

Getting
Creative
with

Pororo
The Little Penguin

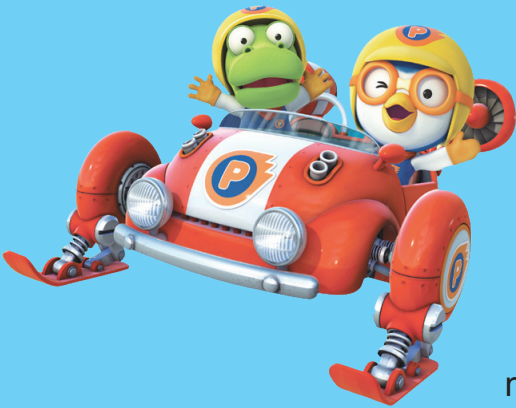
1

Great Ideas



Episode

Pororo, riding a sled with friends, believes he will reach the bottom of the hill but is overtaken by Eddy. Pororo learns that Eddy has been able to build a new and faster sled after much trial and error. Eddy then encourages Pororo to invent his own sled. Pororo shows his friends the blueprint for his new sled and begins the process of building it.



This episode shows Pororo and his friends brainstorming new ideas for the sled. It also shows how inventing is a fun activity for everyone including children, and stresses the importance of keeping notes during the invention process.

Lesson Objectives

- Instead of giving the dictionary definition of “invention”, teach children to learn naturally.
- Have children find inventions and inventors in their daily lives.
- Have children learn to come up with their own ideas.
- Have children learn the steps to an invention and have them reach for an idea.
- Show children the fun of inventing through practice.
- Have children learn ways to improve their inventions through comparison.

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1



Workbook

Pororo and friends were riding a sled and decided to invent a new one that could go faster. What is invention? Let's think about it together.



What is invention? let's look for it? • STICKER 1-1

idea

stone

try

water

think

fire

creative



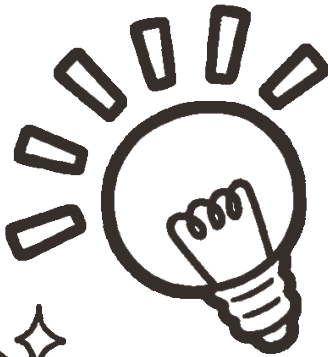
Choose all those things that have been invented from the pictures below. (paint)



pencil



meteor



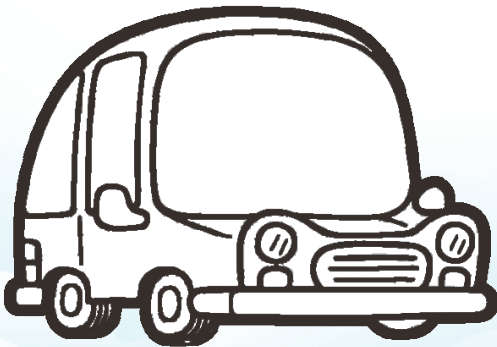
light bulb



glasses



gold



car



salt

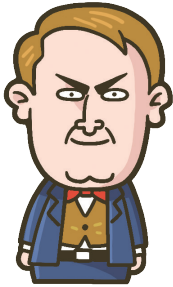
Who are inventors?



Write the names of any inventors you know of and what he or she has invented.



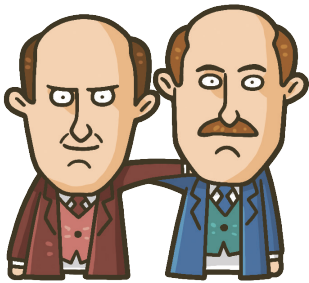
Let's link the inventors to their inventions.



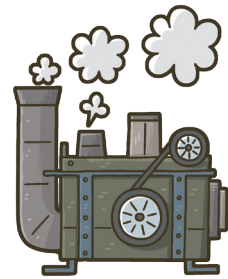
Thomas Edison



telephone



The Wright brothers



steam engine



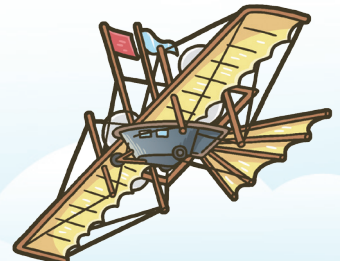
Alexander Bell



light bulb



James Watt



airplane

Shall we take a look at how Pororo and friends constructed their invention and follow their steps? What should we invent?



**What kind of sled do Pororo and friends want?
Describe the sled Pororo wants to make.**





Write down, in order, Pororo's ideas for inventing a fast sled.



Mast

()



Balloon

()



Propeller

()



Jet Engine

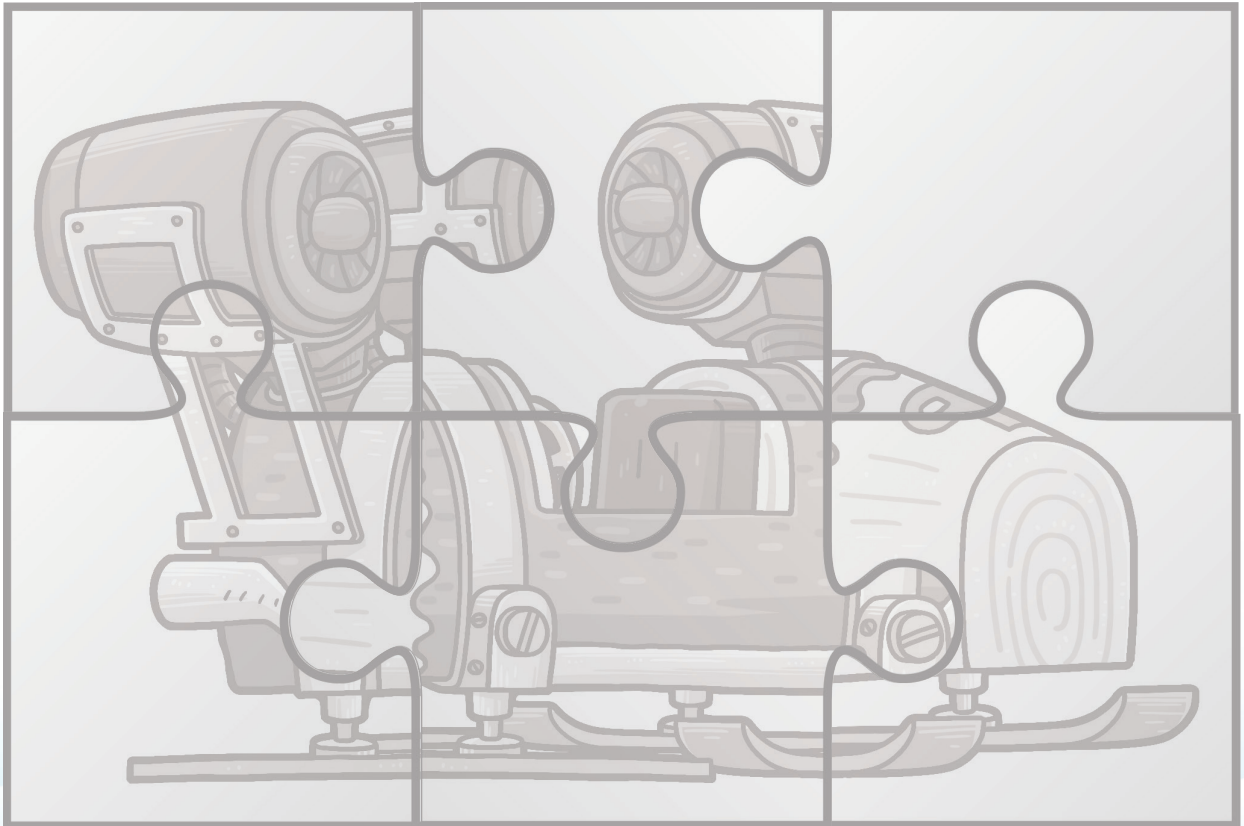
()

To invent something, we need first to make an invention note. Let's think about how Pororo and his friends drew up theirs.



Here is a diagram of the sled Pororo wishes to make. But by mistake it has been torn into several pieces. Put the pieces back together to make it a whole design.

• STICKER 1-2



There are many ways to create an invention. Sometimes we can add a special function of one object to another to make it more convenient to use. We call this addition invention. What can we do to make an addition invention?



Find items from those below that Pororo added to make his new sled.



