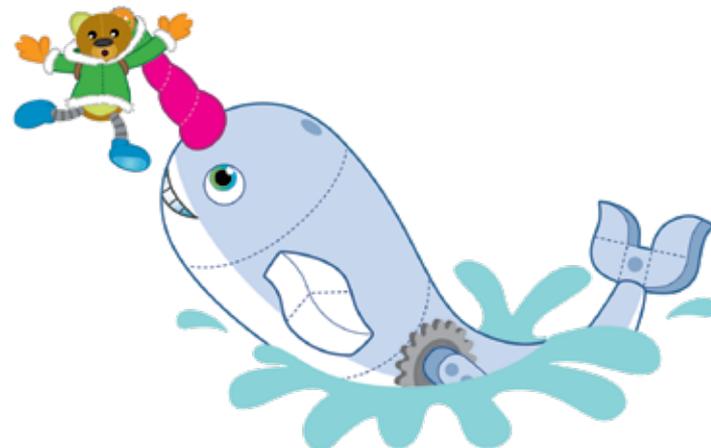


ROBOT SAFARI

Story by
Dan Freitas and Ted McGuire

Illustrations by
James Harmon

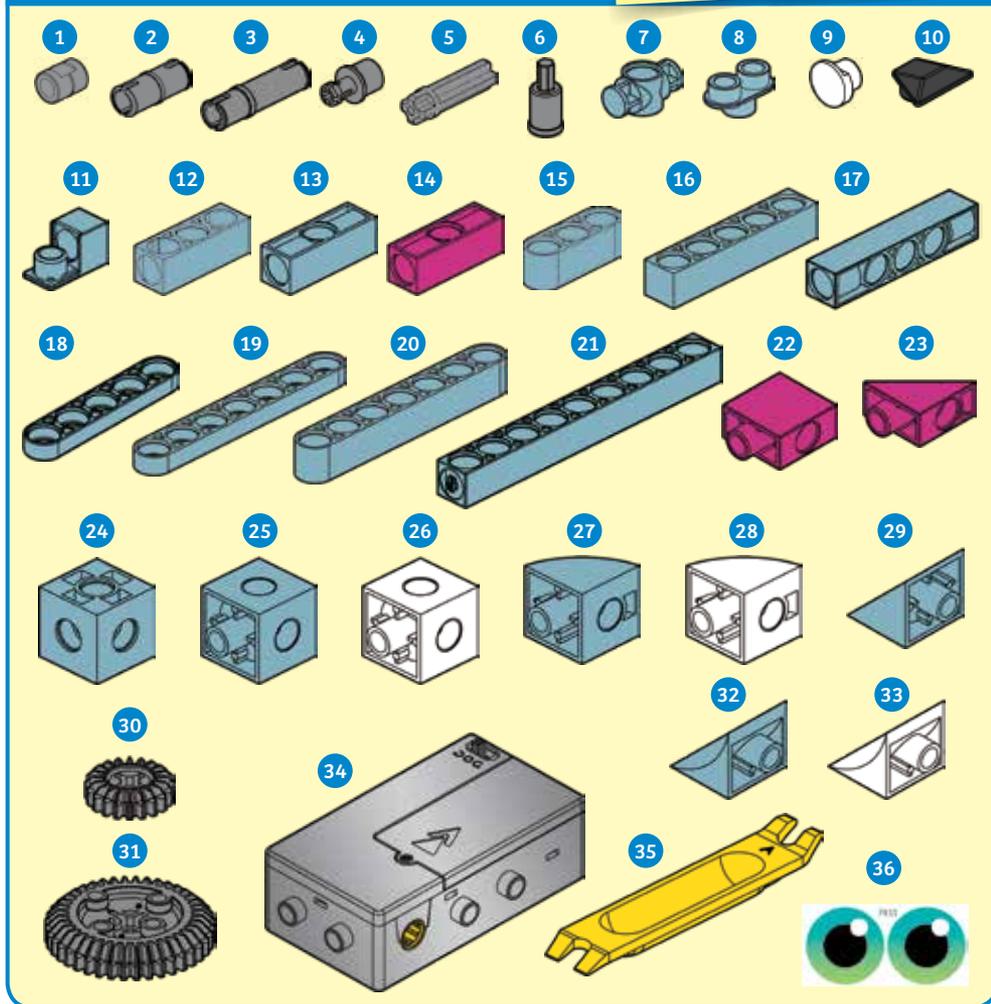


>>> KIT CONTENTS

GOOD TO KNOW!

If you are missing any parts, please contact Thames & Kosmos customer service.

What's inside your kit:



Checklist: Find – Inspect – Check off

✓	No.	Description	Qty.	Item No.
<input type="radio"/>	1	Short anchor pin	30	7344-W10-C2S
<input type="radio"/>	2	Joint pin	8	7413-W10-T1S1
<input type="radio"/>	3	Long joint pin	4	7413-W10-U1S
<input type="radio"/>	4	Shaft plug	2	7026-W10-H1S1
<input type="radio"/>	5	Motor axle	2	7026-W10-L1S1
<input type="radio"/>	6	Shaft pin	4	7413-W10-S1S
<input type="radio"/>	7	1-hole connector	2	7430-W10-B1B1
<input type="radio"/>	8	Two-to-one converter	2	7061-W10-G1B
<input type="radio"/>	9	Button pin	2	7061-W10-W1W
<input type="radio"/>	10	Trapezoid pin	1	7128-W10-E4D
<input type="radio"/>	11	90-degree converter Y	2	7061-W10-Y1B3
<input type="radio"/>	12	3-hole rod	2	7026-W10-Q2B1
<input type="radio"/>	13	3-hole cross rod, blue	2	7026-W10-X1B1
<input type="radio"/>	14	3-hole cross rod, pink	2	7026-W10-X1K1
<input type="radio"/>	15	3-hole wide rounded rod	6	7404-W10-C1B1
<input type="radio"/>	16	5-hole rod	2	7413-W10-K2B1
<input type="radio"/>	17	5-hole cross rod	2	7413-W10-R1B
<input type="radio"/>	18	5-hole flat rounded rod	4	7443-W10-C1B
<input type="radio"/>	19	7-hole flat rounded rod	6	7404-W10-C3B1
<input type="radio"/>	20	7-hole wide rounded rod	6	7404-W10-C2B1
<input type="radio"/>	21	9-hole rod	4	7407-W10-C1B
<input type="radio"/>	22	Half cube block, pink	1	7128-W10-A1K
<input type="radio"/>	23	Half triangle block, pink	1	7128-W10-A2K
<input type="radio"/>	24	6-hole cube block, blue	4	880-W10-N1B3
<input type="radio"/>	25	Cube block, blue	9	880-W10-A1B4
<input type="radio"/>	26	Cube block, white	4	880-W10-A1W
<input type="radio"/>	27	Convex block, blue	11	880-W10-R1B2
<input type="radio"/>	28	Convex block, white	8	880-W10-R1W
<input type="radio"/>	29	Triangle block, blue	3	880-W10-S1B4
<input type="radio"/>	30	Small gear	2	7026-W10-D2S1
<input type="radio"/>	31	Medium gear	2	7346-W10-C1S
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<input type="radio"/>	33	Concave block, white	2	880-W10-D1W
<input type="radio"/>	34	Motor and battery box	1	7441-W85-A
<input type="radio"/>	35	Part separator tool	1	7061-W10-B1Y
<input type="radio"/>	36	Eye stickers	1	R20#7431



Meet the Omega Family!

Ty and Karlie Omega are siblings. They live in a small city called Makersville. Ty and Karlie's dad is a writer. He writes science fiction stories. Their mom is a mechanical engineer. She designs big machines used in factories.

They live in an awesome warehouse filled with tools, equipment, and building materials. There are always a number of projects going on in the warehouse.

Ty loves figuring out how things work. Karlie loves building things.

When Ty and Karlie were little, Ms. O designed Huxley, a robot that can build just about anything. For one of his first projects, Huxley converted Karlie's teddy bear, Remus, into a walking, talking science bear. Now Huxley and Remus are like members of the Omega family.



Remus's Robot Safari Began Here . . .

The Omega family was on a trip to the Arctic. Ms. Omega was installing weather-monitoring robots in a remote Arctic science station. The whole family, including Huxley and Remus, went along on the journey.

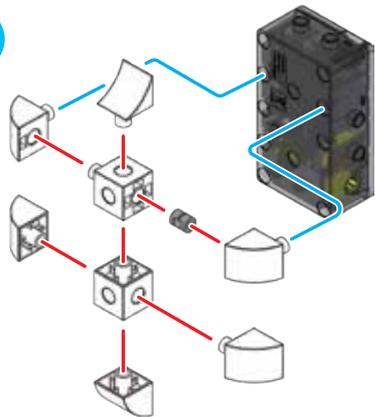
One day, on the walk between the Omega family's temporary living quarters and the station, Remus was nestled inside Ty's backpack, where it was quite warm and cozy. But he wanted to see the northern lights, so he unzipped the backpack to take a peek.

Remus was straining to see the colorful lights in the sky when all of sudden he fell out of the backpack and tumbled down a hill. At the bottom of the hill, Remus pulled himself out of a pile of snow and looked around. To his surprise, a strange robotic polar bear was smiling and offering to help him up.

