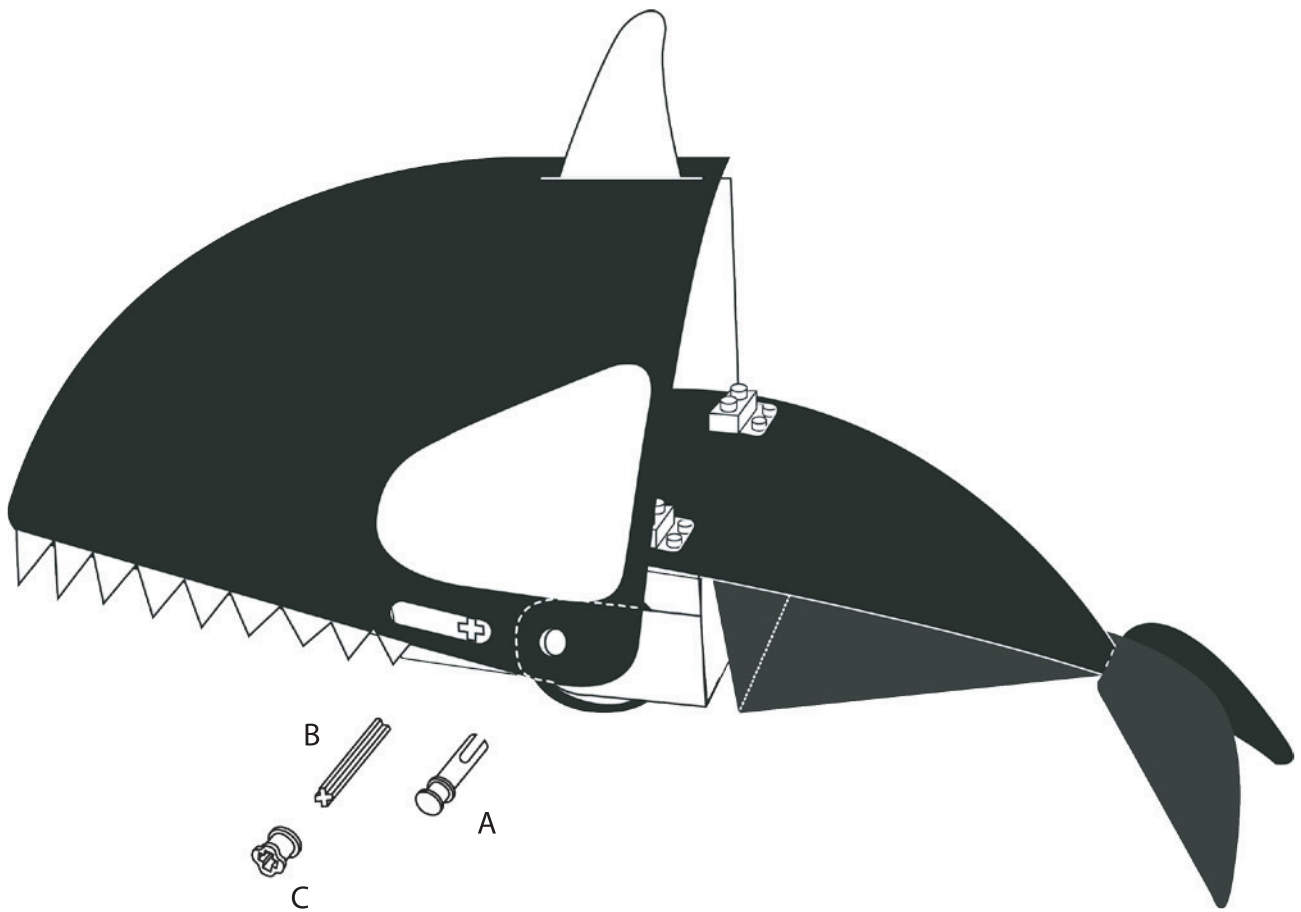
Cut a slot on the white line and slip the dorsale fin on it.