fan



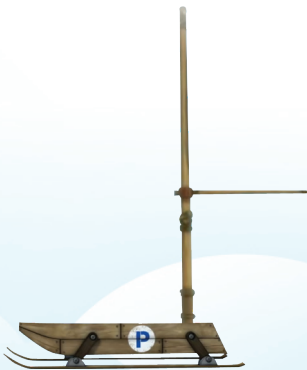
propeller



jet engine



sail



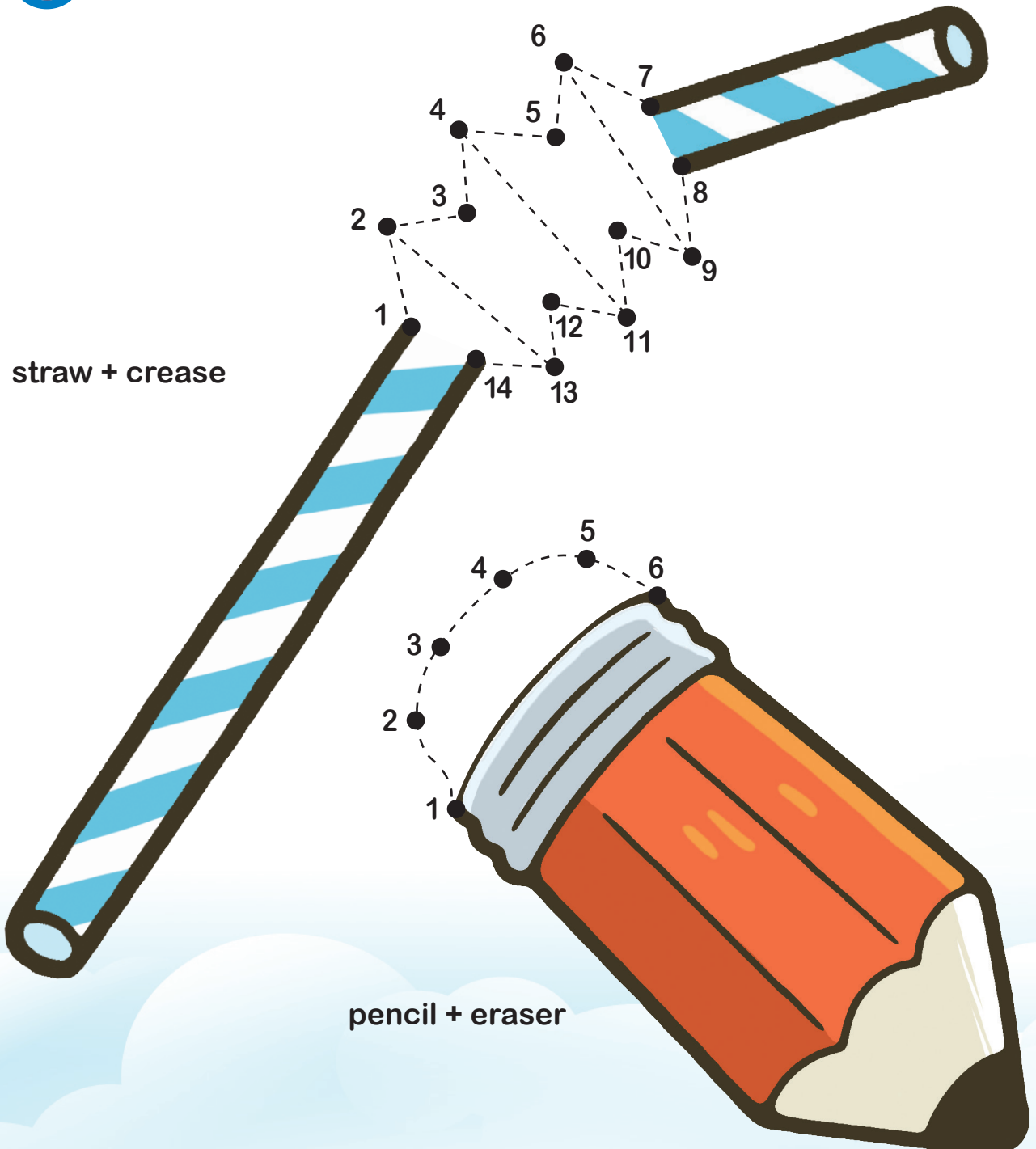
mast



balloon



Take a close look at the objects below. How was addition invention used here?





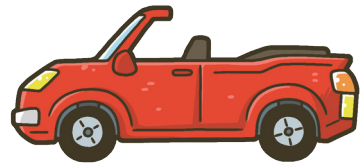
**Subtraction invention is the opposite of addition invention.
What can we subtract from the objects below to make new inventions?**



car

- (

) =



convertible



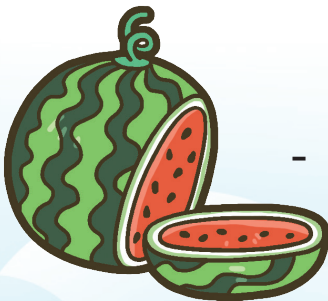
telephone

- (

) =



cordless telephone



watermelon

- (

) =



seedless watermelon

How can you turn an idea into an invention?



Invention inconvenience. Is there an object or a situation that you find uncomfortable in everyday life?

ex) If water puddles formed under the glass turned upside down for drying, it isn't good for hygien.

What can we do to make an inconvenient thing more convenient?

ex) Tilt the cup not to touch water puddles by the rim.

What is needed to make life more convenient?

ex) Design the cup to tilt when placed upside down.



Let's draw a picture of everything we have talked about so far.

A large, empty rectangular box with rounded corners, intended for drawing. The box is white and occupies most of the page's central area.



Below is an invention note. Let's fill in the blanks.

① Pencil erasers are often lost after use.

- It would be good to **(fix)** the eraser so that it can be found easily.
- **(fix)** the eraser on the **(end)** of the pencil.
- A pencil with an eraser tip is invented!

② Skates worn to slide on ice during wintertime cannot be used once the ice melts.

- Want to skate any time of the year and not just in winter?
- Skate blades only slide on ice.
- () can be used instead of skate blades to slide on ground that is not icy.
- () skates that have () instead of skate blades are invented!

③ It is difficult to know whether the water in the kettle is boiling unless watched carefully.

- Want to know right away when the kettle starts to boil?
- When water boils, steam evaporates and adds pressure.
- A small () made on the lid will make a sound when pressure builds up inside the kettle.
- A kettle that whistles when the water boils is invented!



LET'S MAKE A PAPER SLED



What you need

Paper Sled Printed Sheets, Straw, Cutter Knife, Ruler, Glue, Scissors

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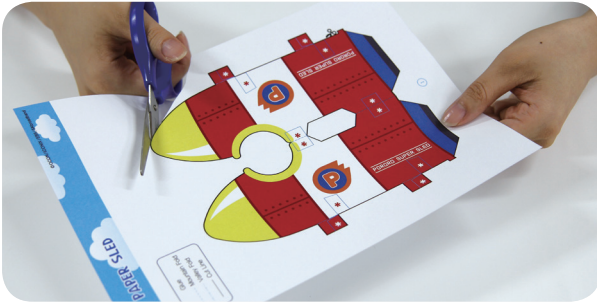
1



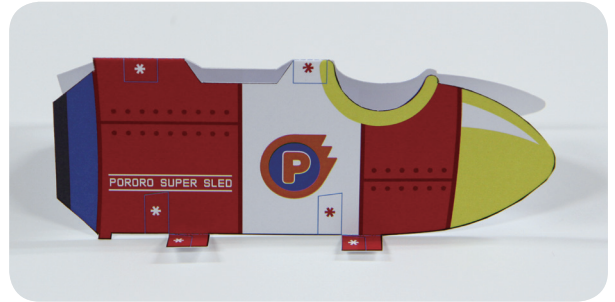
**INVENTION
KIT**



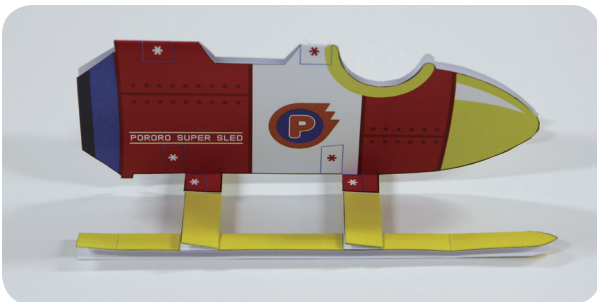
What to do



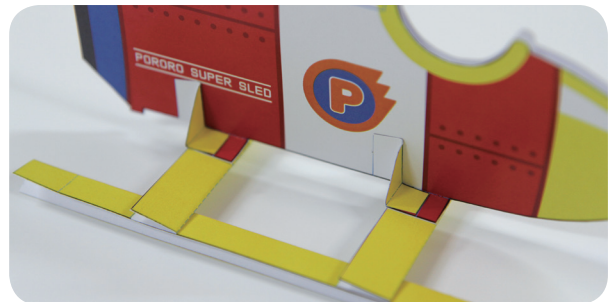
① Cut along the Cutting line on the sheets.
(Be careful not to hurt your hands!)



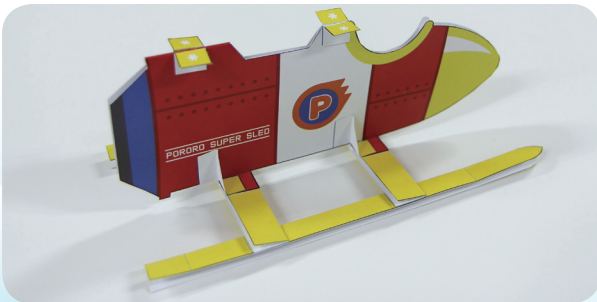
② Fold the body. (①)



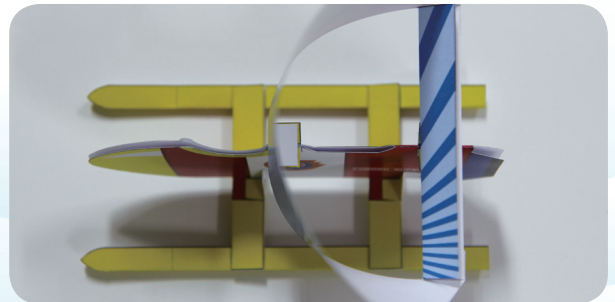
③ Attach the leg to the body. (②~⑤)



④ Attach the rest of the component
and fix it. (⑥~⑨)



⑤ Attach remaining parts onto the
body. (⑩~⑬)

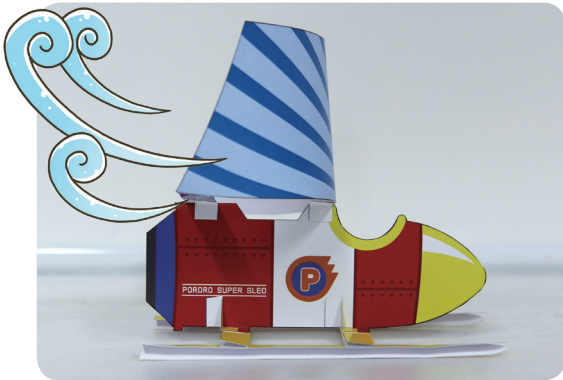


⑥ Set sails. (⑭~⑮)

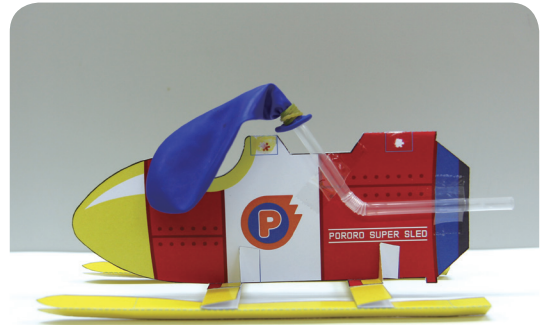
Let's find another way to go faster after making a paper sled.



Let's compare the difference between using wind and using a balloon.