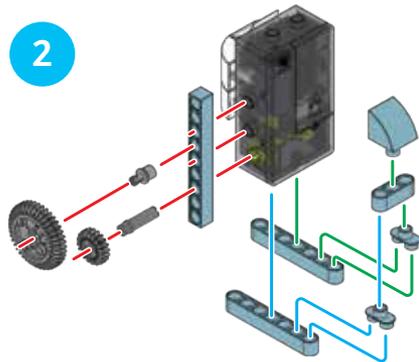


PAUL THE POLAR BEAR

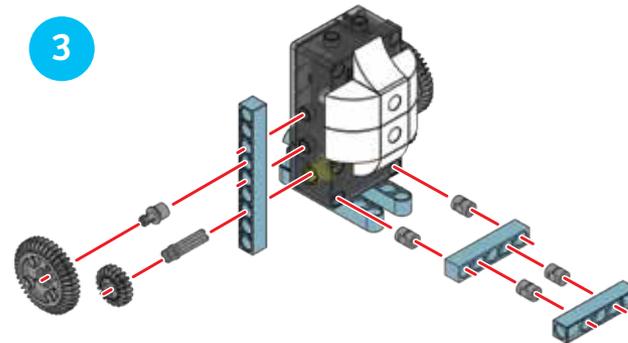
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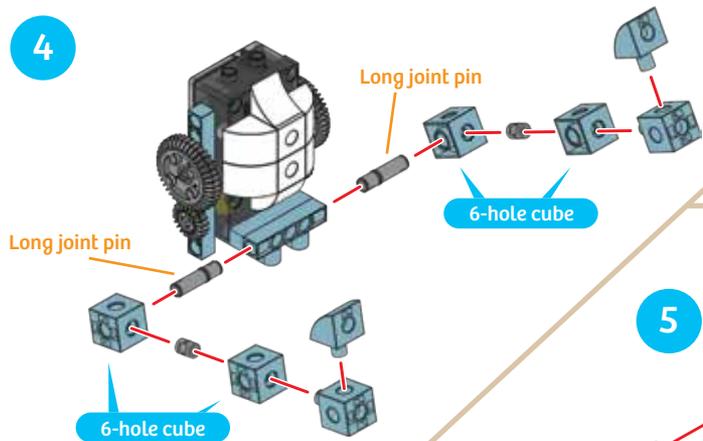
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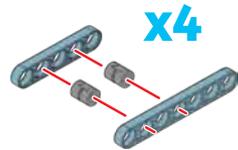
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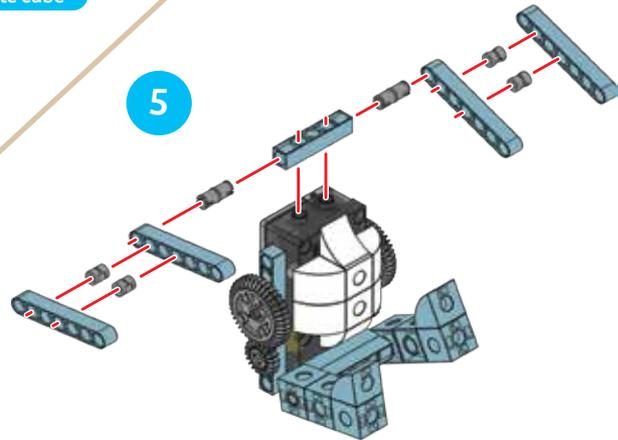
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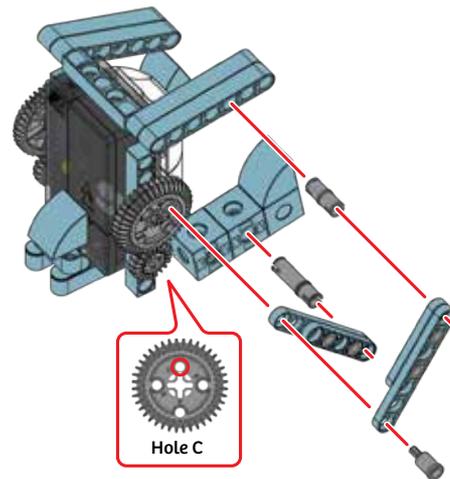
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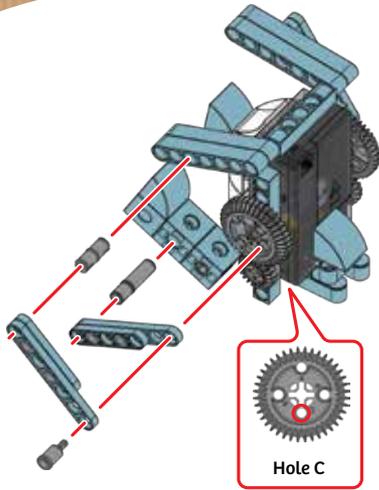
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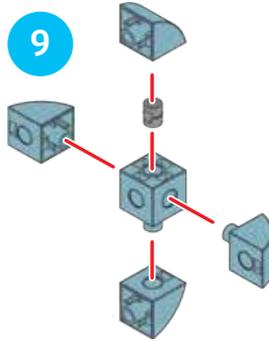
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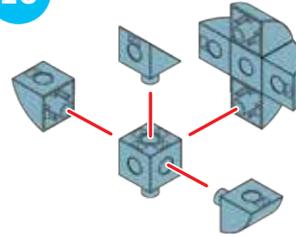
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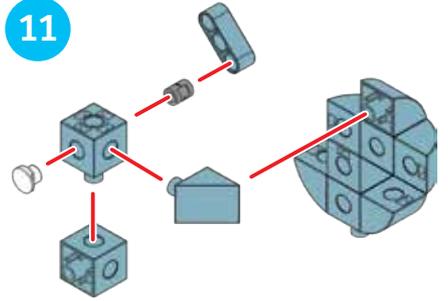
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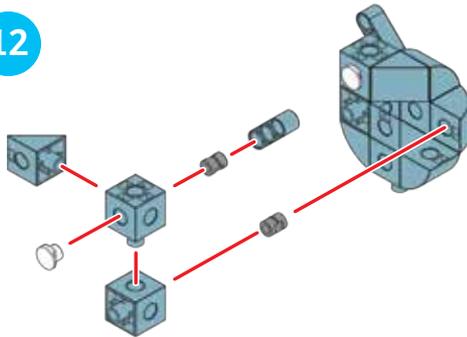
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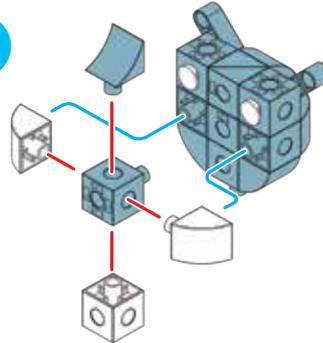
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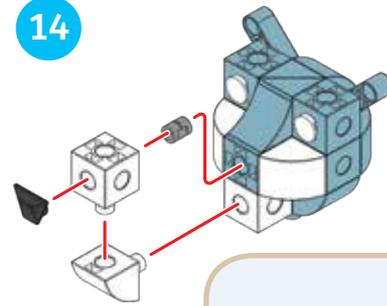
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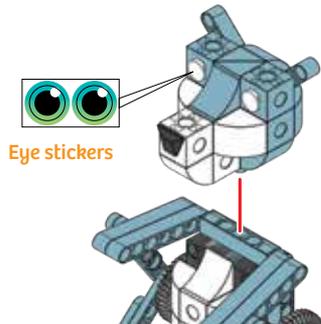
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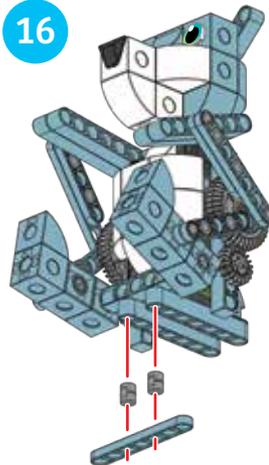
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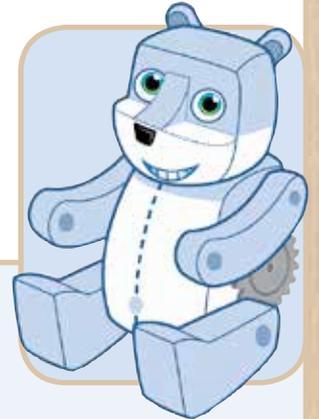
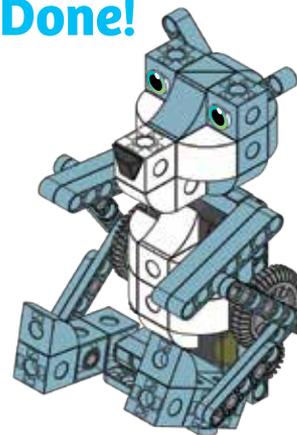
15



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Done!



"Hi! I'm Paul the Polar Bear," the Polar Bear said. "I can help you find your family. Here, climb on my back."

Remus climbed up onto Paul's back and together they roamed the Arctic tundra in search of Ty and Karlie and their parents.

Do you see how a single motor makes all four of the bear's arms and legs move?

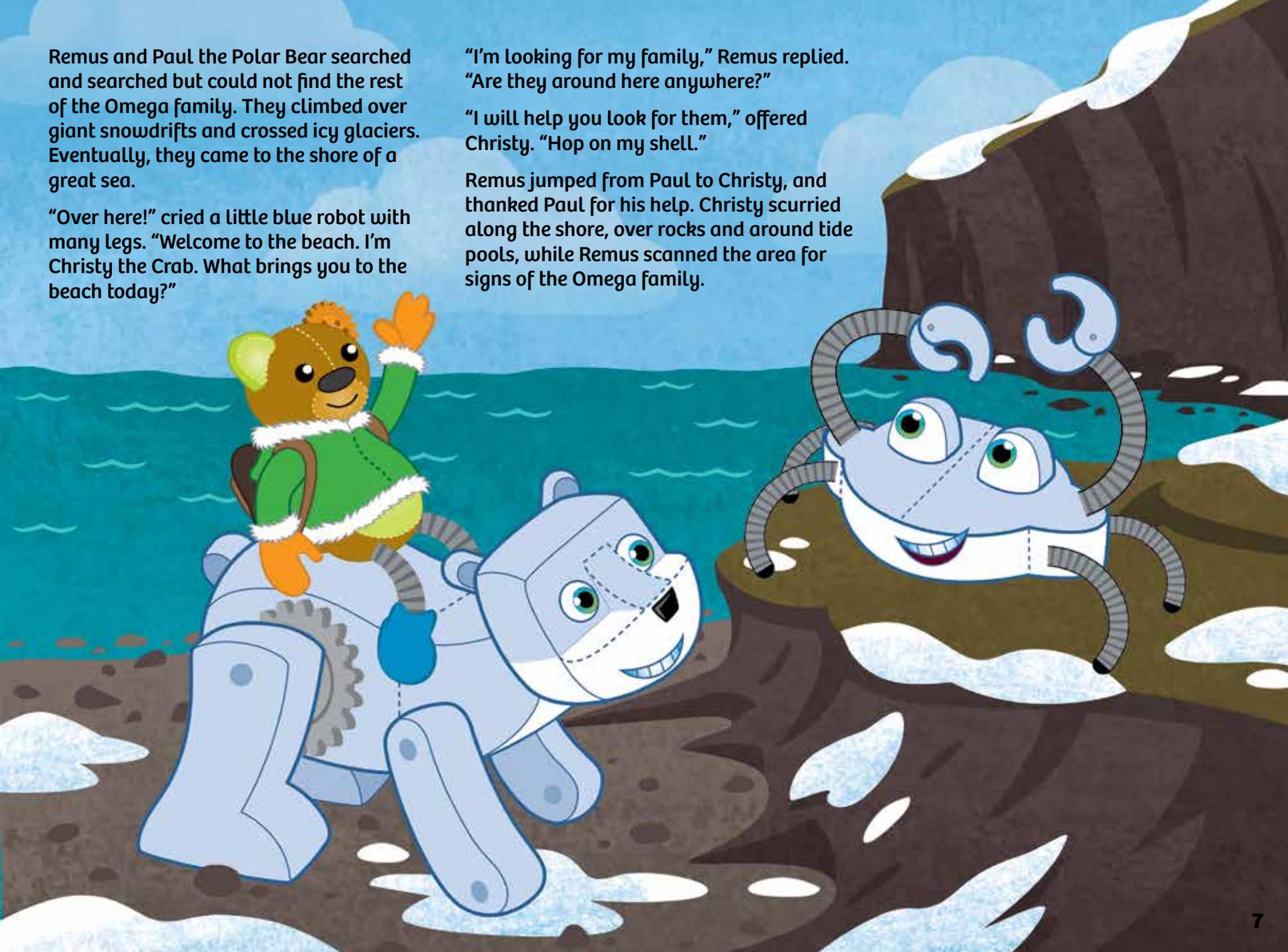
Remus and Paul the Polar Bear searched and searched but could not find the rest of the Omega family. They climbed over giant snowdrifts and crossed icy glaciers. Eventually, they came to the shore of a great sea.

“Over here!” cried a little blue robot with many legs. “Welcome to the beach. I’m Christy the Crab. What brings you to the beach today?”

“I’m looking for my family,” Remus replied. “Are they around here anywhere?”

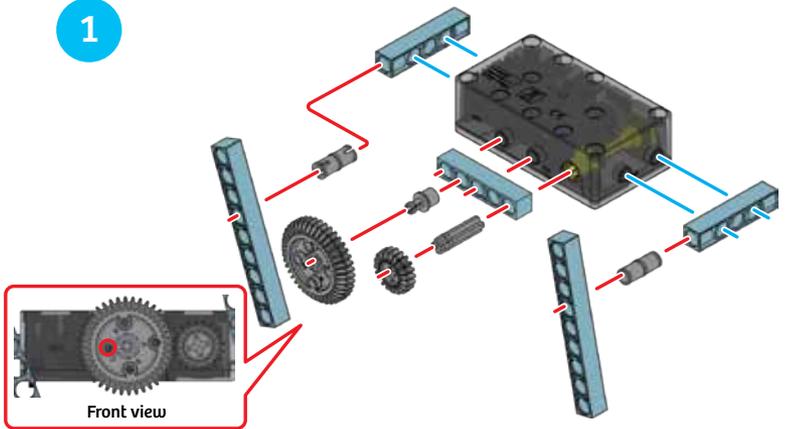
“I will help you look for them,” offered Christy. “Hop on my shell.”

Remus jumped from Paul to Christy, and thanked Paul for his help. Christy scurried along the shore, over rocks and around tide pools, while Remus scanned the area for signs of the Omega family.