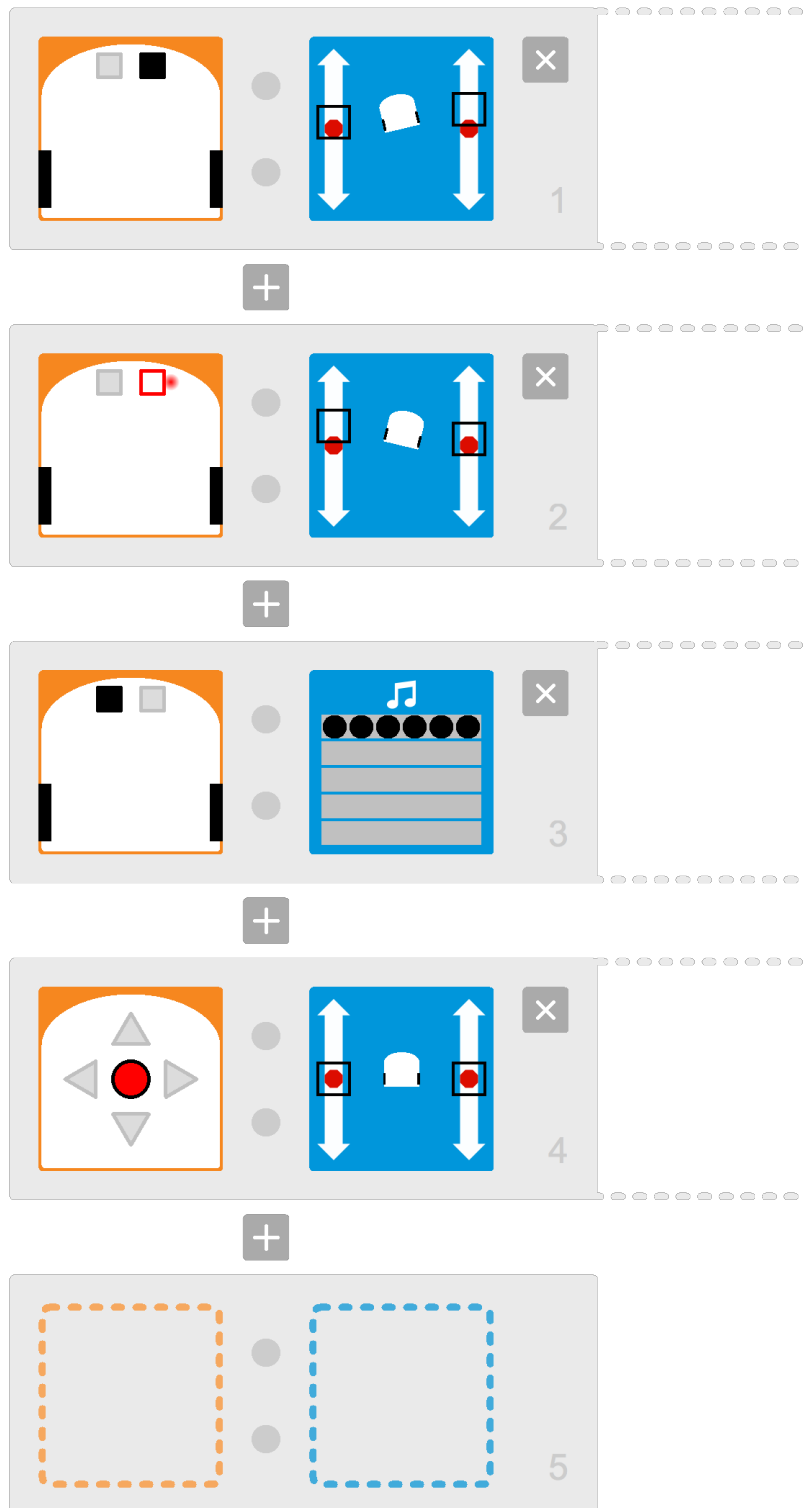
5

It's time to assemble your orca!

Fixe the head on Thymio using the lego piece A,B and C as you can see on the drawing.