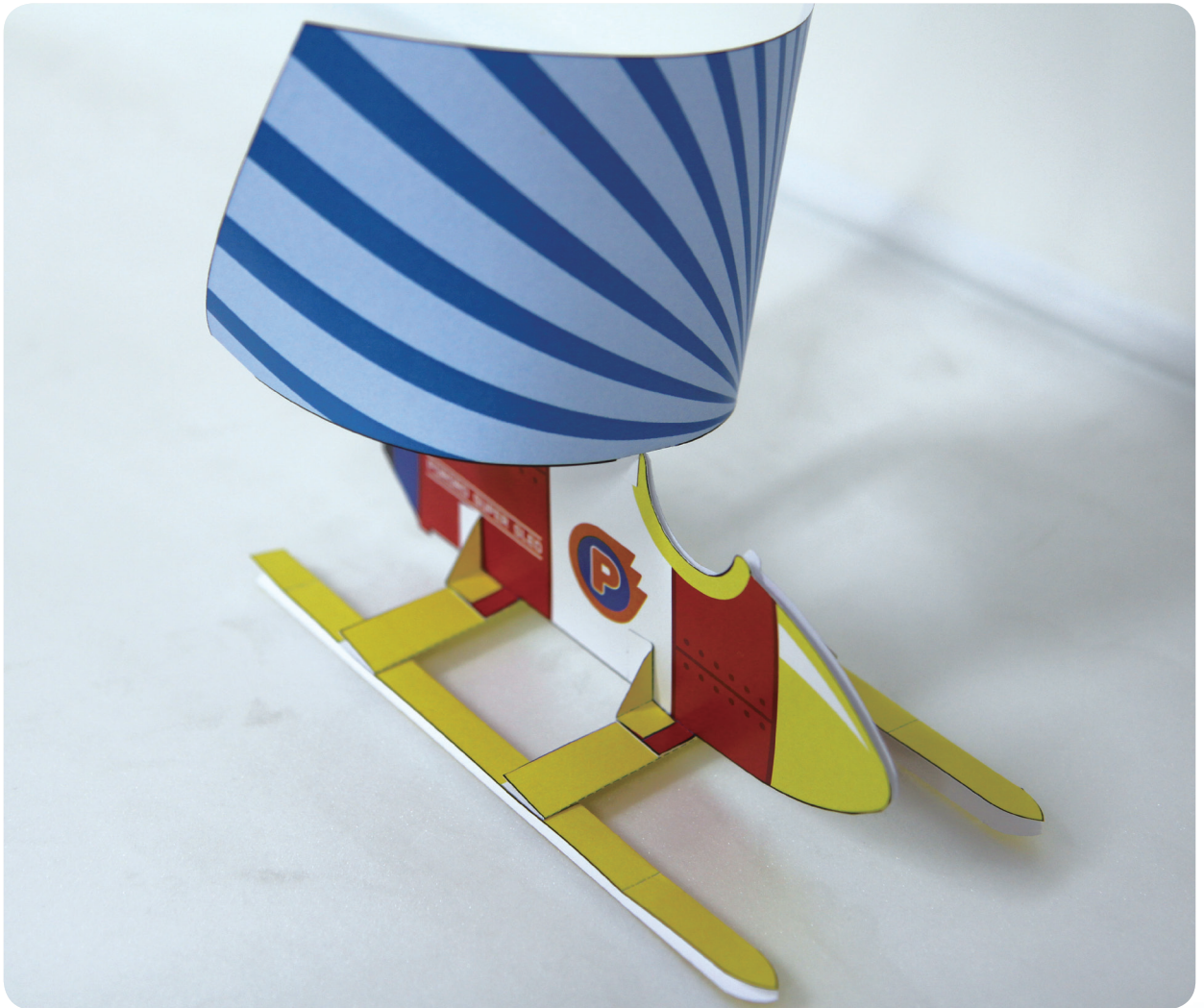
wind



balloon



What can we add to make it faster?



Done!
**Try to make the sled
go forward!**



Educational Animation on IP for Children



Korean Intellectual Property Office

Government Complex Daejeon Building 4, 189, Cheongsu-ro,
Seo-gu, Daejeon, 302-701, Republic of Korea

<http://www.kipo.go.kr/en>

Tel. +82 42 481 5072



World Intellectual Property Organization

34, chemin des Colombettes, 1211 Geneva, Switzerland

<http://www.wipo.int>

Tel. +41 22 338 91 11



Korea Invention Promotion Association

131, Teheran-ro, Gangnam-gu, Seoul, Korea 135-980

<http://www.kipa.org/english>

Tel. +82 2 3459 2811



Invention Note

WorkBook Supplement



School :

Name :





Think about and write down all uncomfortable things in life and what inventions you would like to make.

② Developing ideas 1

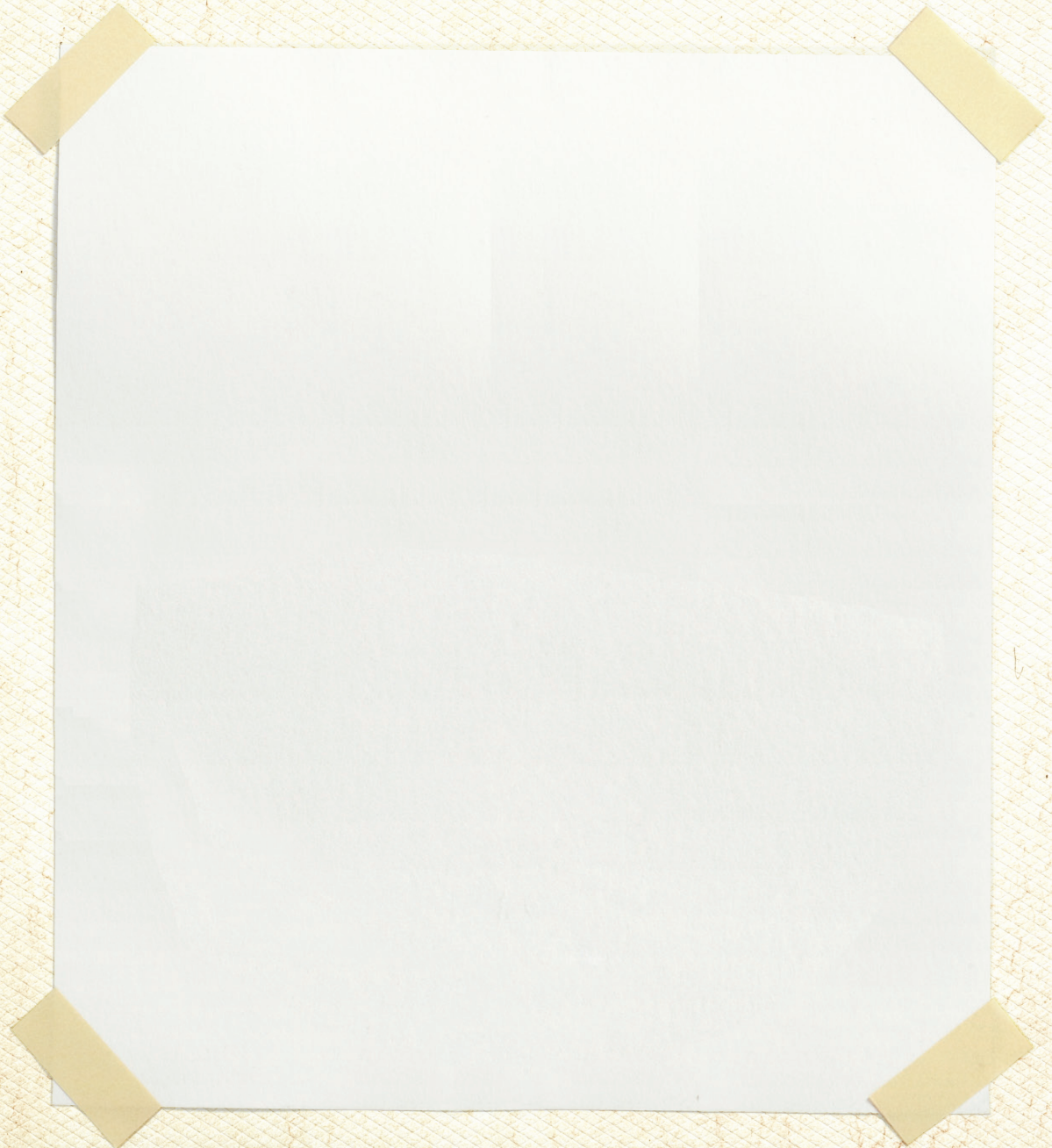


Choose one of the uncomfortable things that you wrote down, take a photograph of it and explain in detail how it makes you uncomfortable.





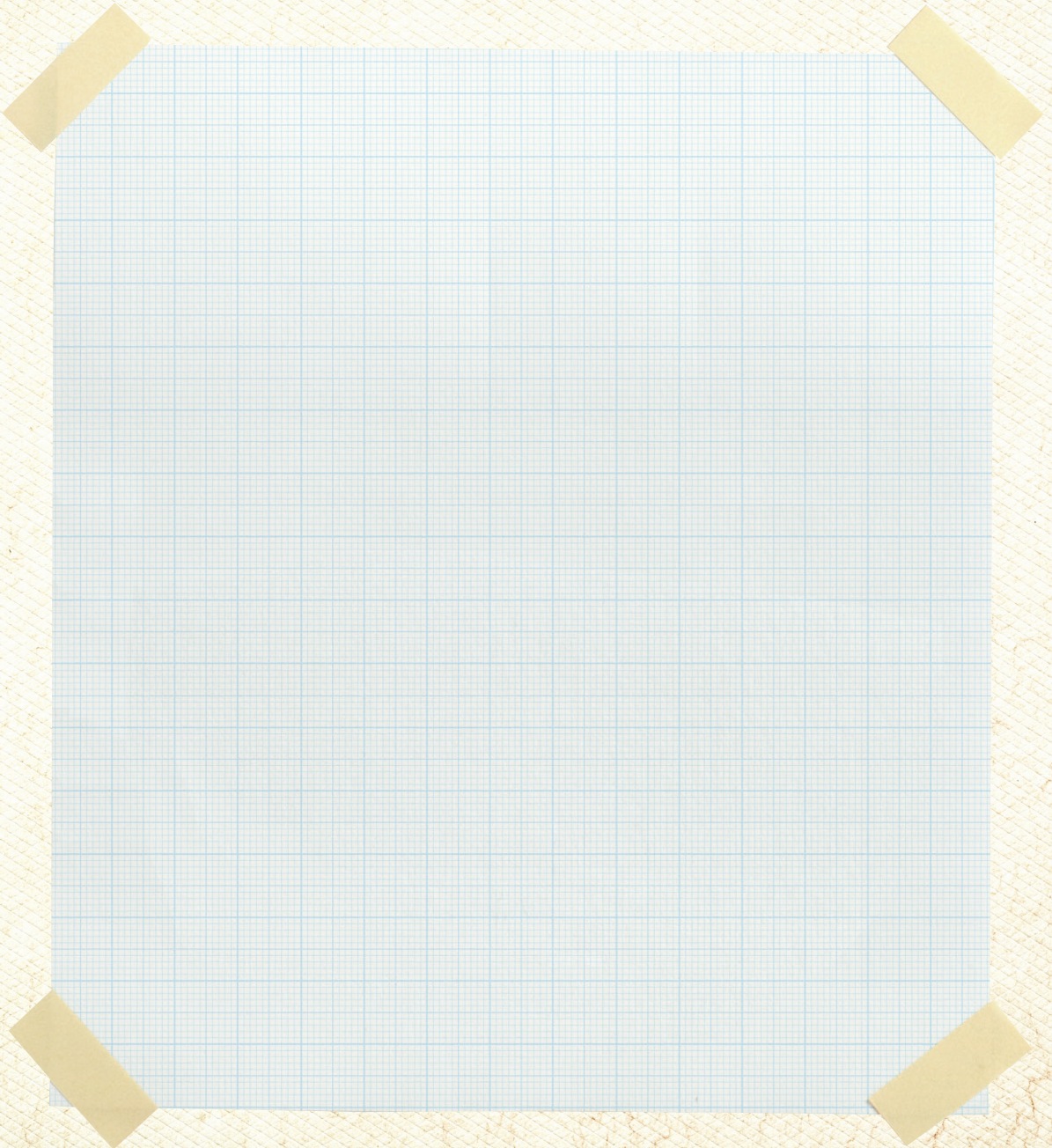
Freely express in drawings how the uncomfortable thing can be fixed.