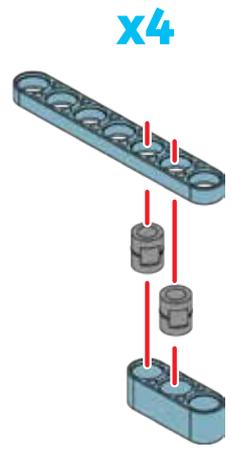


CHRISTY THE CRAB

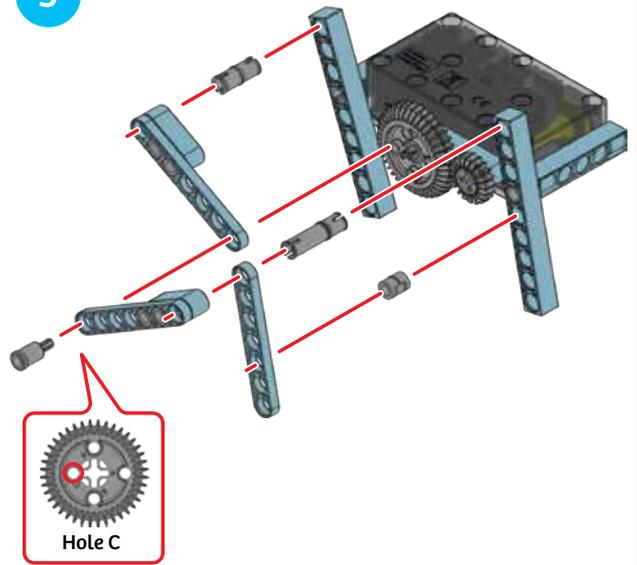
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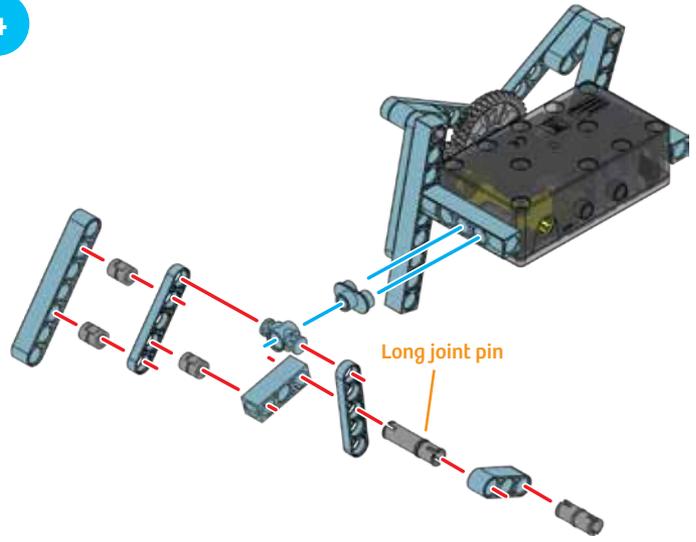
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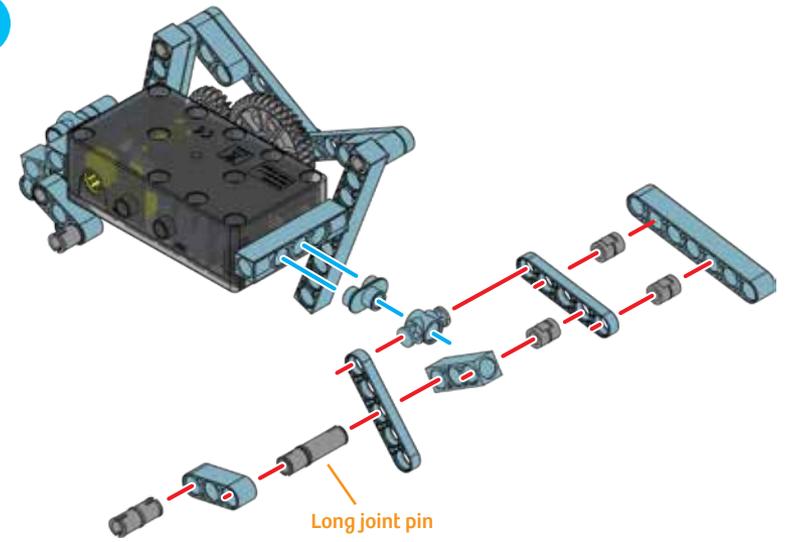
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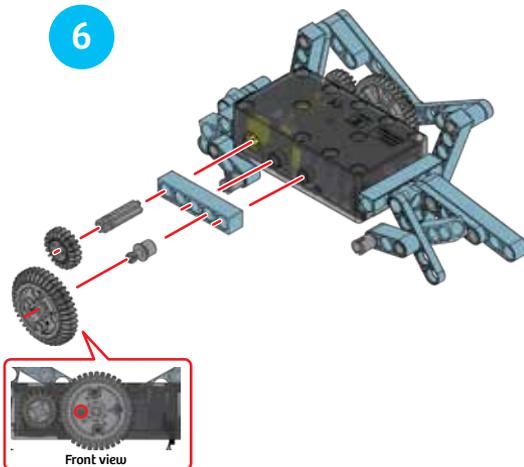
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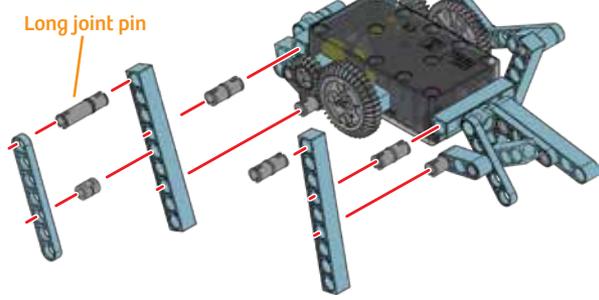
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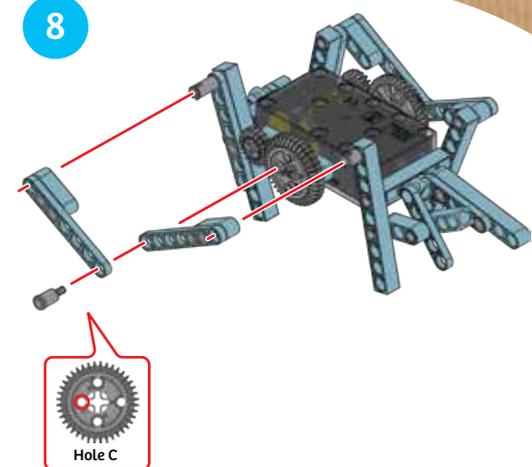
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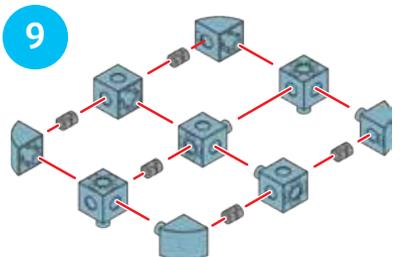
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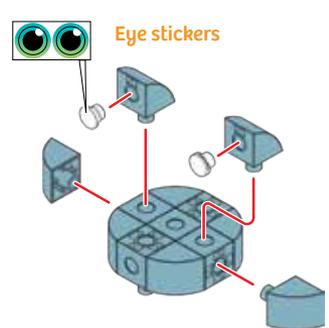
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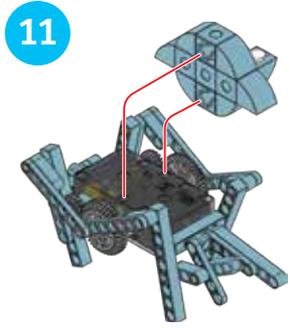
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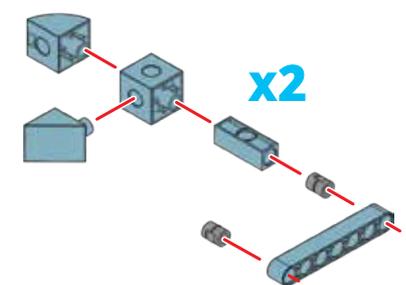
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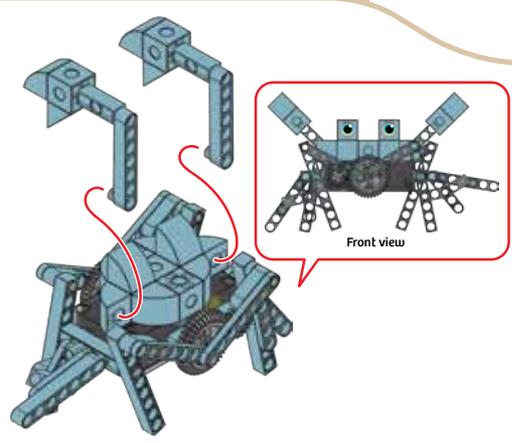
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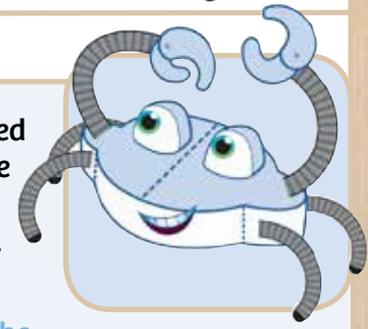
13



Done!

Christy and Remus crawled sideways across the entire beach, but there was no sign of the Omega family.

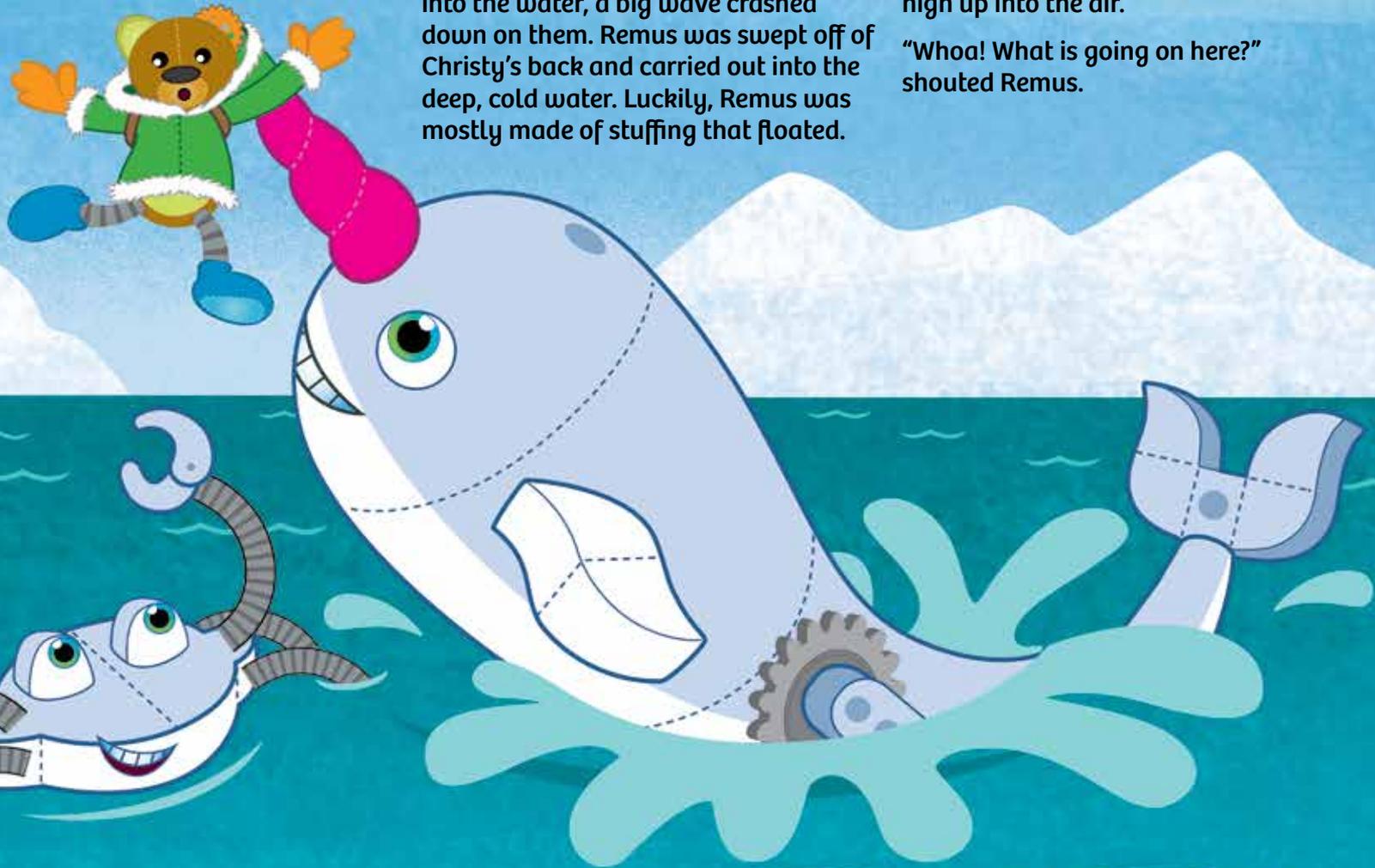
Do you see how the gears on this model transform the circular motion of the motor to the sideways motion of the legs?



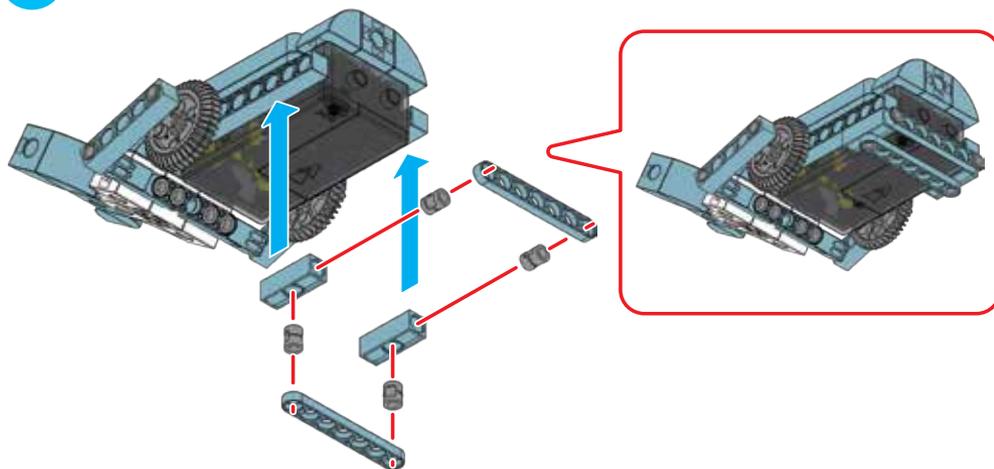
Christy suggested that they swim out to a nearby iceberg to search there. Remus agreed, but as Christy moved into the water, a big wave crashed down on them. Remus was swept off of Christy's back and carried out into the deep, cold water. Luckily, Remus was mostly made of stuffing that floated.

Remus started swimming back to shore. Suddenly, there was a rush of water all around him and he was lifted high up into the air.

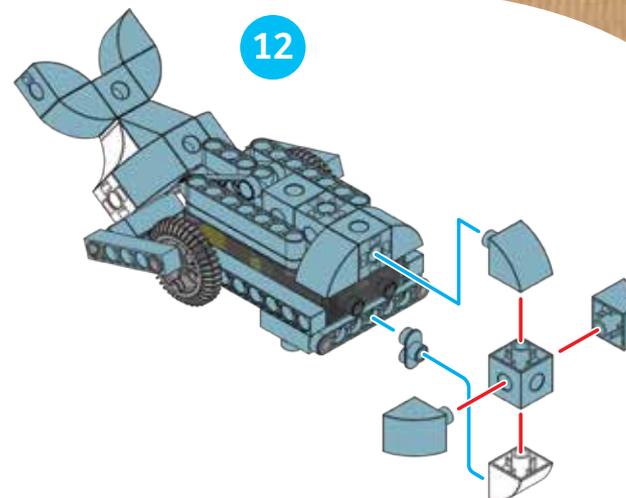
"Whoa! What is going on here?" shouted Remus.



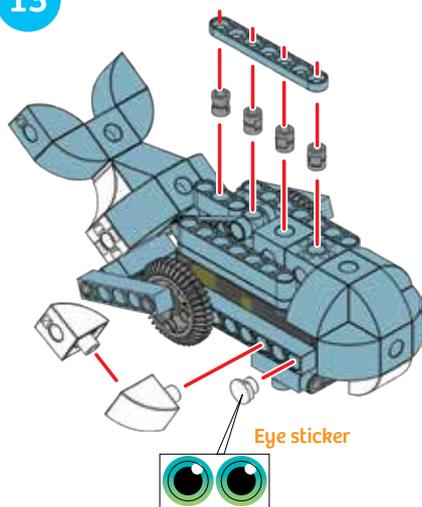
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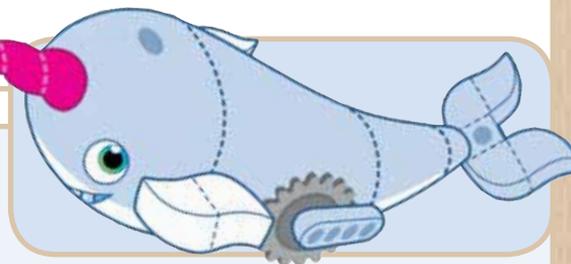
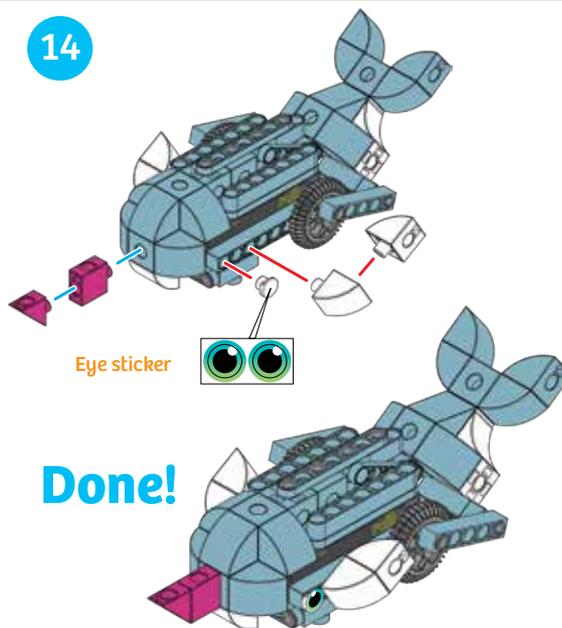
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14



"Hi! I'm Narbert the Narwhal robot. I hear you're looking for your family."