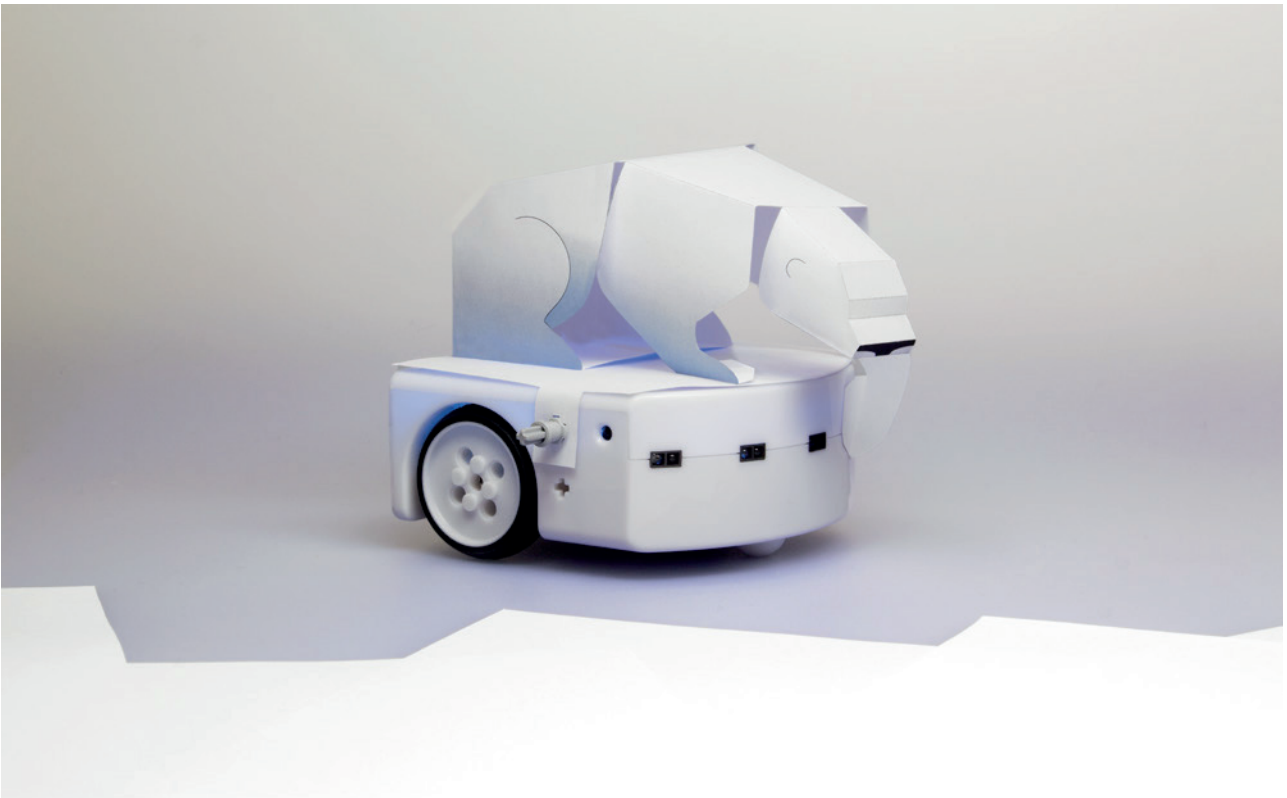


# Solution



# BEAR

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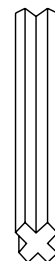
Help your polar bear to pilot its iceberg!  
Use its left foreleg as a guide: when it  
passes in front of a sensor, it indicates  
where the Thymio has to go.