④ Drawing a diagram



Now draw a diagram of the invention you would like to create.





5 Complete the invention note

Take a look at your diagram and give a name to the invention.

6 Complete the cartoon



Draw the process of making your invention note in a 4-cell comic.

1

2

3

4

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Educational Animation on IP for Children





STICKER 1-1(2page)

idea

stone

water

fire

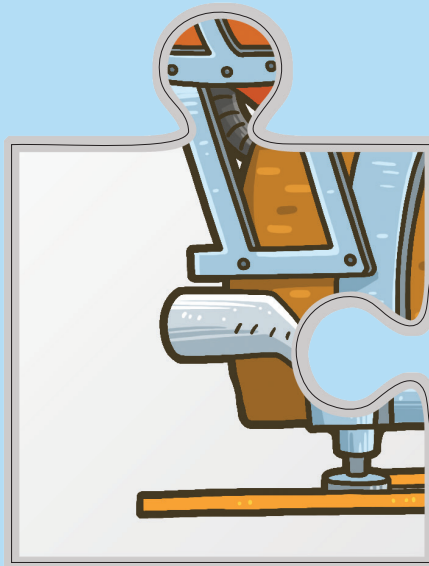
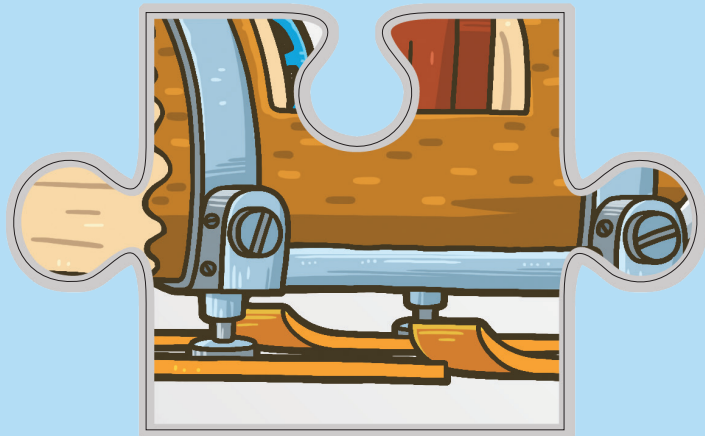
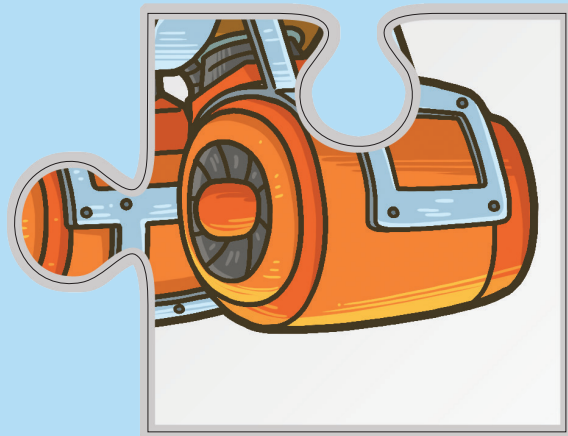
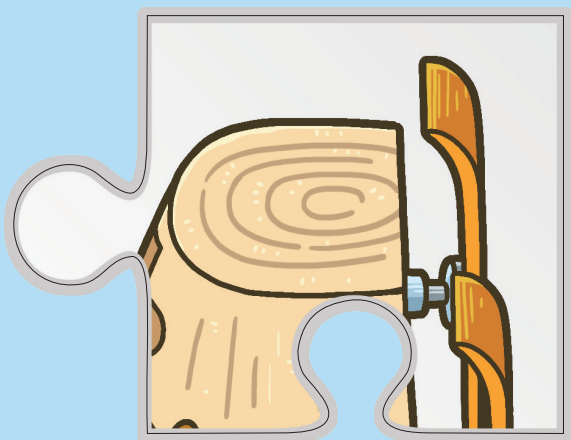
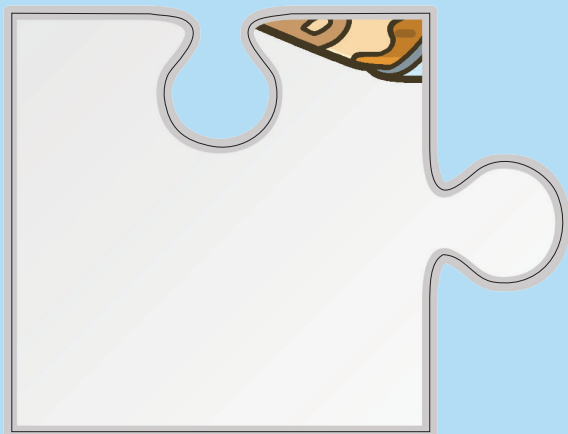
think