"Yes, and I don't think they're here in the Arctic," Remus replied.

"Don't worry. I can take you to look for them somewhere else," said Narbert.

The rods attached to the gears on the sides of the narwhal convert the rotating motion of the gear into a back-and-forth, or reciprocating, motion.



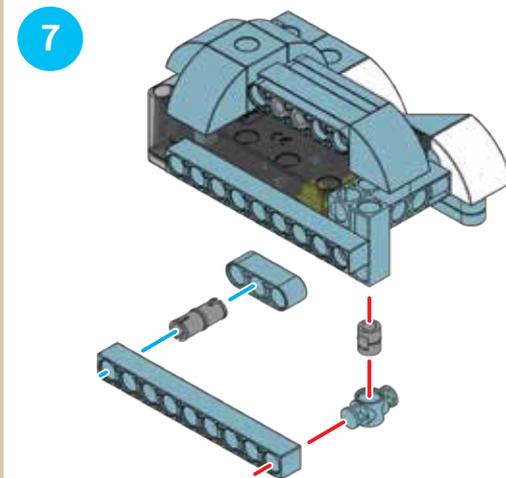
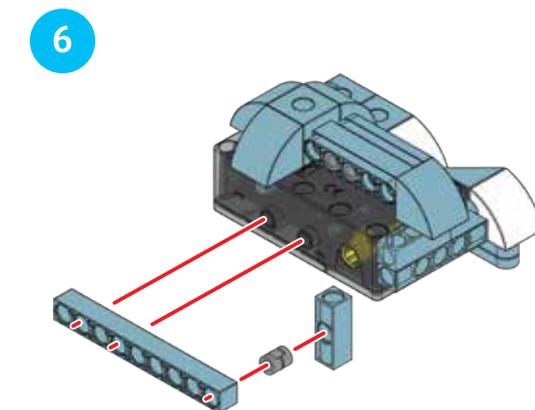
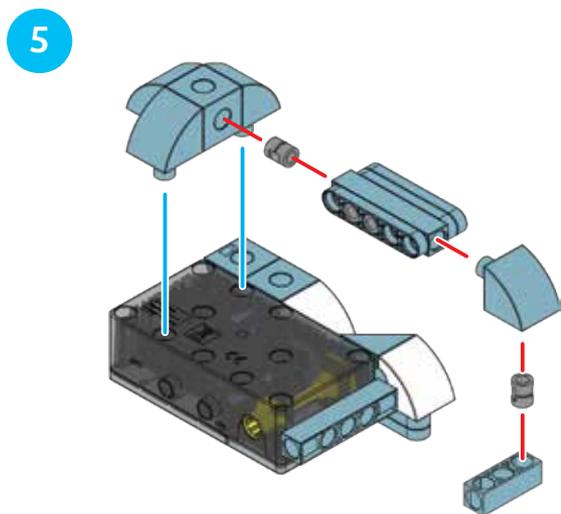
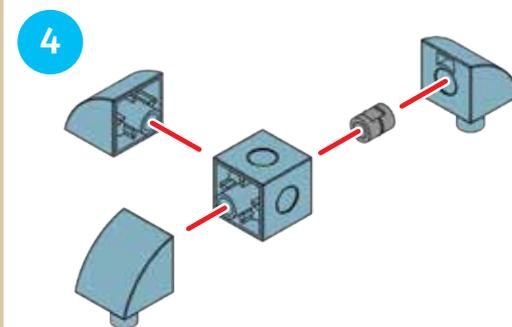
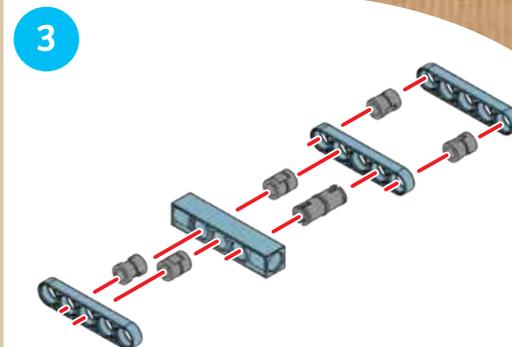
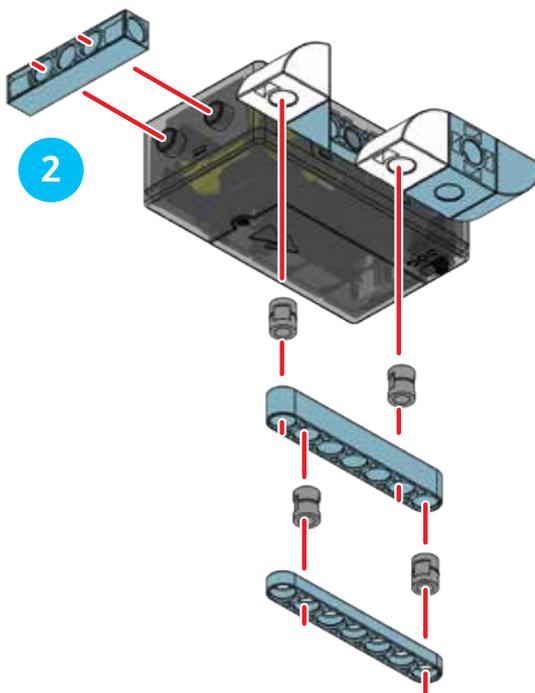
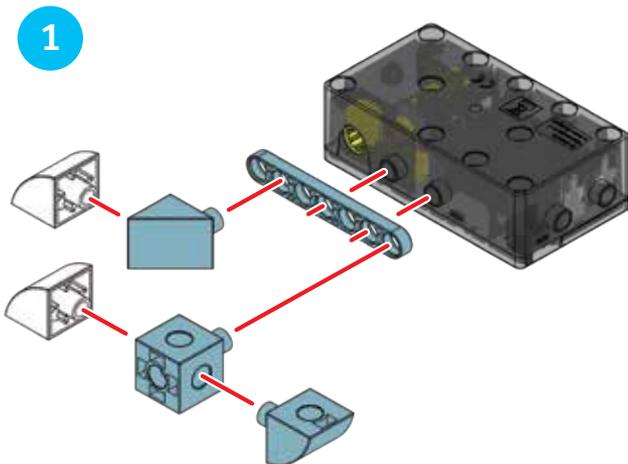
Narbert carried Remus across the ocean to the shores of a vast desert.

"This is the edge of the Sahara Desert in Northern Africa," said Narbert.

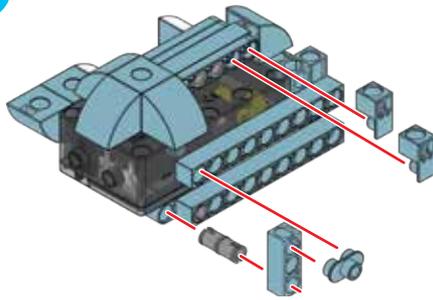
"I'll hop off here and look around," said Remus. He thanked Narbert for the ride and swam ashore. He wandered around, looking behind rocks for his family.

Soon, he came across a sleeping robotic fox, curled up in the mouth of a little foxhole. The fox was wiggling her ears and appeared to be dreaming.

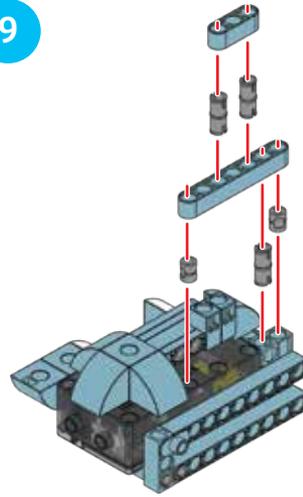
FRIDA THE FOX



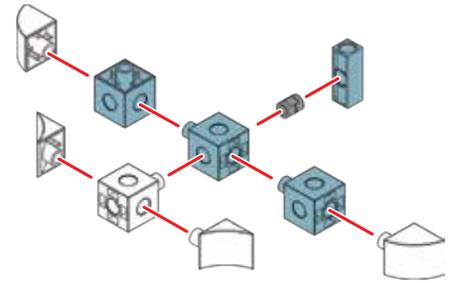
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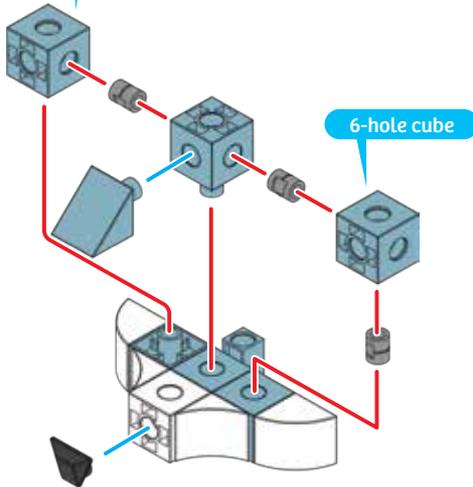
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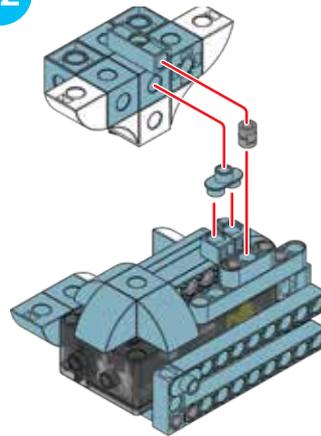
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6-hole cube

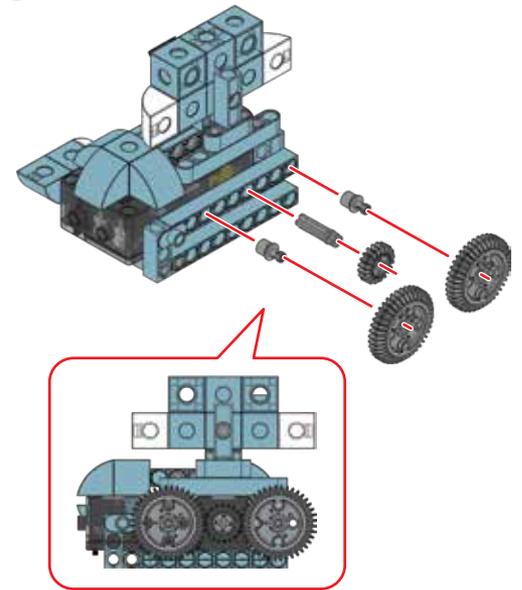
6-hole cube



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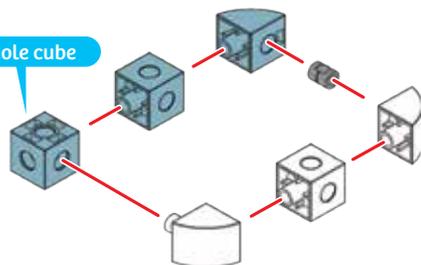


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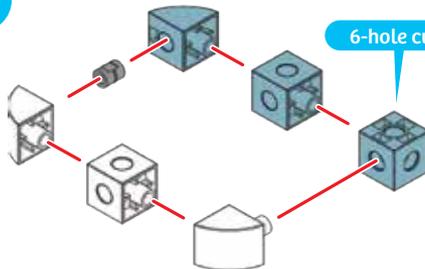
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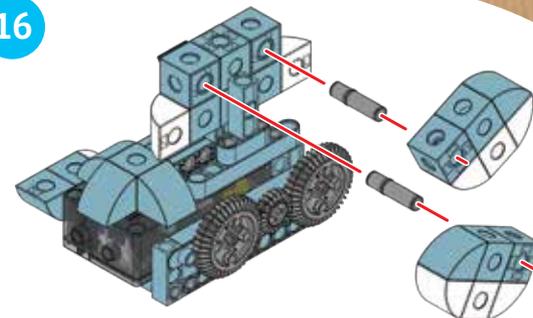