2x



A

2x

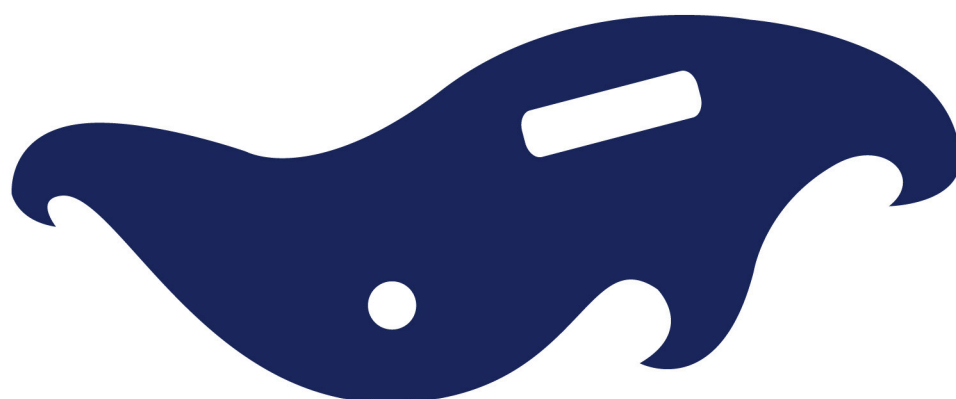
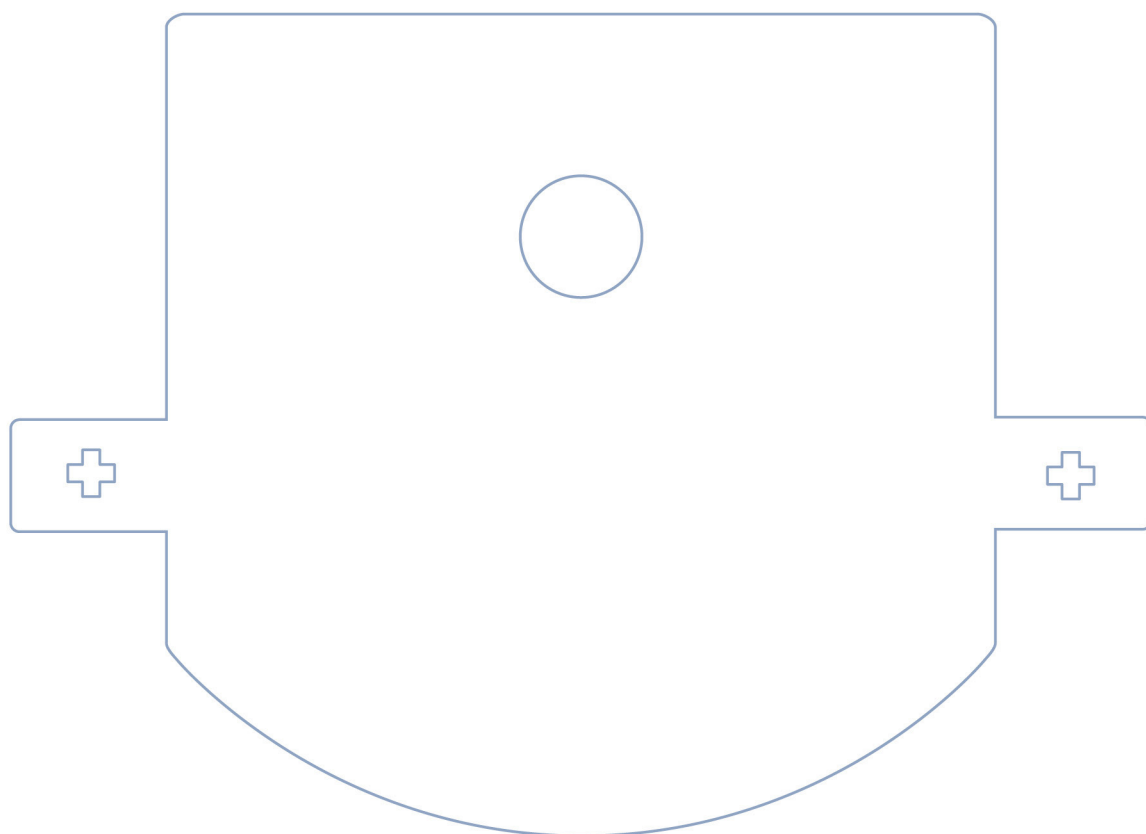