try

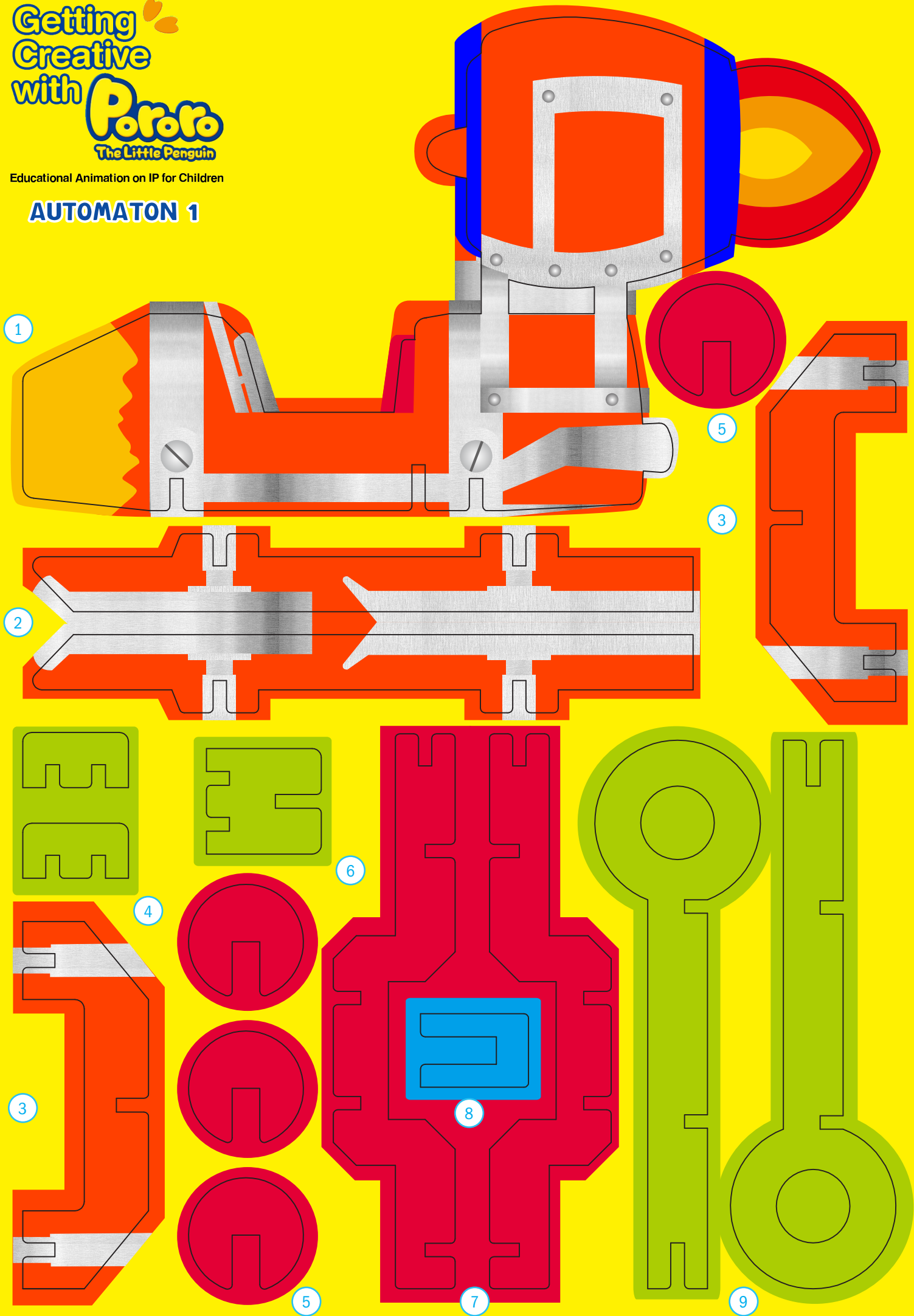
creative

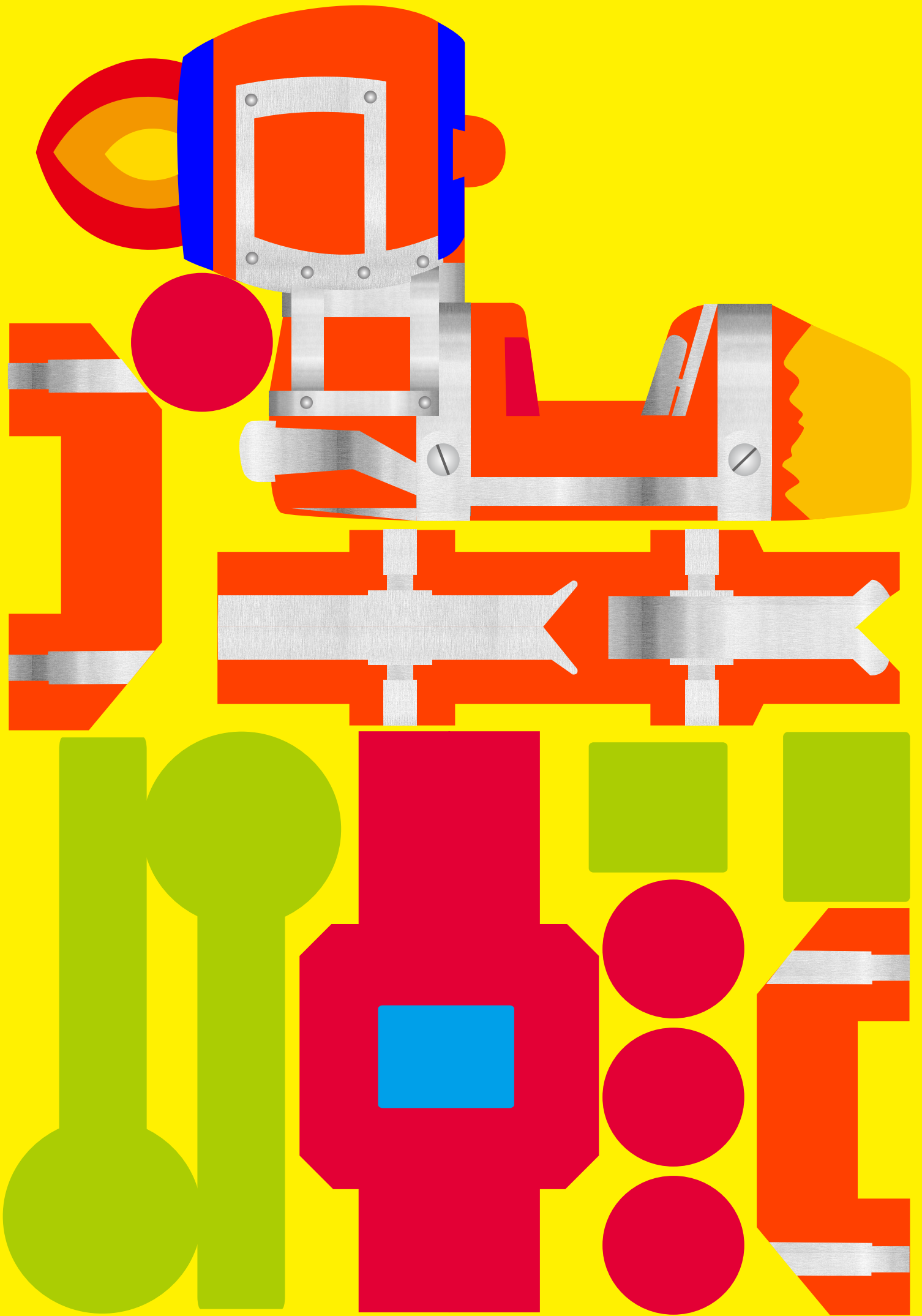


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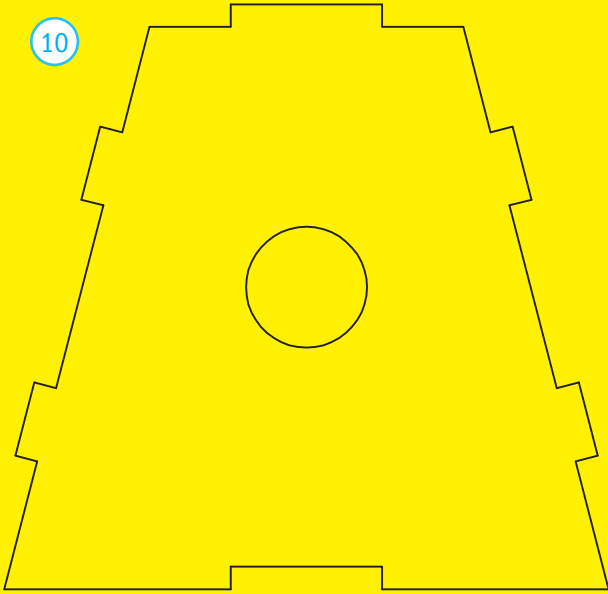
AUTOMATON 1



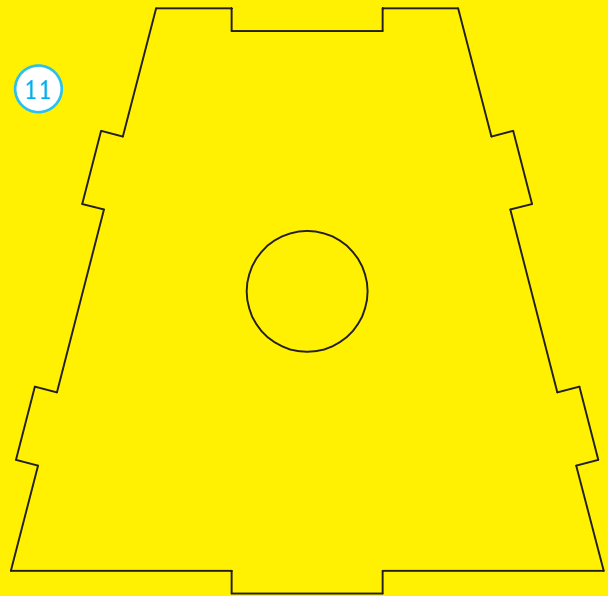


AUTOMATON 2

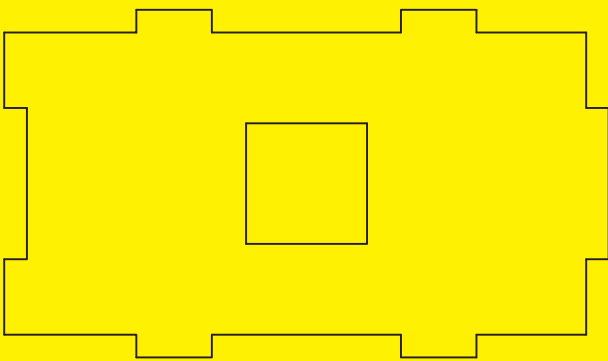
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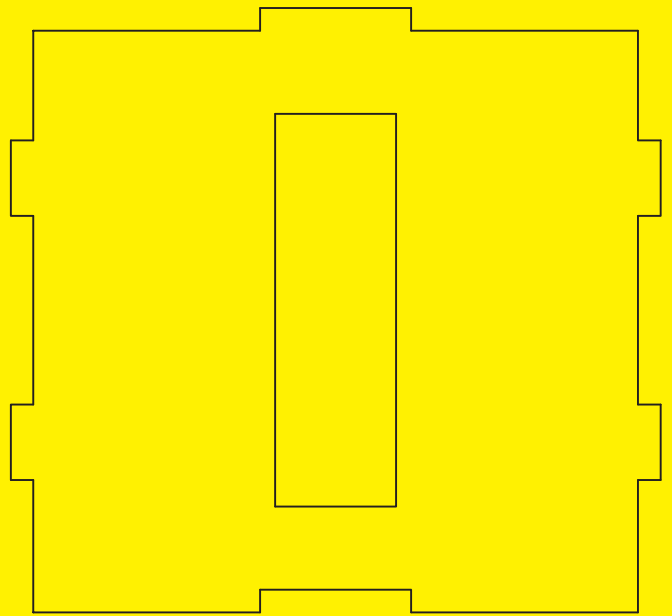
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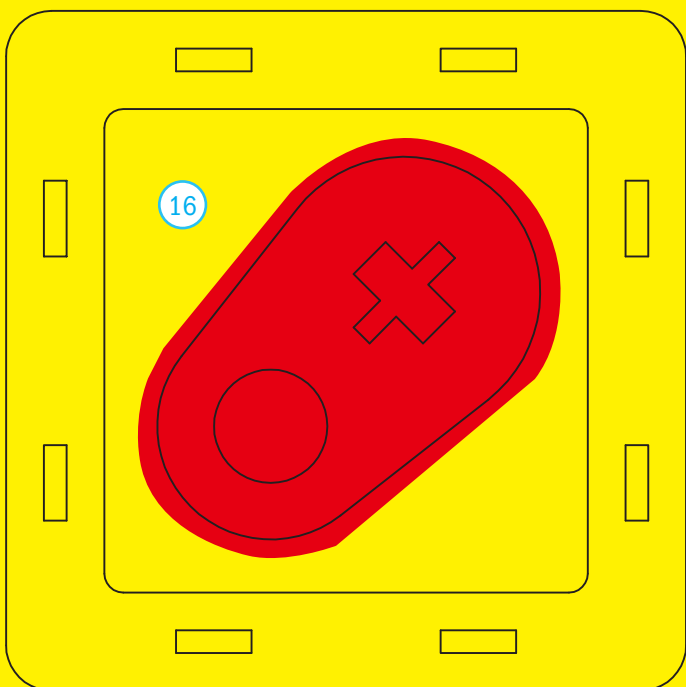
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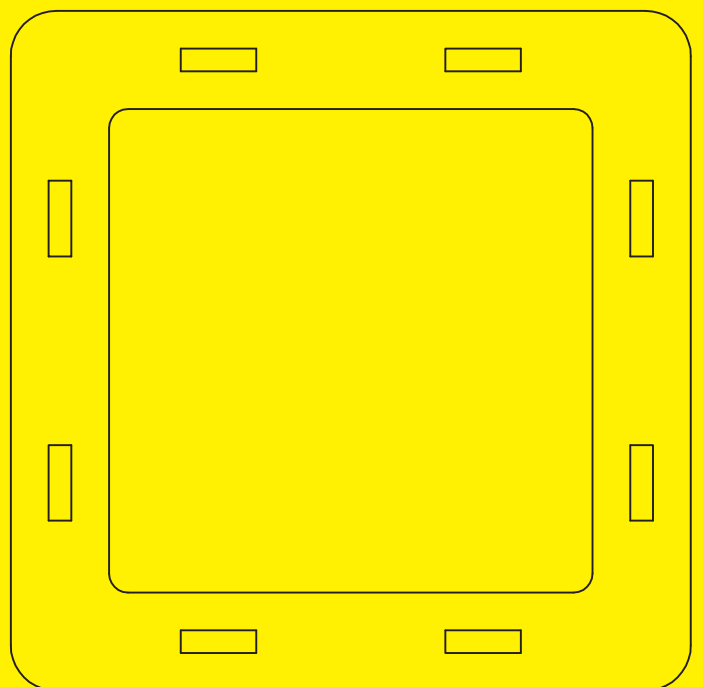
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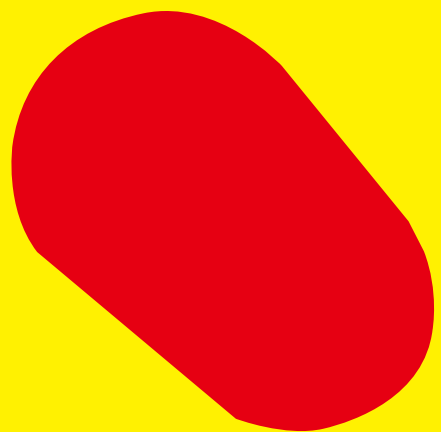