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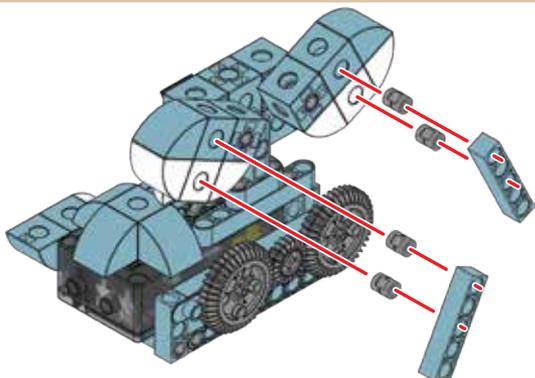
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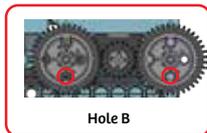
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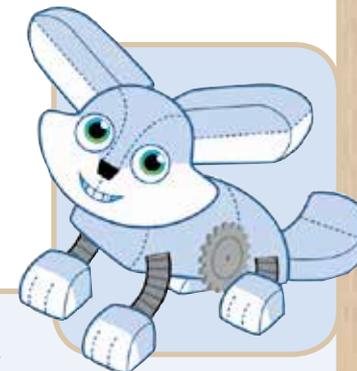
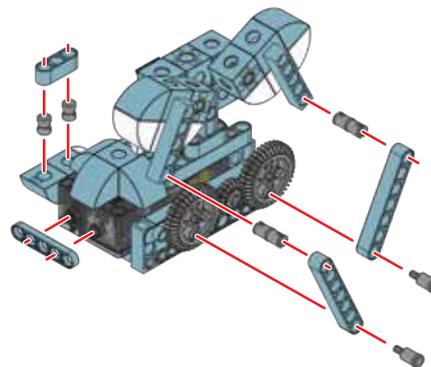
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18



Hole B

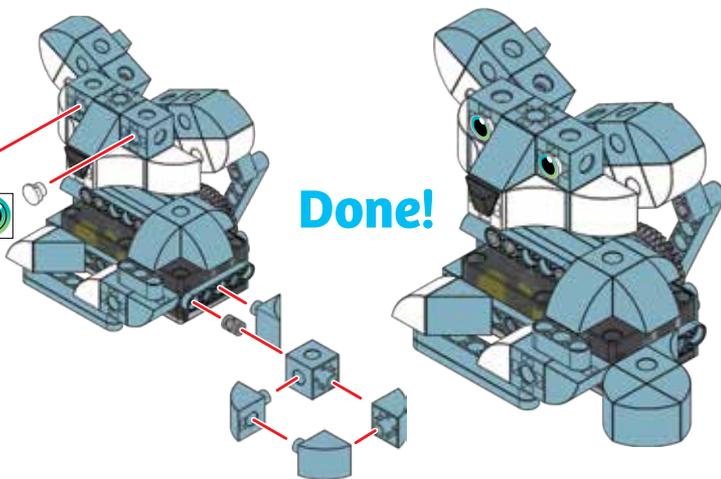


19



Eye stickers

Done!



The fox opened her eyes and stared at Remus.

"Hello there. I'm Frida the Fox," yawned the fox, waking from her slumber. "I was just having the most wonderful dream."

"Really? What was it about?" asked Remus.

"Oh, I wish you could have seen it. It was magical," replied Frida.

Look at the gears on the back of the fox model. Note how the small gear turns in one direction and the two medium gears turn in the opposite direction.

Remus remembered that he had one of Huxley's wacky inventions in his backpack: the DreamReader3000. He took it out and showed Frida.

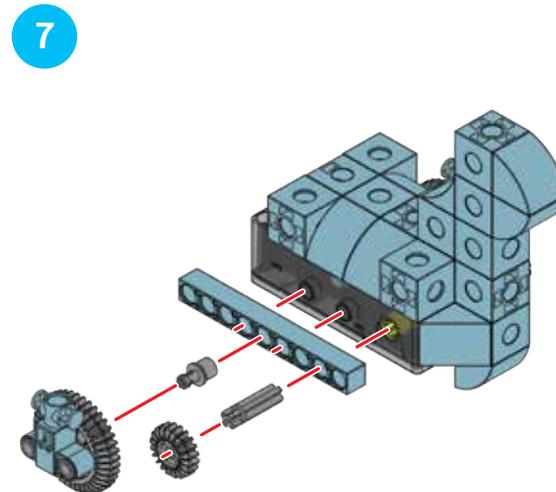
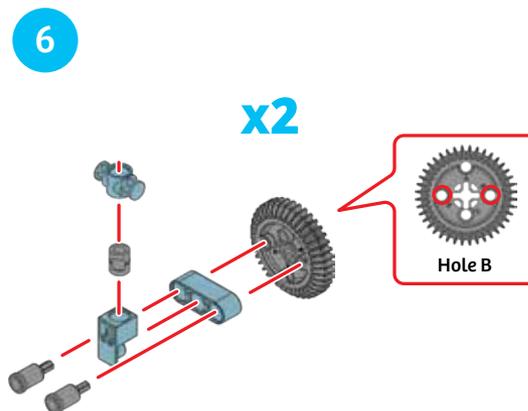
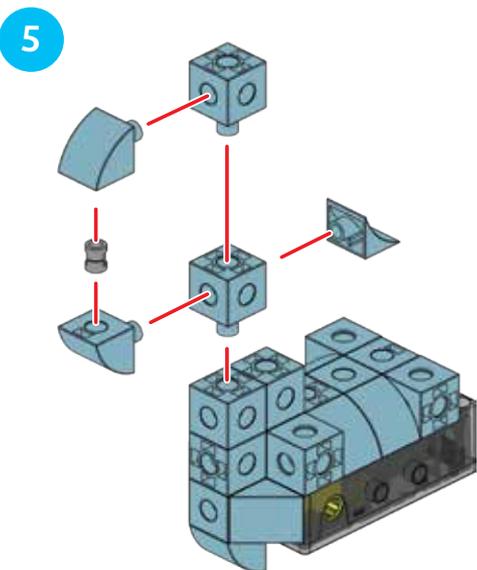
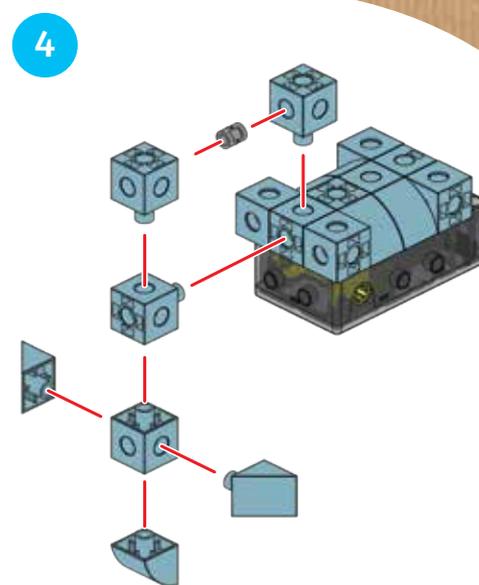
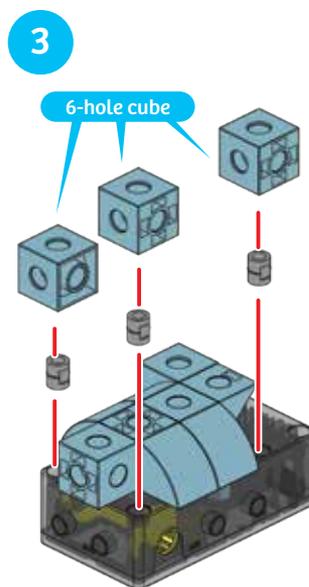
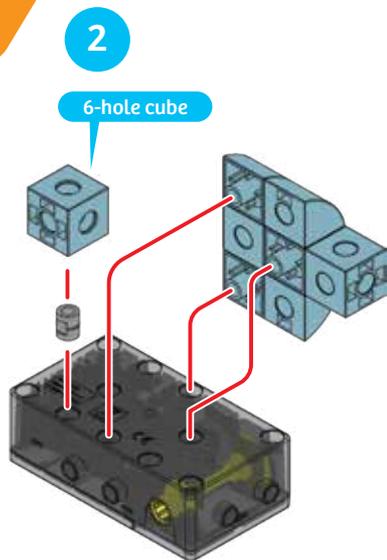
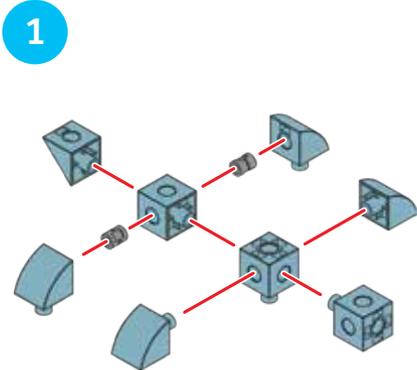
"With this, I can scan and see your dreams," Remus said.

"Wow, that is quite an invention," said Frida. "Let's try it!"

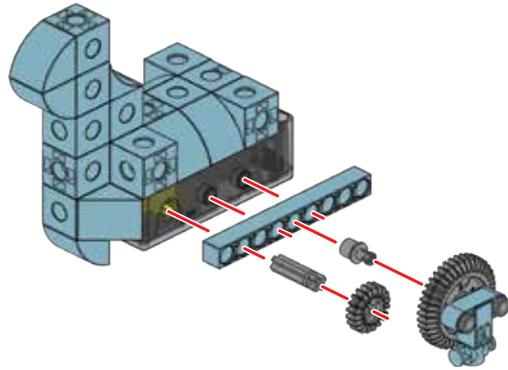
Frida went back to sleep and Remus turned on the DreamReader3000. Sure enough, he could see Frida's dream! There was a robotic unicorn prancing on a candy-cane road toward a giant bowl of rainbow ice cream.



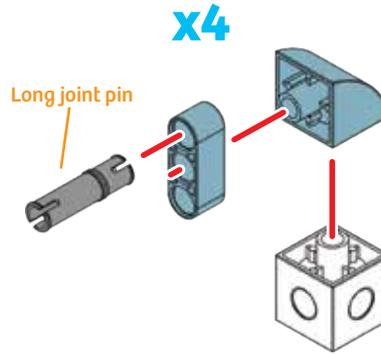
EUNICE THE UNICORN



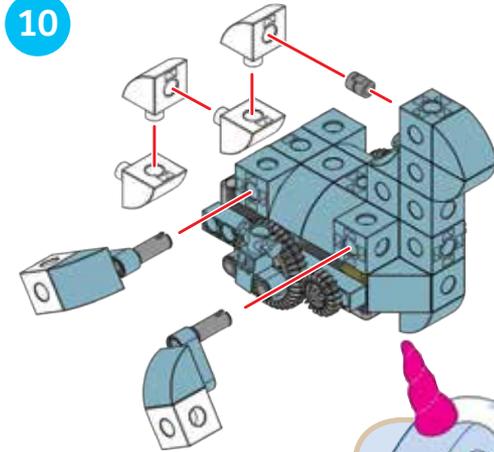
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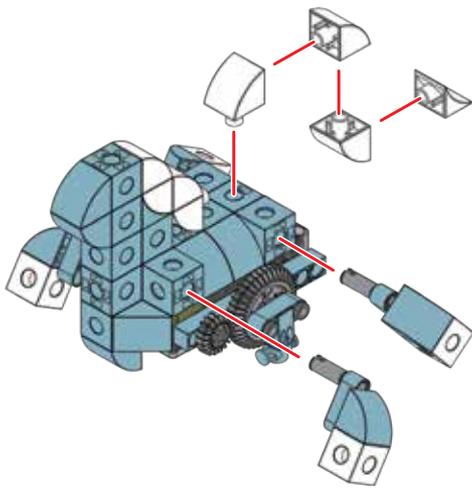
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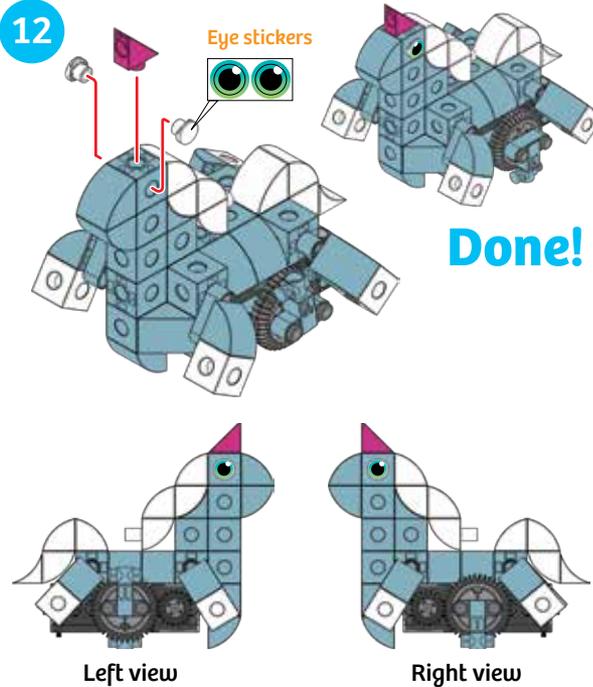
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12