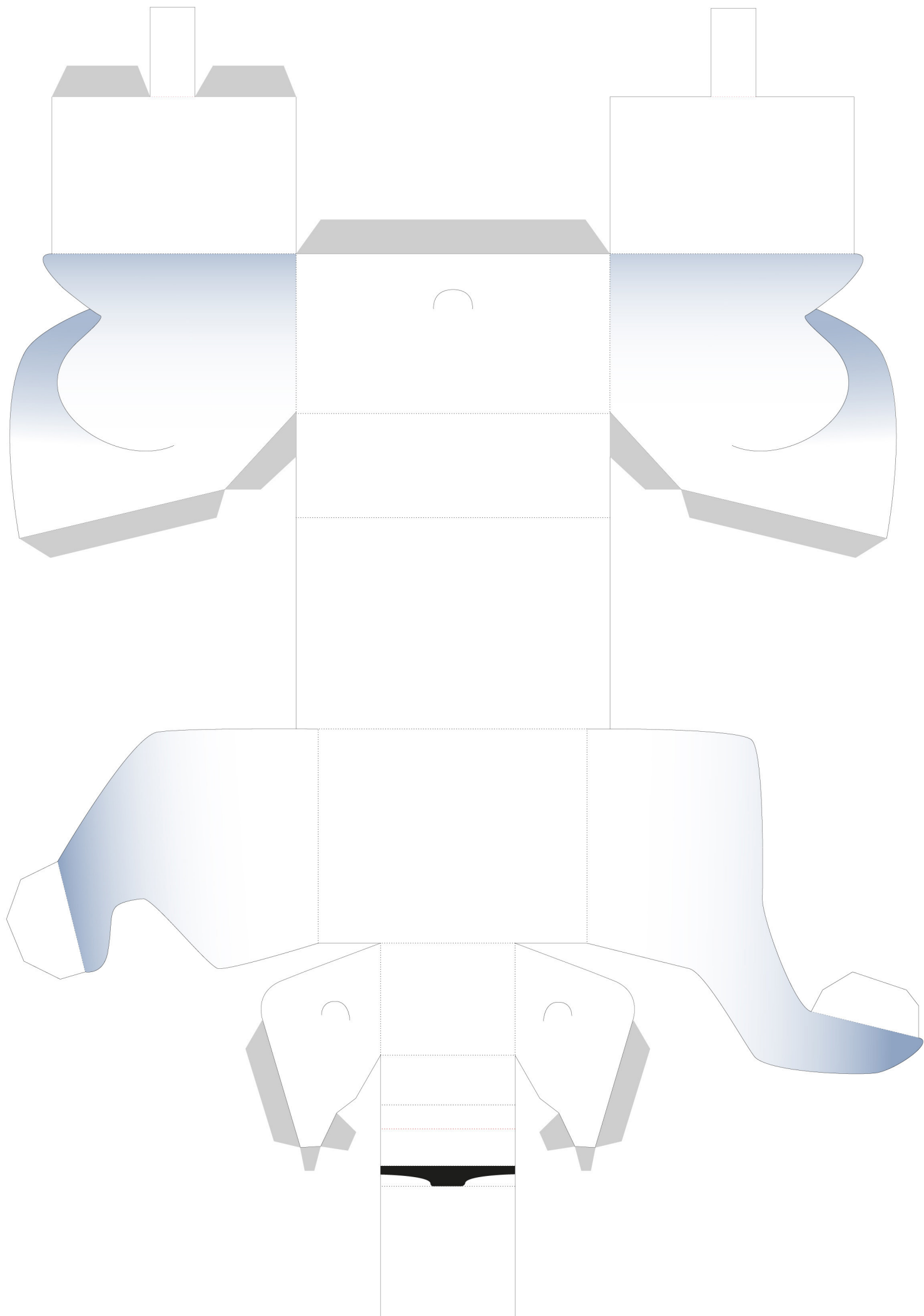
B

2x



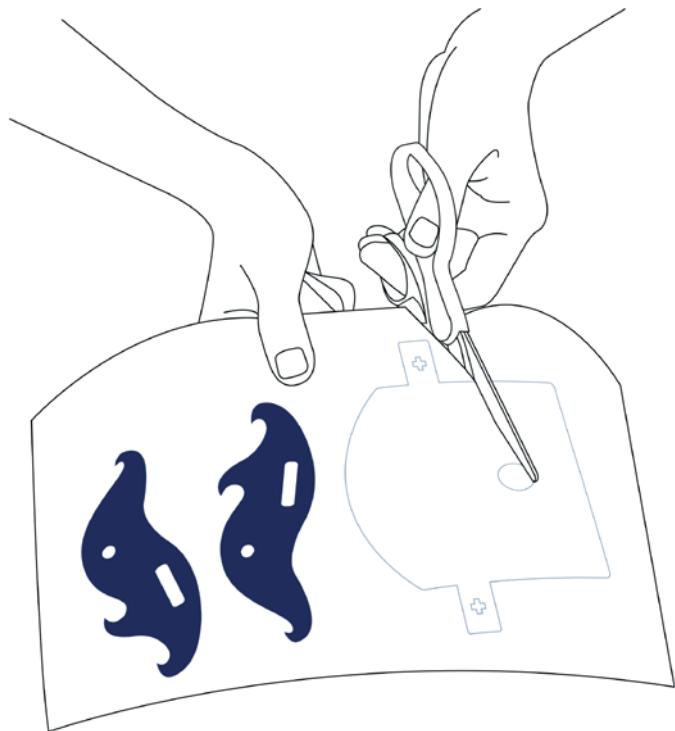
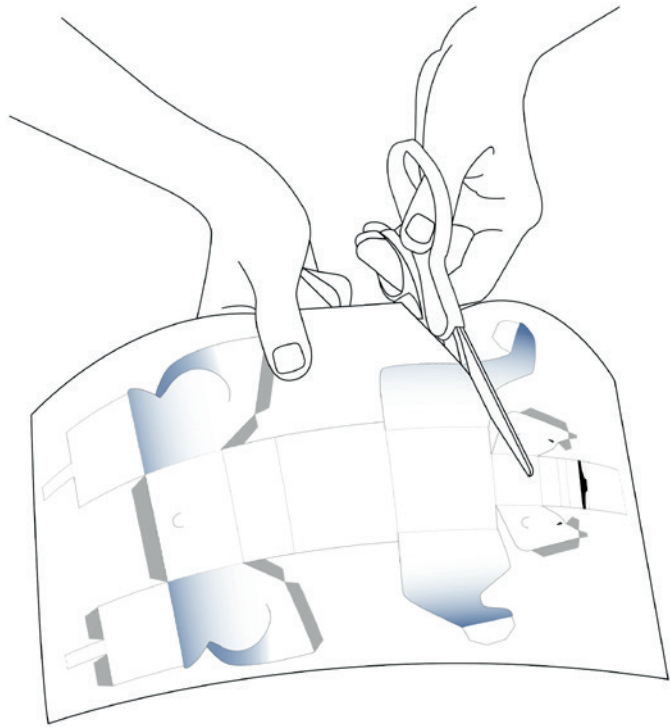
C





# 1

Print the PDF of your bear (2 x A4 paper) and cut them.