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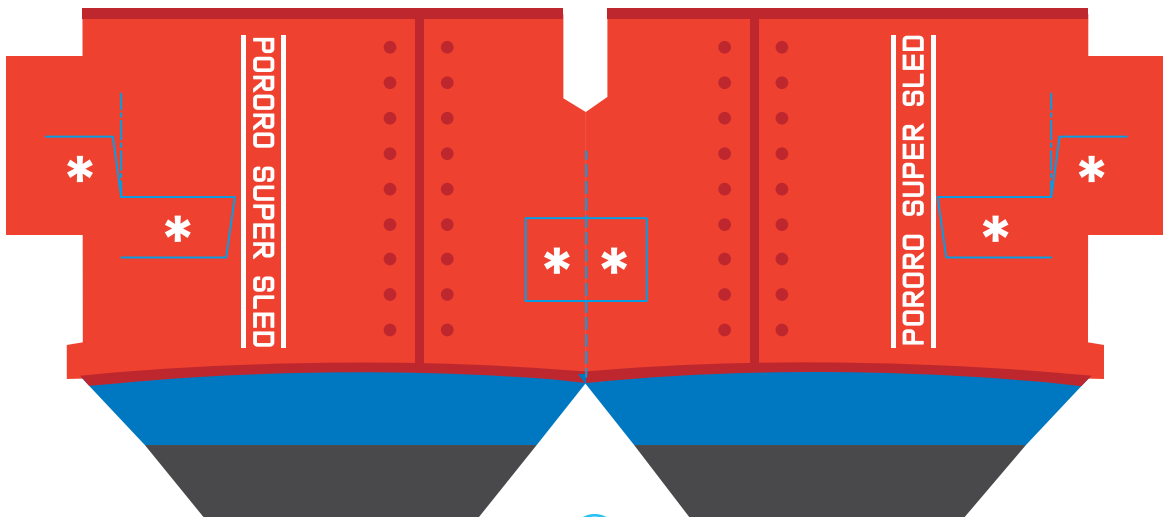
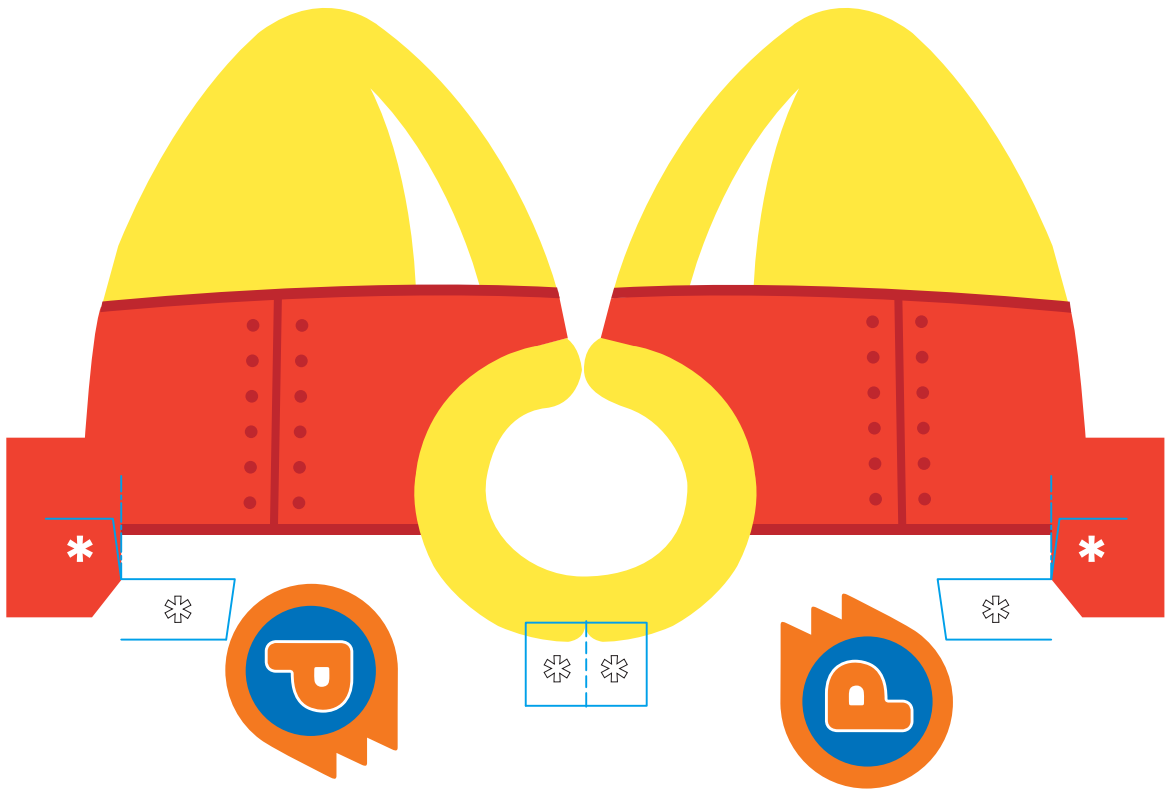
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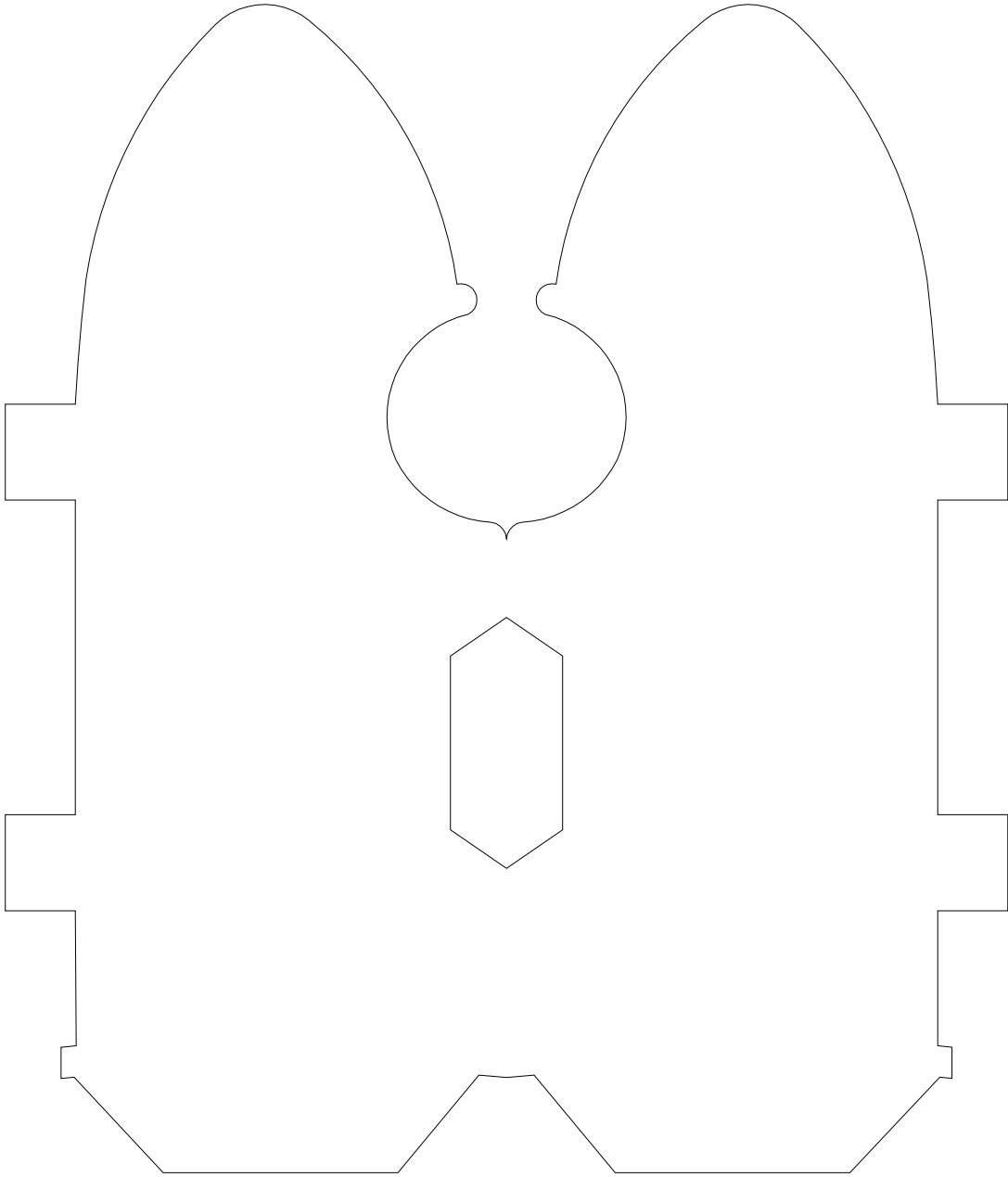