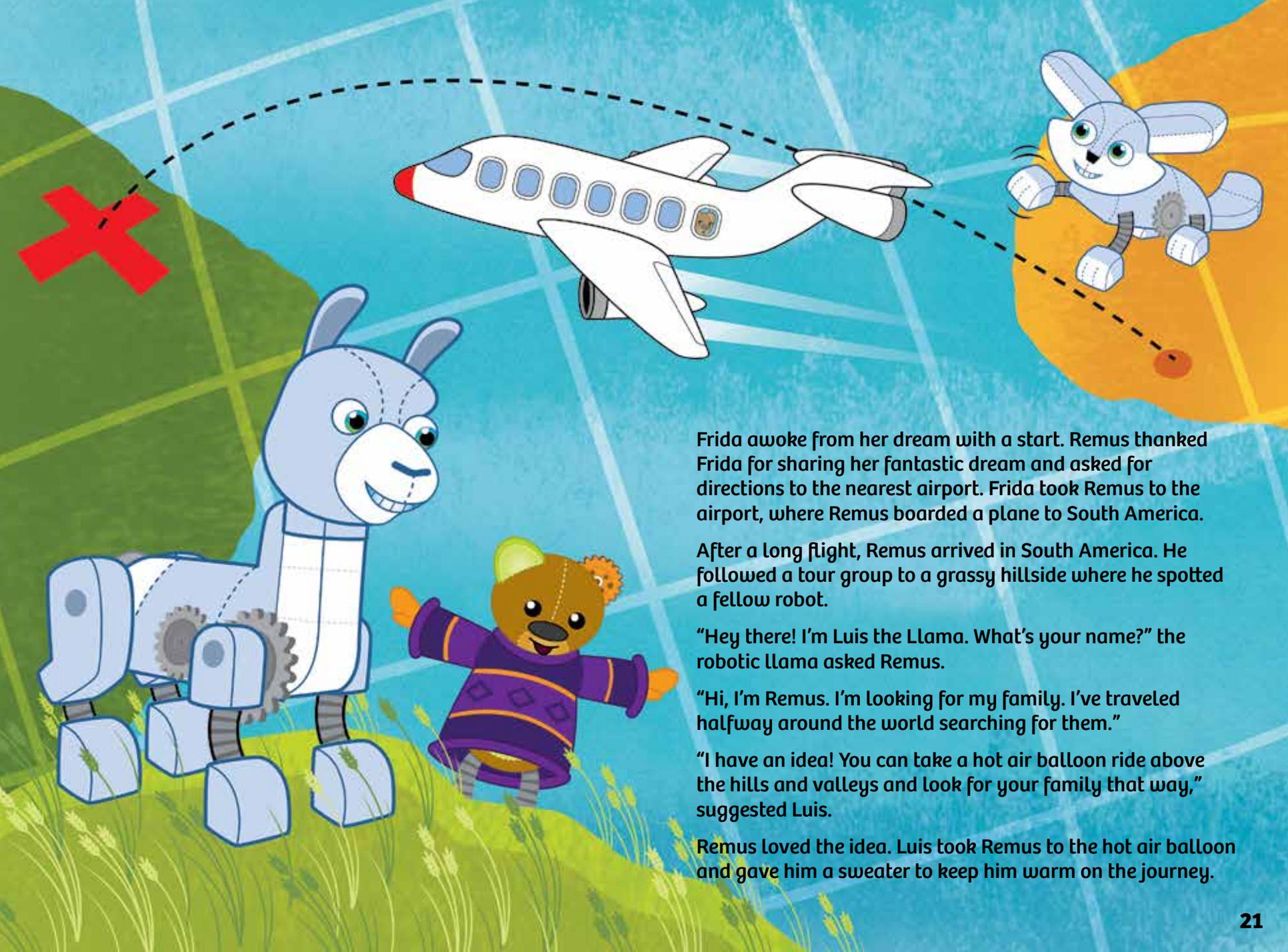
"Hi! I'm Eunice the Unicorn," said the Unicorn robot. "I love ice cream and rainbows. What flavors of ice cream do you like?"

Remus started thinking about Ty and Karlie's favorite ice cream flavors: strawberry and mint chocolate chip.

"I have to keep looking for my family," Remus remembered.

"Good luck! You will find them!" said Eunice.

Your fox model doesn't actually dream, but your unicorn model will waddle around on its four short legs.



Frida awoke from her dream with a start. Remus thanked Frida for sharing her fantastic dream and asked for directions to the nearest airport. Frida took Remus to the airport, where Remus boarded a plane to South America.

After a long flight, Remus arrived in South America. He followed a tour group to a grassy hillside where he spotted a fellow robot.

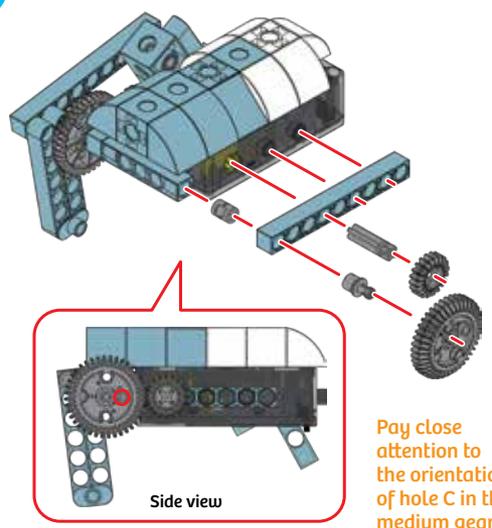
“Hey there! I’m Luis the Llama. What’s your name?” the robotic llama asked Remus.

“Hi, I’m Remus. I’m looking for my family. I’ve traveled halfway around the world searching for them.”

“I have an idea! You can take a hot air balloon ride above the hills and valleys and look for your family that way,” suggested Luis.

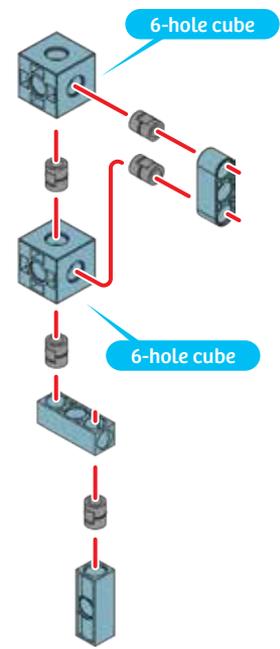
Remus loved the idea. Luis took Remus to the hot air balloon and gave him a sweater to keep him warm on the journey.

7



Pay close attention to the orientation of hole C in the medium gear.

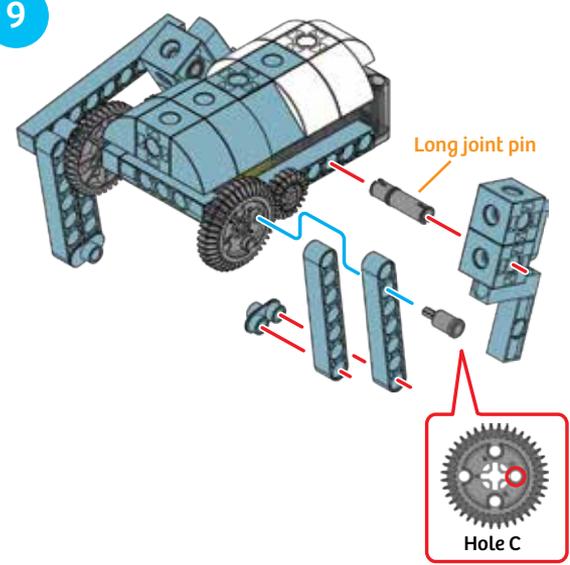
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6-hole cube

6-hole cube

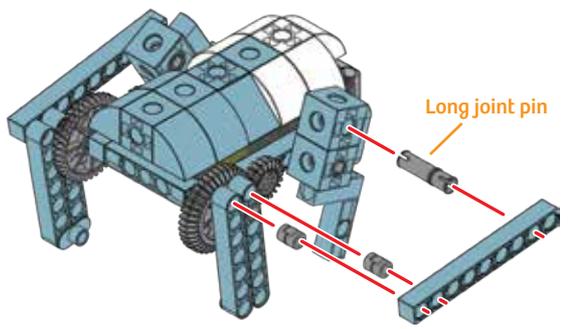
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Long joint pin

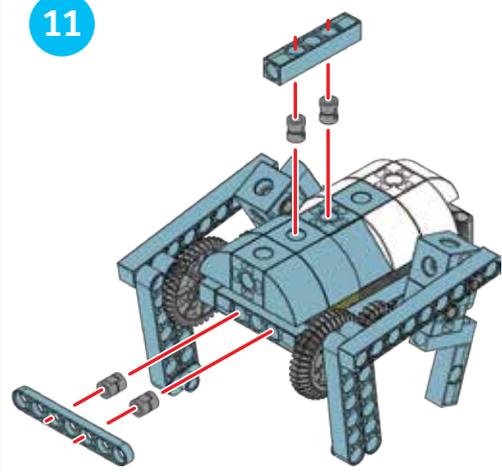
Hole C

10

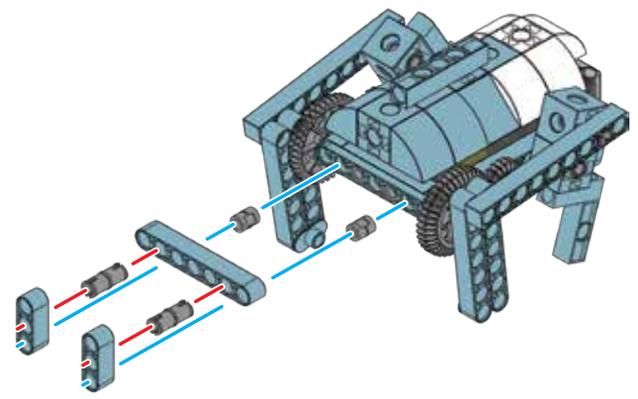


Long joint pin

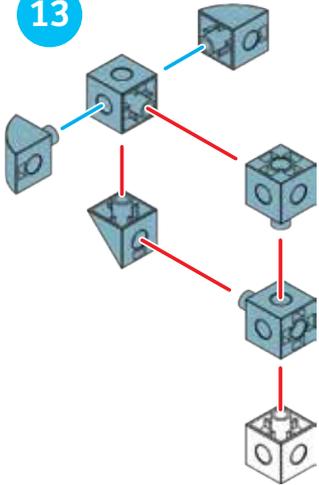
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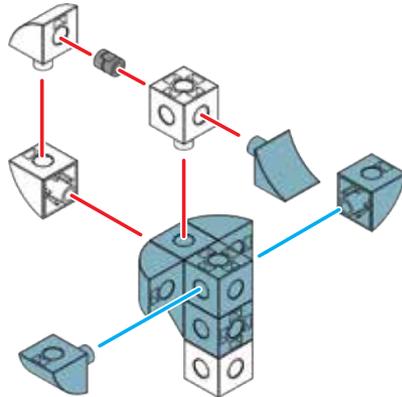
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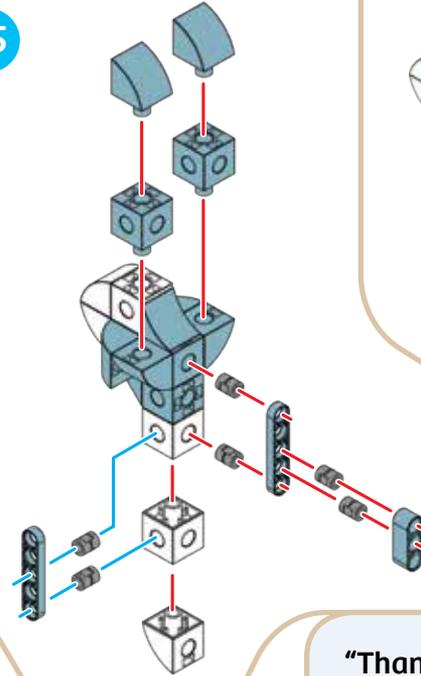
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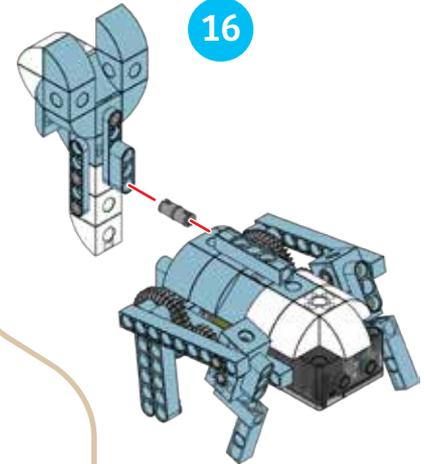
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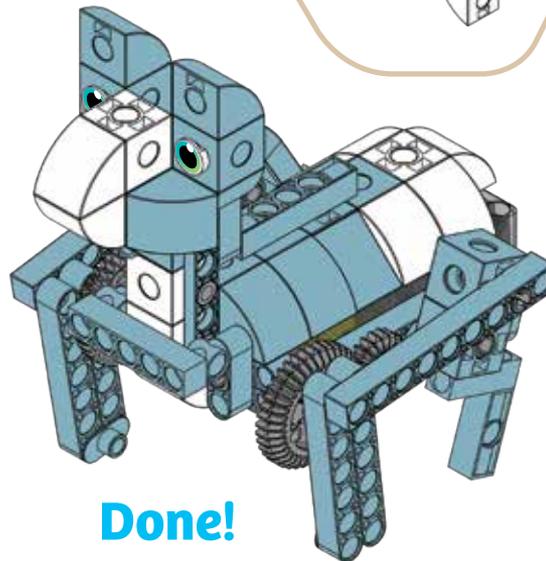
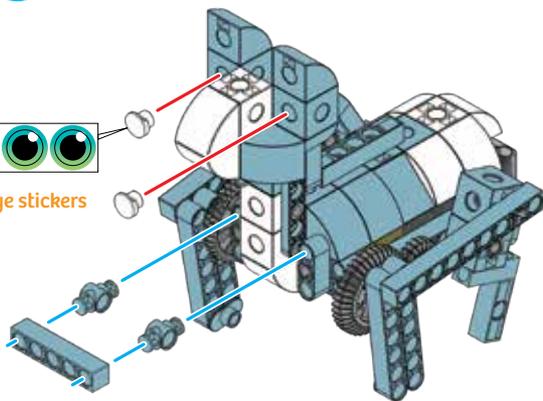
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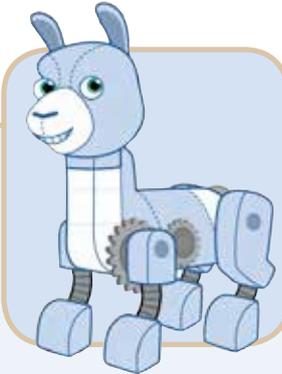
17



Eye stickers



Done!



“Thanks for visiting!” Luis the robotic llama shouted to Remus as the hot air balloon lifted up into the sky.

“Thanks for your help and for the great sweater!” Remus called back, waving his hand from the basket of the balloon.

The llama’s legs are oriented so that when one leg moves forward, the other moves backward.