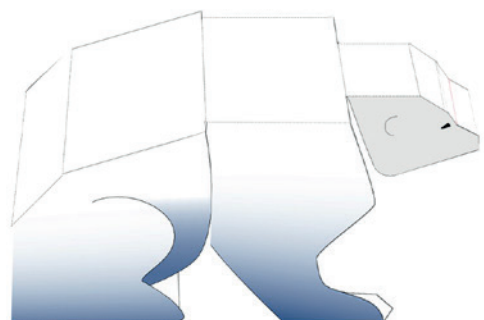
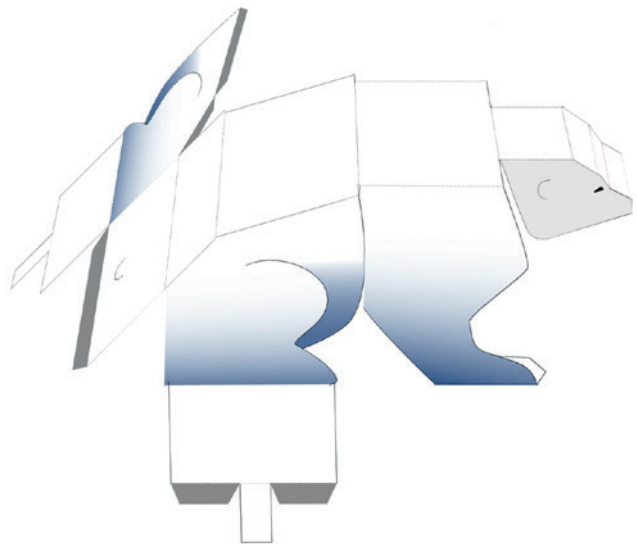
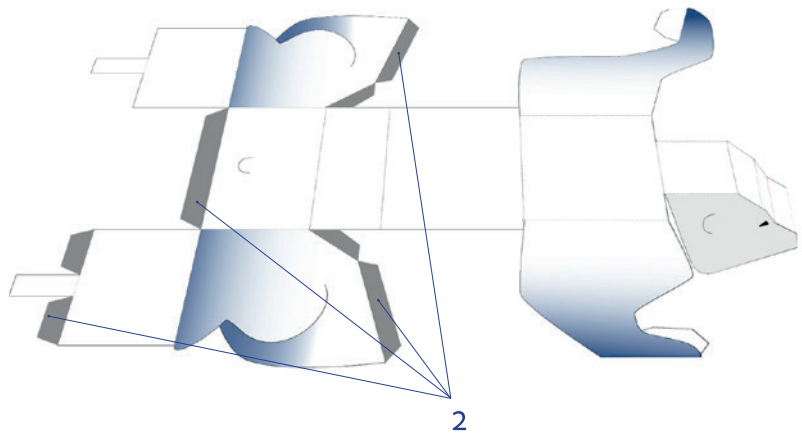
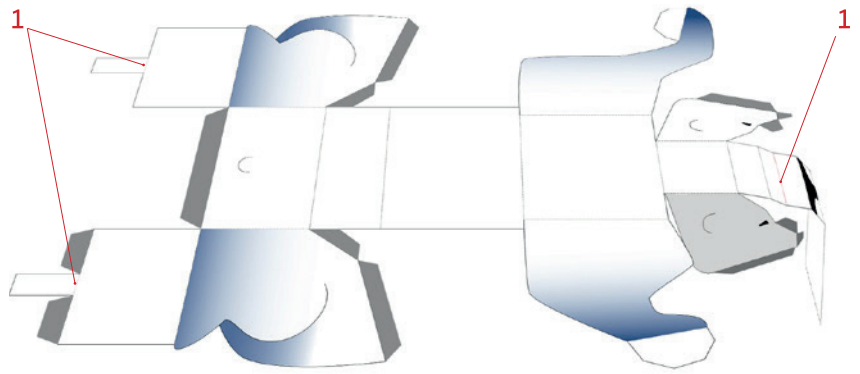