PAPER SLED

* Glue
- - - Mountain Fold
- - - Valley Fold
— Cut Line





PAPER SLED

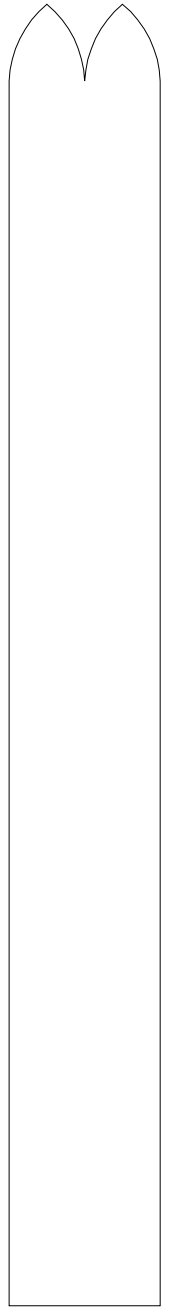
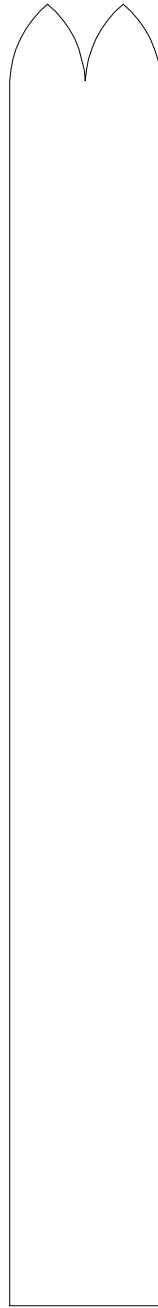
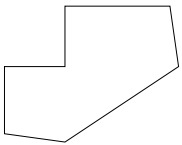
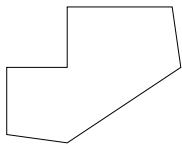
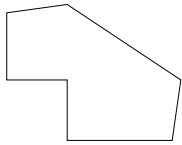
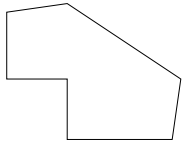
* Glue
- - - - Mountain Fold
- - - - Valley Fold
— — — — Cut Line

10 11 12 13

6 7 8 9

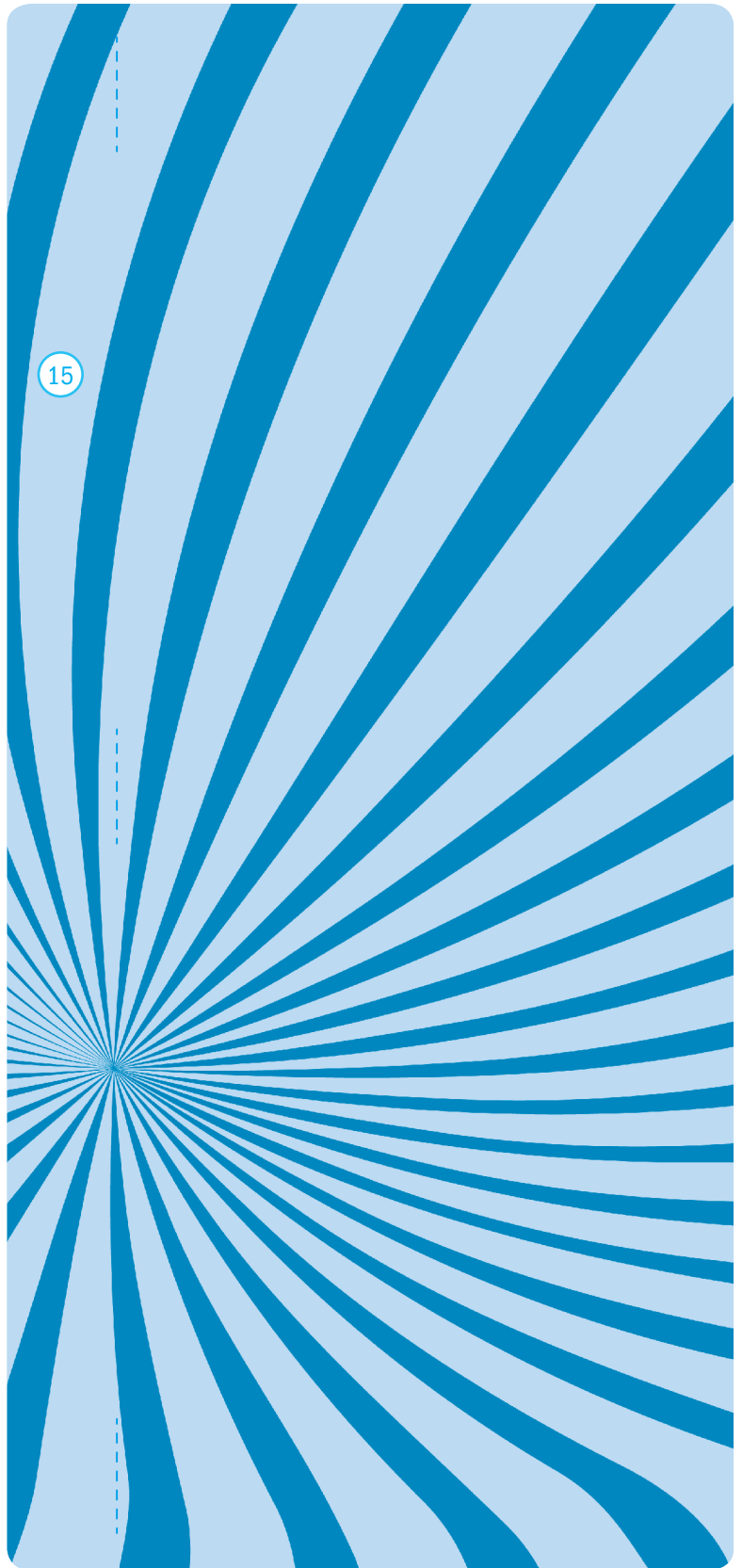
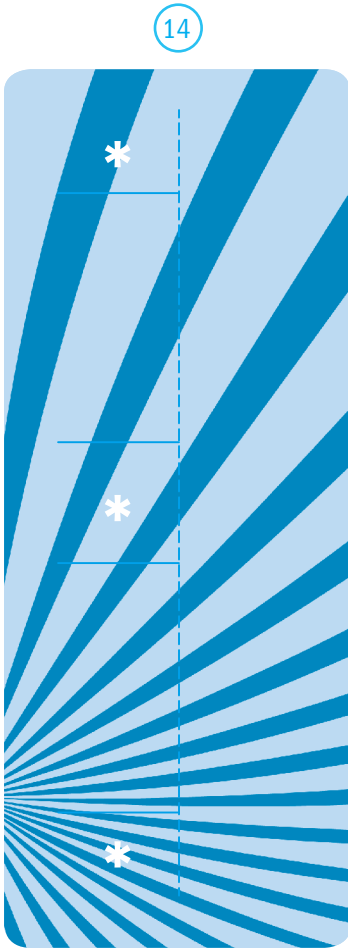
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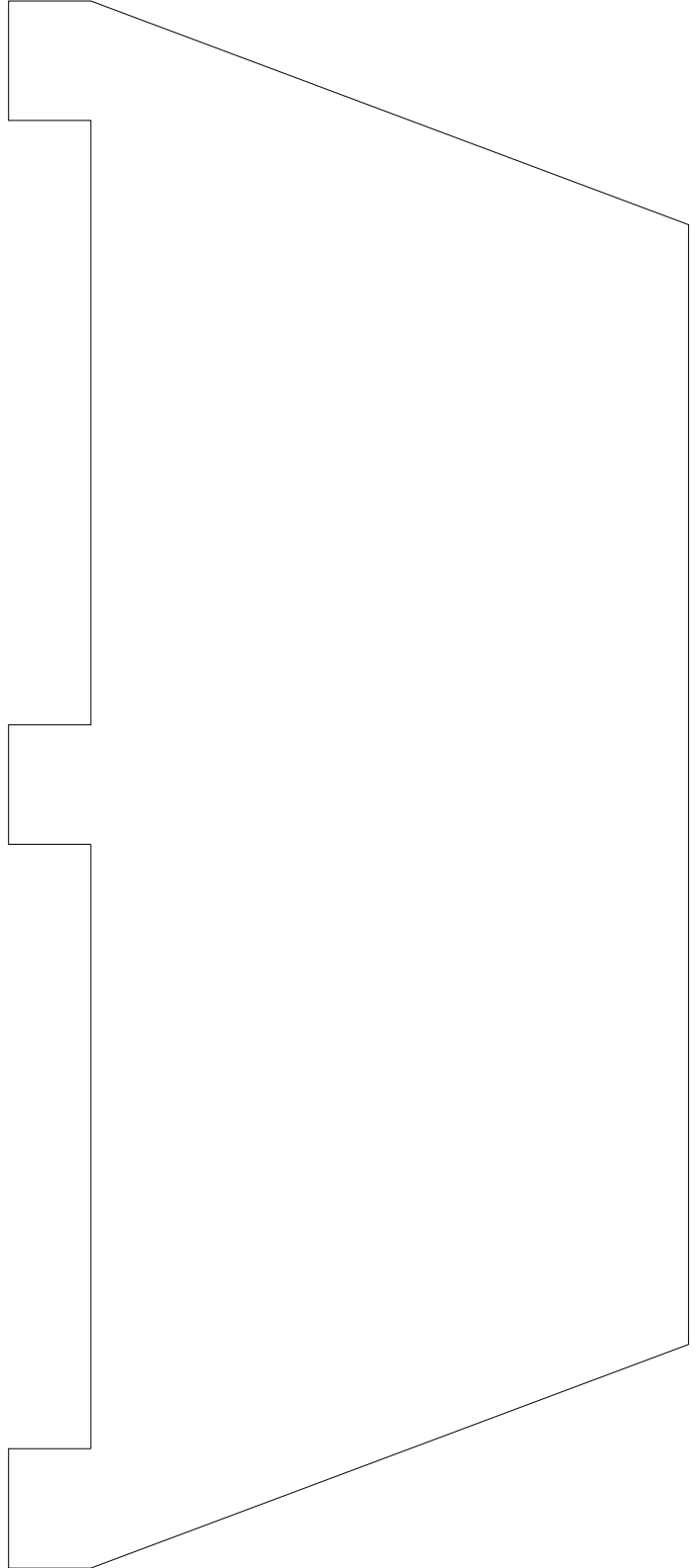
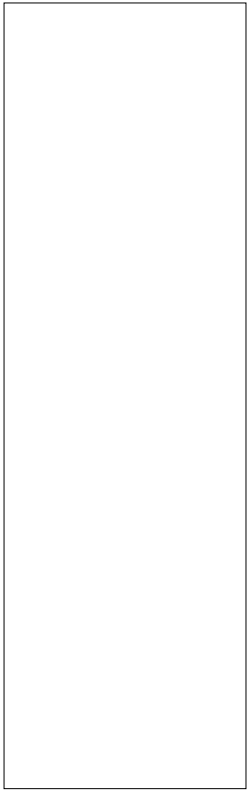
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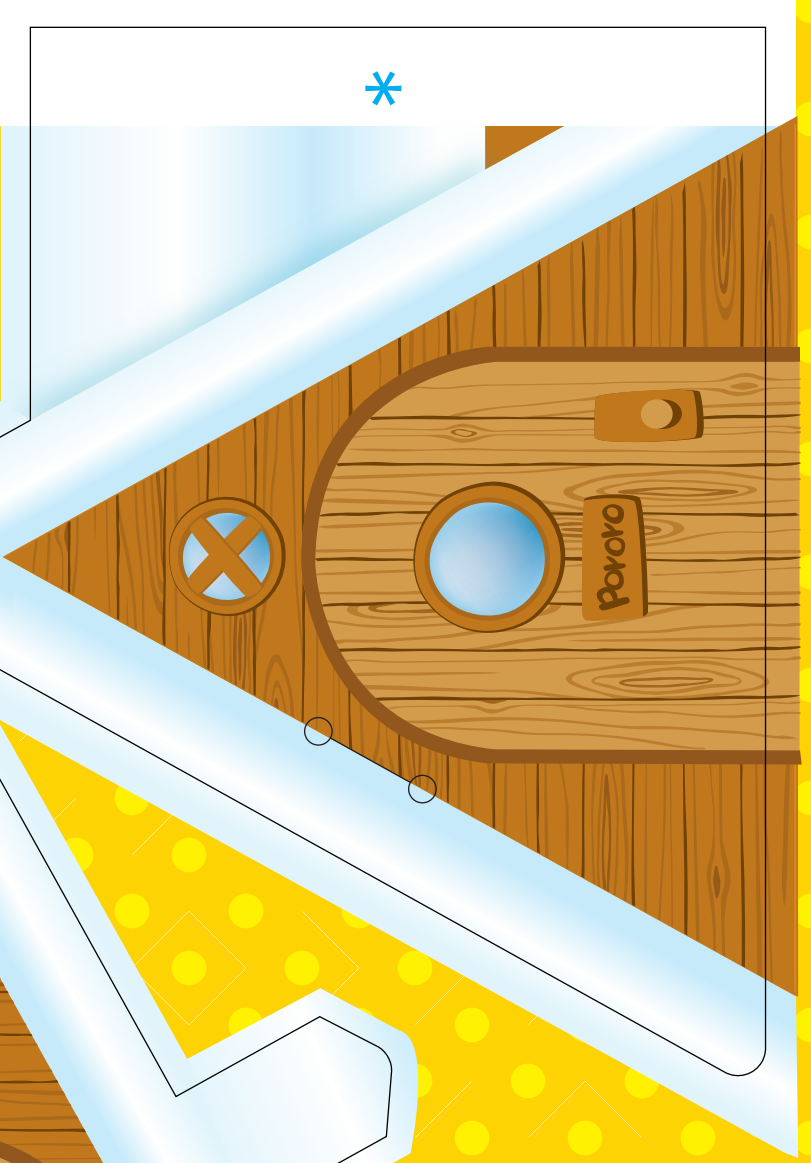
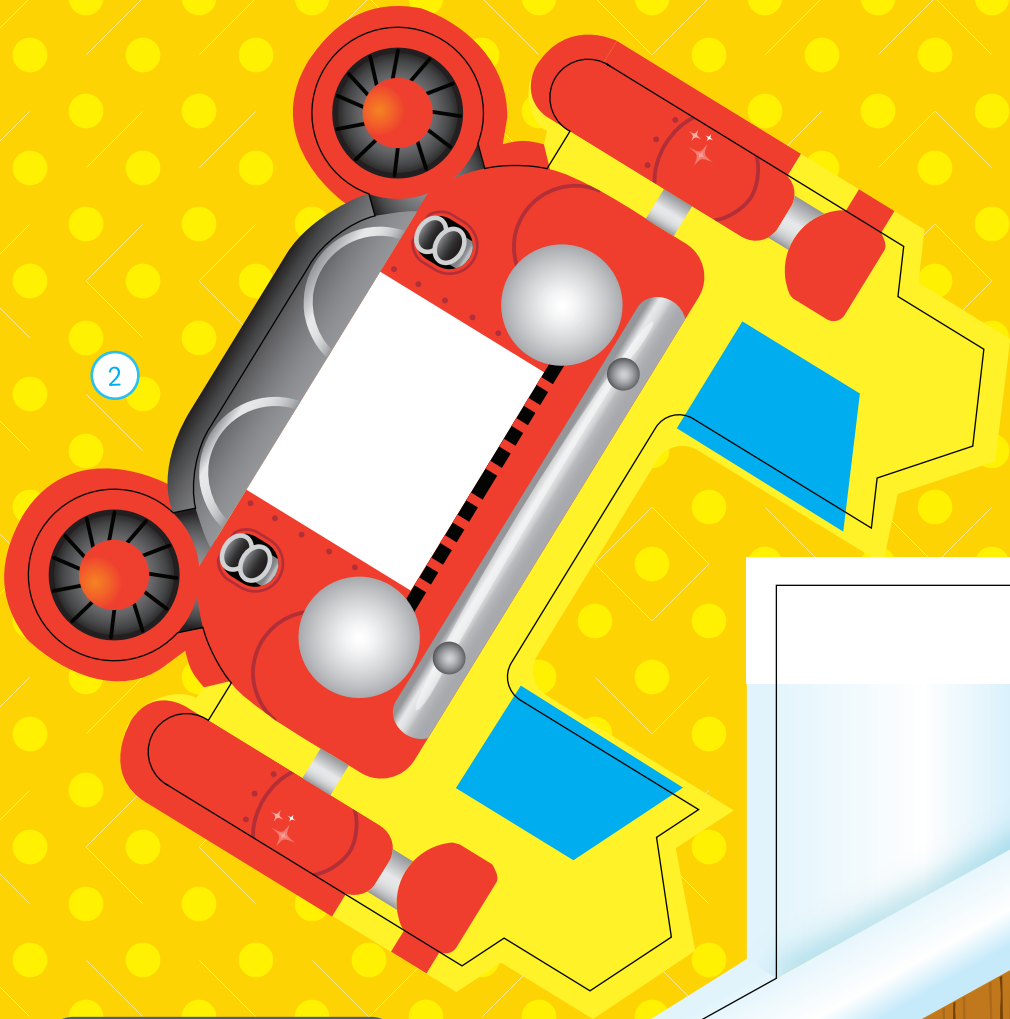
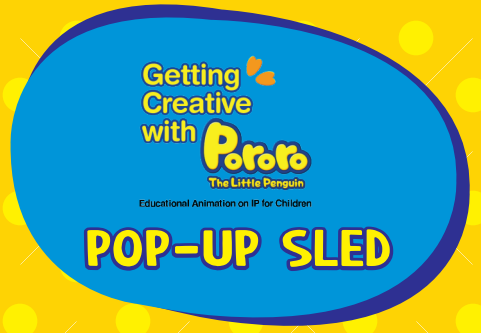