The hot air balloon flew north, pushed by a strong, steady current of air. It was a long journey. Luckily, Remus had some of his favorite snacks in his backpack: avocados and grapes. He curled up in the basket and munched on his snacks. Then he fell asleep.

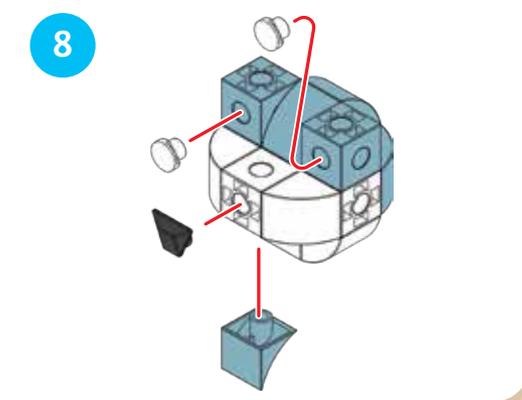
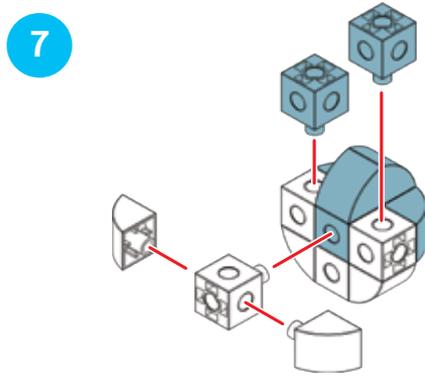
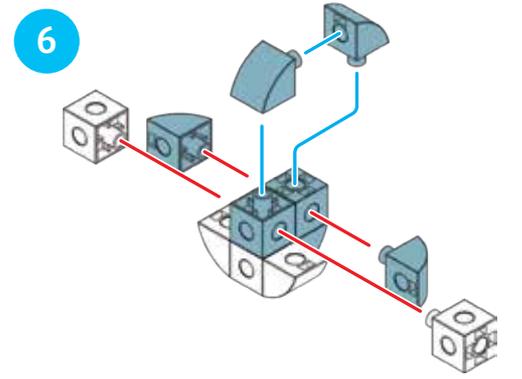
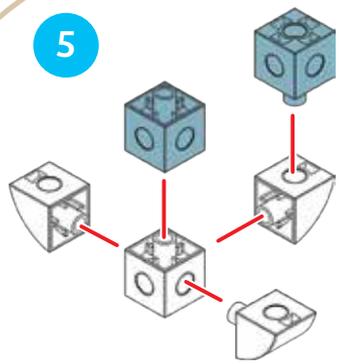
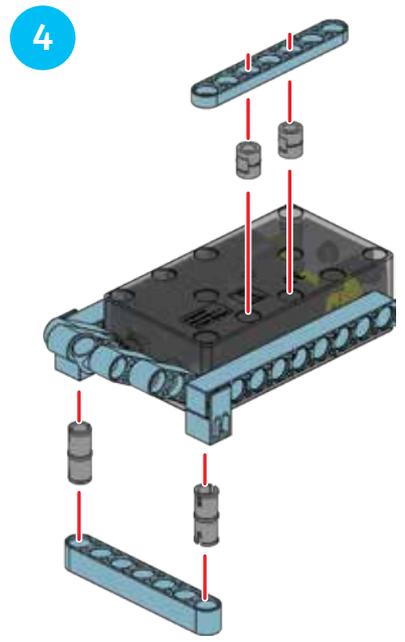
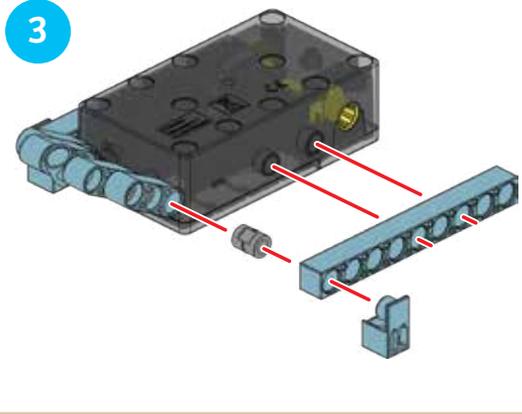
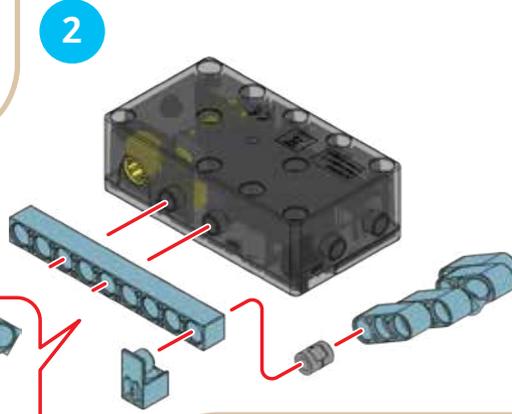
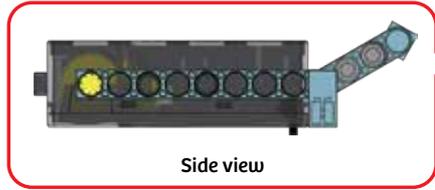
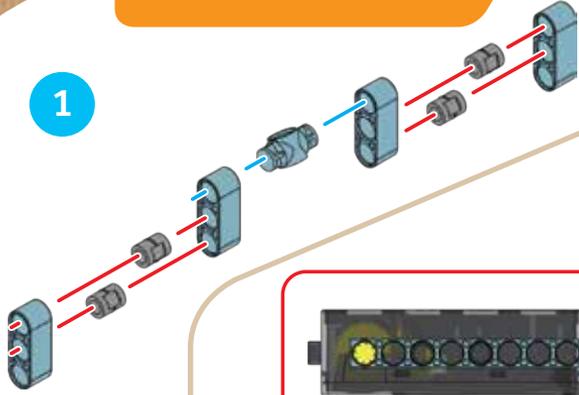
When Remus awoke, he peered out over the edge of the basket and looked

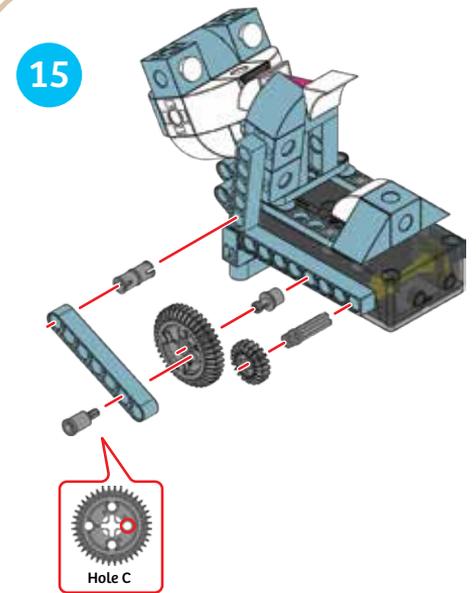
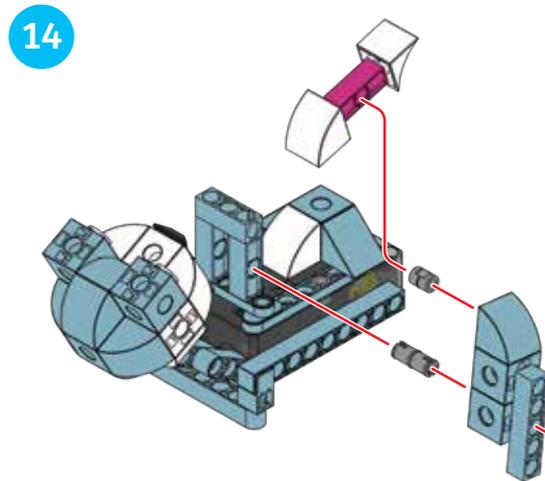
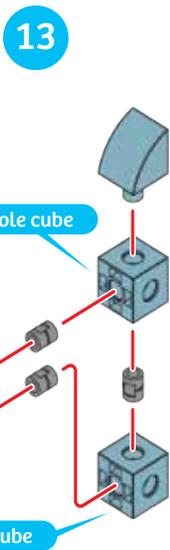
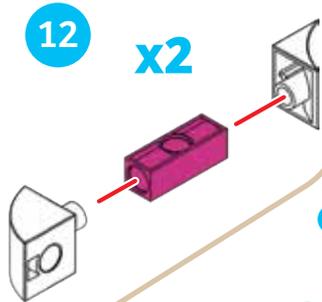
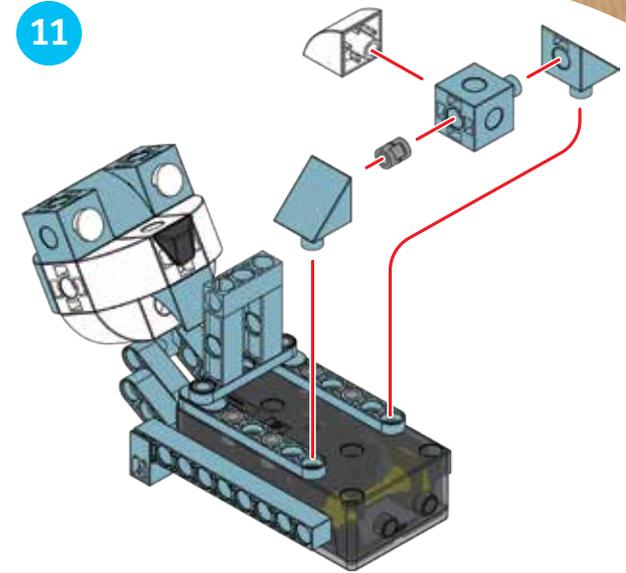
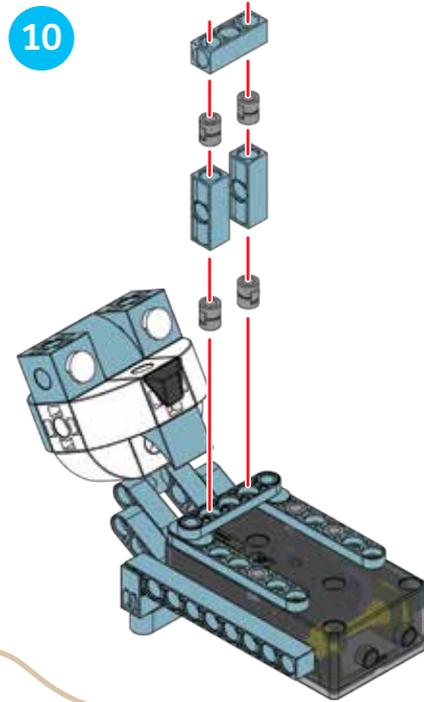
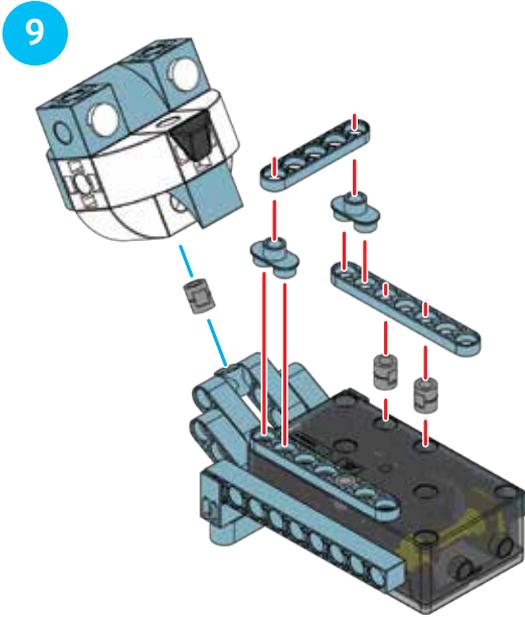
down on a beautiful, slowly moving river. He spotted a cute river otter robot floating on his back. The otter robot was munching on snacks of his own.

“Hello down there! Could you help me find my family?” Remus hollered down to the otter.