# 2

First, fold and glue the head, then the forelegs, and finally the hind legs.

The black dotted lines indicate you where to fold. Two dotted lines are red (1): you have to fold them on the opposite.

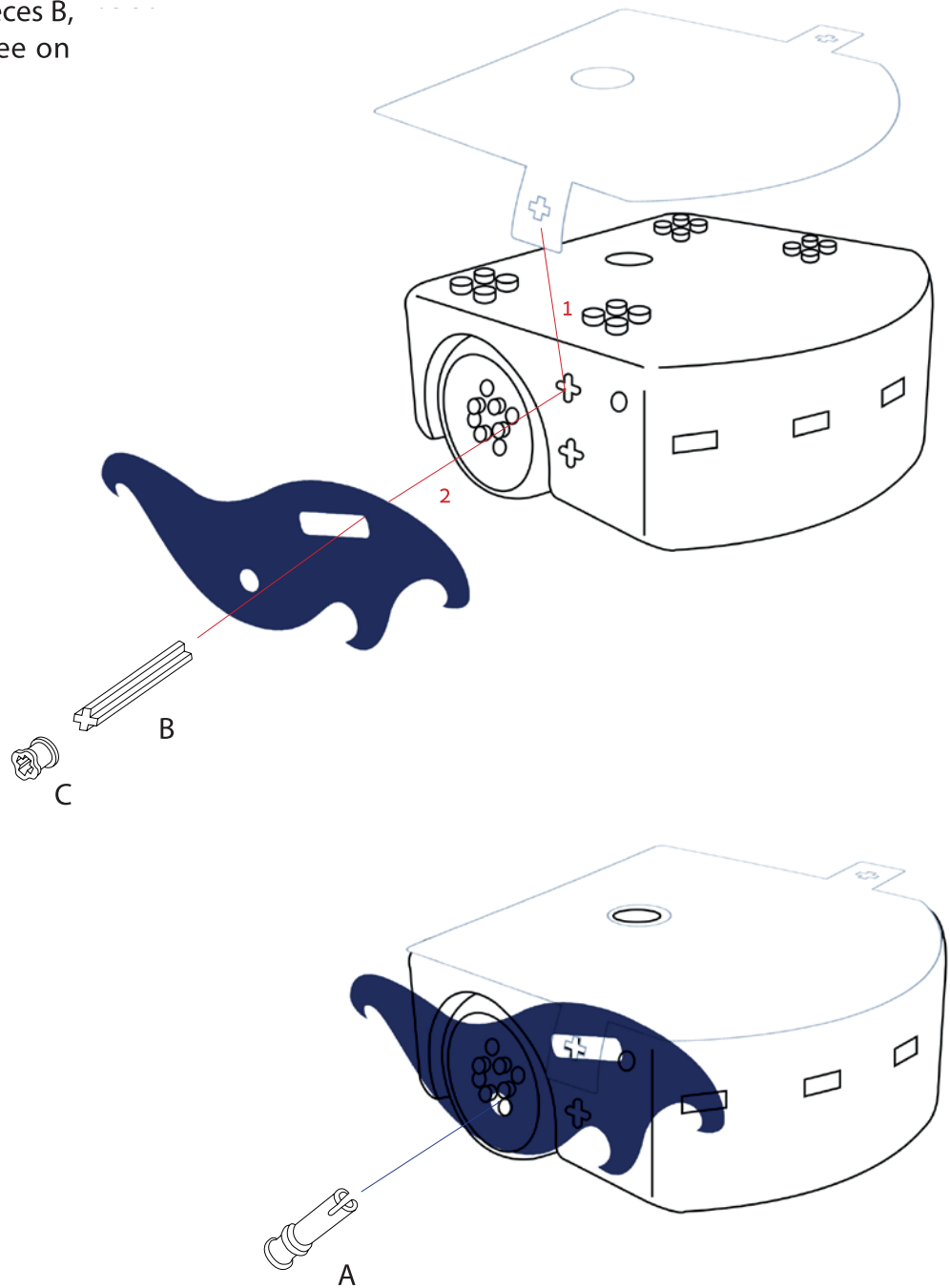
Use the grey tabs (2) to glue the different bear's parts together. They also need to be folded.