PAPER SLED

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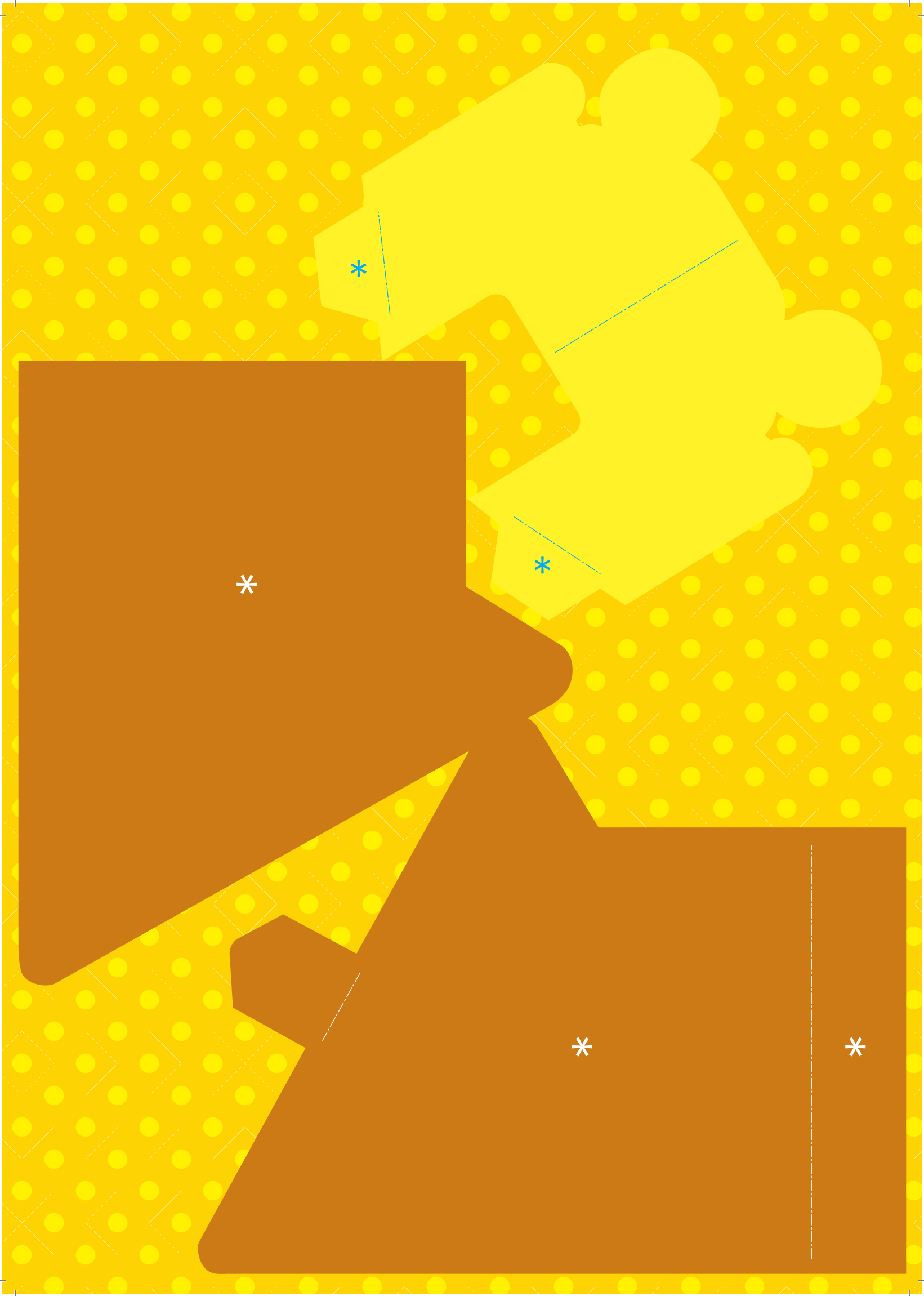






- * Glue
- - - Mountain Fold
- - - Valley Fold
- Cut Line





- * Glue
- - - Mountain Fold
- - - Valley Fold
- Cut Line