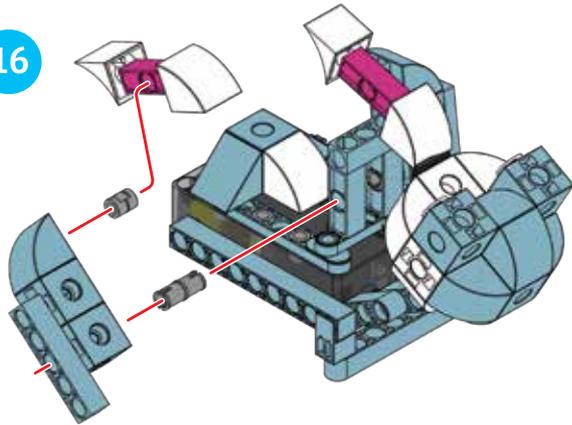


OTTO THE OTTER

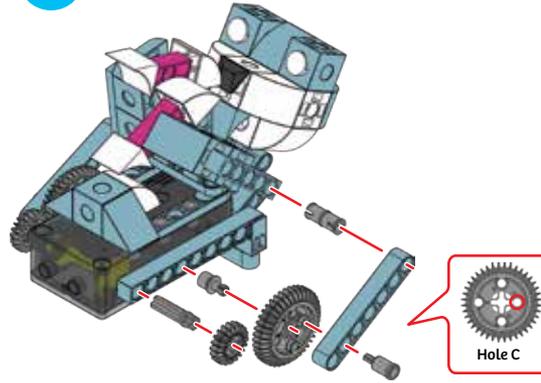




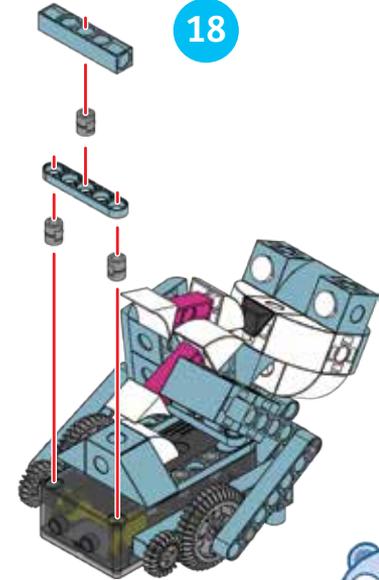
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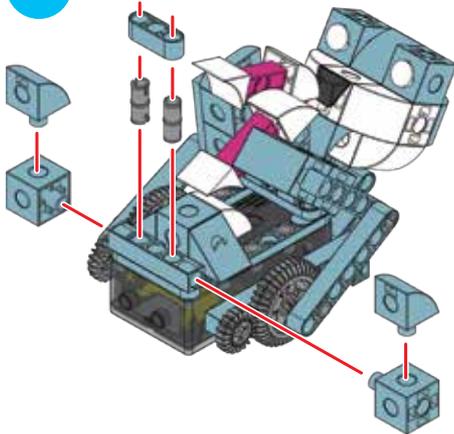
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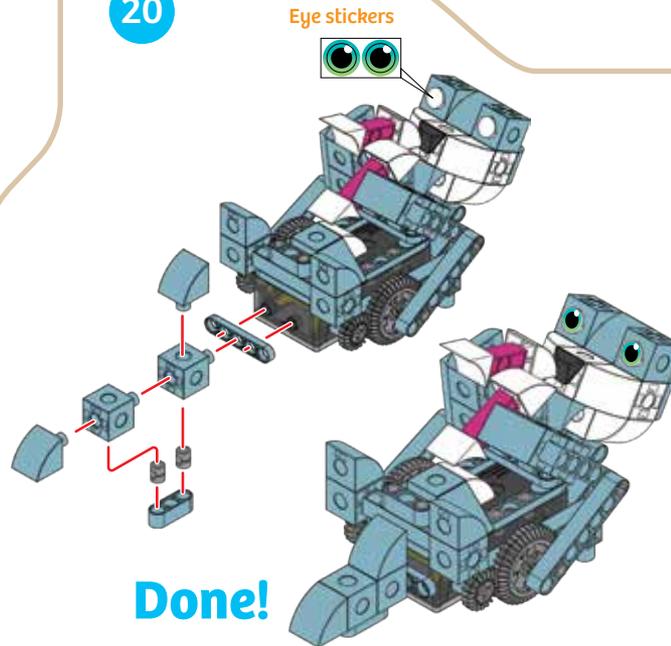
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19



20



"Hi! I'm Otto the Otter," said the otter robot. "I can help you find your family. Land that hot air balloon and I'll take you down river."

A linkage is a mechanical assembly of rigid links (or rods) connected at movable joints. Can you find the linkages in this model?

Remus took the hot air balloon down to the edge of the river and jumped out. He climbed onto Otto the Otter's back and together they floated down the river, looking for the Omega family.

They hadn't been traveling long at all when Otto shouted, "Look! There's a blue cat robot standing on the riverbank over there."

Remus looked and saw a cute blue cat robot grinning and waving its bushy tail by the river's edge. Then Remus heard people calling to him.

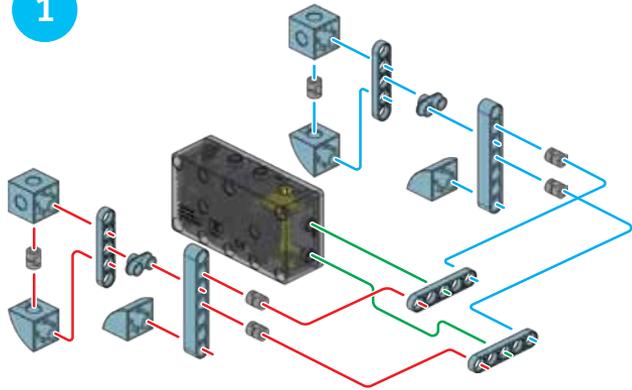
There was the Omega family, having a picnic!

"Hooray! I've found you!" Remus yelled with glee.

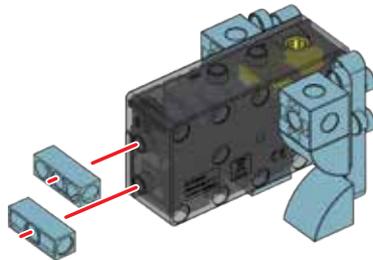


CATHY THE CAT

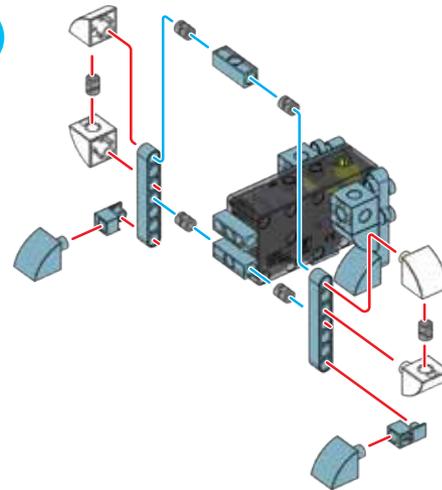
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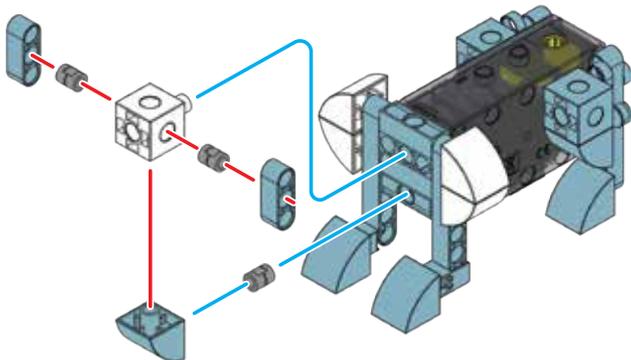
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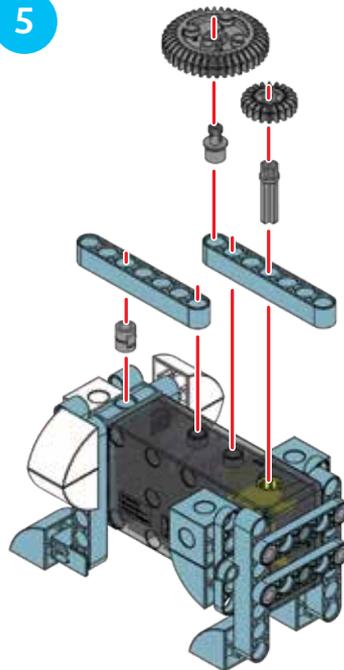
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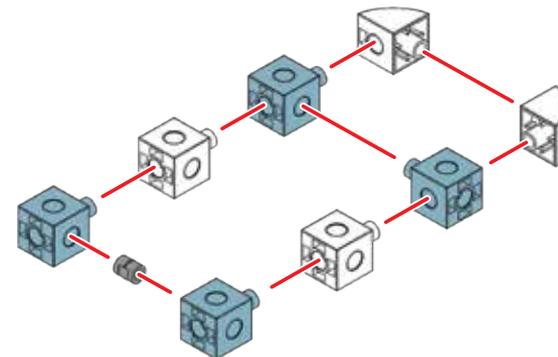
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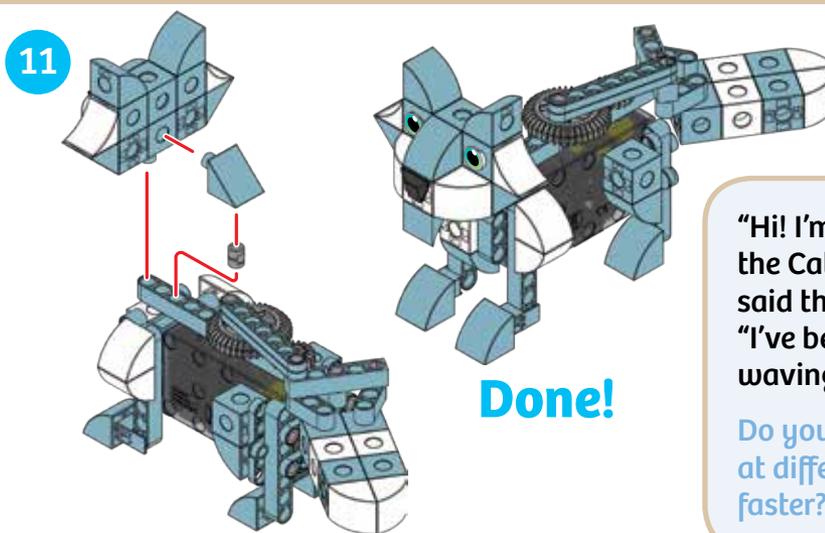
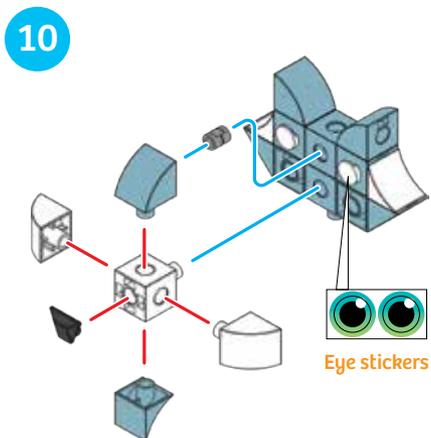
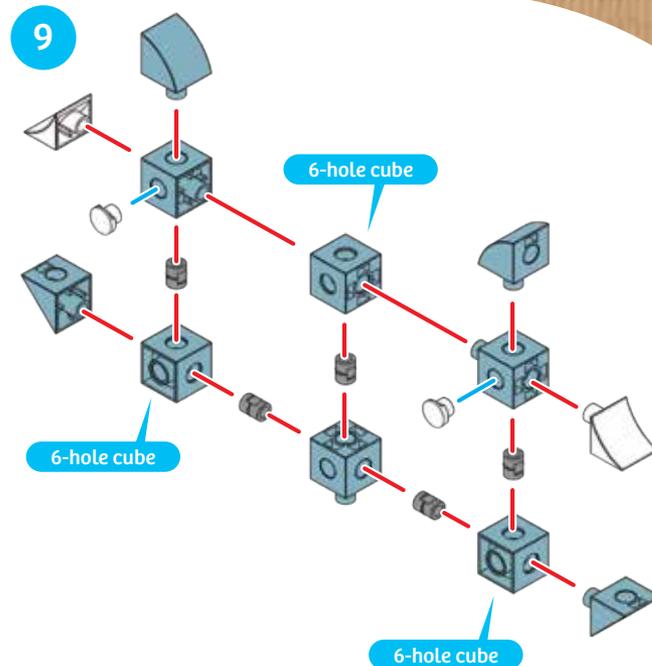
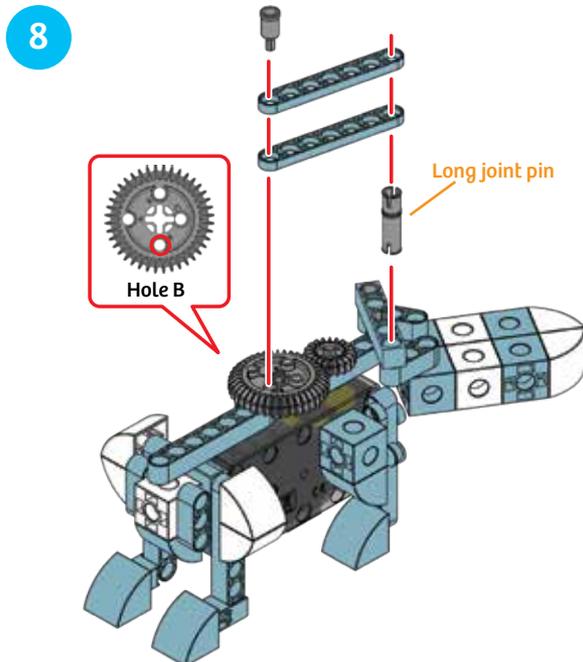
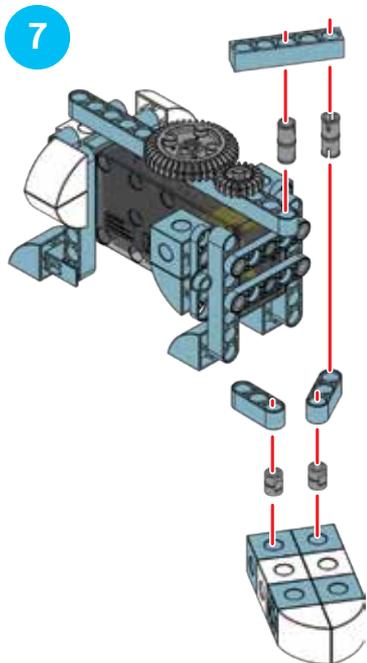


5



6





"Hi! I'm Cathy the Cat robot," said the cat. "I've been waving my tail to get your attention!"

Do you see how the two gears turn at different speeds? Which one moves faster? How does the tail move?



Remus went ashore. Cathy greeted him and purred loudly. The Omega family was reunited at last!

“I’m amazed that I found you!” said Remus.

Huxley held up a strange device. “This is my Emergency Remus Locator Device. The minute we realized you were missing, I assembled this device and activated my network of helpful animal robots stationed all over the world. Each robotic

animal helped bring you home, and we tracked your location each step of the way. There are a few bugs in my programs, so it just took a little longer than I had planned.”

“Wow, that’s very impressive, Huxley!” Remus said. “And I’m glad I got to go on such an amazing robot safari — and I got this cool sweater!”

Everyone laughed and sat down to continue their picnic.