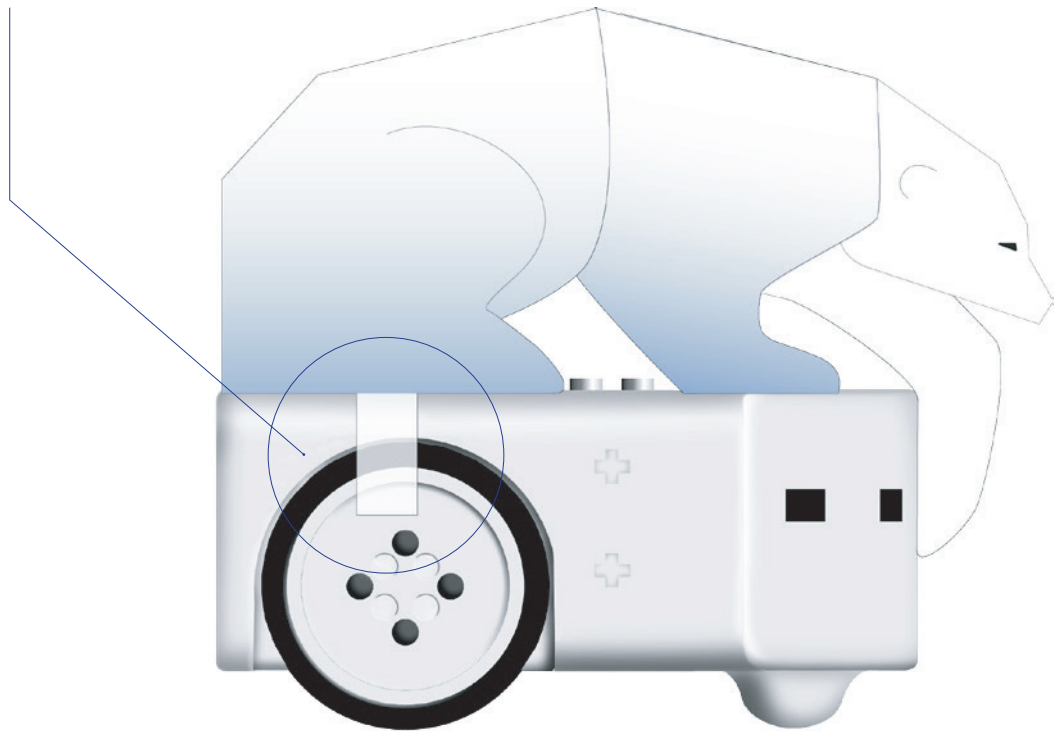
# 3

To build everything on your Thymio, start first by fixing the white cover and then the wave. Use the lego pieces B, C and A as you can see on the drawing.



# 4

To place your bear, use the pencil support, and put in it the tab under your bear.  
You are now ready to pilot your iceberg!



# Solution

