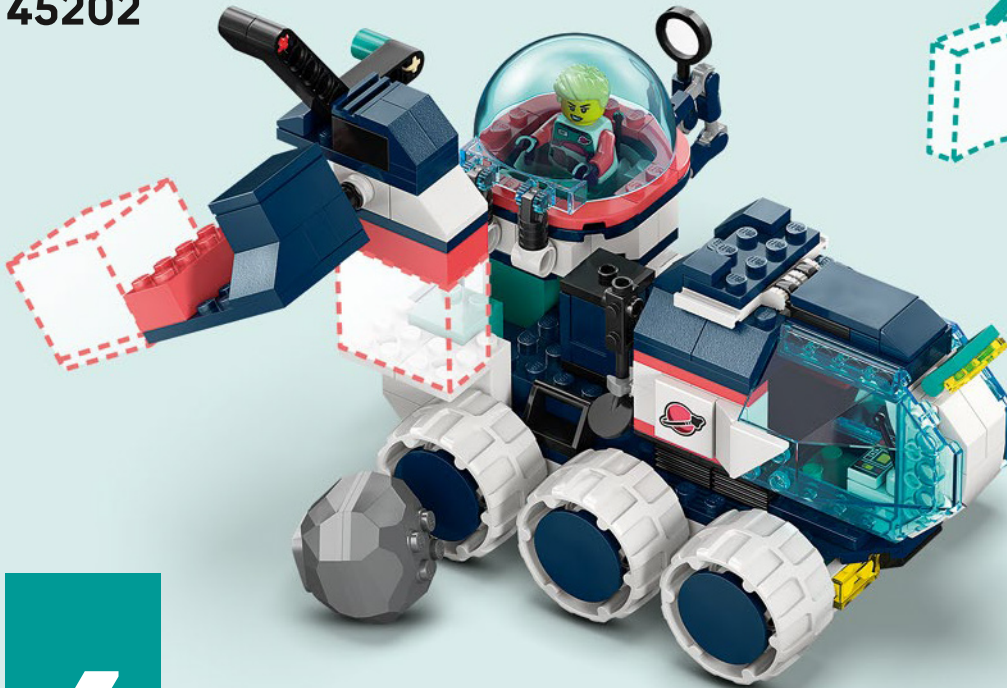




education™

Build
Solve
Invent™

45202



4

How could you move rocks on Mars?



This Physical Science experiment is based on testing and improving a device that changes potential energy into kinetic energy. Potential energy is stored energy that can be transferred into different forms when you need it. An object has kinetic energy when it moves.

One kind of potential energy comes from gravity. If you increase the weight of the object, it has more potential energy. This makes more kinetic energy when the object moves, making the object move farther.



Build

Build: Build a Mars buggy designed to explore the planet and a rock sample.



Solve

Solve: Create a new buggy arm to make the rocks move farther. Extend the arm or increase its weight.

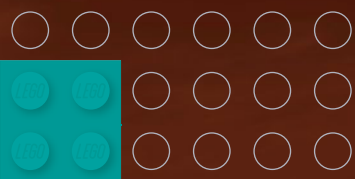


Invent

Invent: Design a collection area for the rocks.

You can support learning and spark curiosity by asking questions such as:

- How did the way the rocks move change when you tried different weights?
- What kind of collection area design works well for collecting the rocks?
- What if you had to move rocks that were bigger or smaller than these? What could you do?



Comment pourrait-on déplacer des roches sur Mars?



Cette expérience de sciences physiques consiste à tester et à améliorer un appareil qui transforme l'énergie potentielle en énergie cinétique. L'énergie potentielle est une énergie stockée qui peut être transférée sous différentes formes lorsque vous en avez besoin. Un objet possède de l'énergie cinétique lorsqu'il se déplace.

Un type d'énergie potentielle provient de la gravité. Si vous augmentez le poids de l'objet, il a plus d'énergie potentielle. L'énergie cinétique augmente lorsque l'objet se déplace, ce qui lui permet d'aller plus loin.



Construire

Construire : Construisez un buggy martien conçu pour explorer la planète et un échantillon de roche.



Résoudre

Résoudre : Créez un nouveau bras de buggy pour que les roches se déplacent plus loin. Allongez le bras ou augmentez son poids.



Inventer

Inventer : Concevez une zone de collecte pour les roches.

Vous pouvez soutenir l'apprentissage et éveiller la curiosité en posant des questions telles que :

- Comment la façon dont les roches se déplacent a-t-elle changé lorsque tu as essayé différents poids?
- Quel type d'aménagement de la zone de collecte fonctionne bien pour collecter les roches?
- Et si tu devais déplacer des roches plus grosses ou plus petites que celles-ci?
Que pourrais-tu faire?

¿Cómo podrías mover rocas en Marte?



Este experimento de ciencias físicas se centra en probar y mejorar un dispositivo que transforma la energía potencial en energía cinética. La energía potencial es energía almacenada que puede convertirse en energía de otro tipo cuando se necesita. Un objeto tiene energía cinética cuando se mueve.

Un tipo de energía potencial viene de la gravedad. Si aumentas el peso del objeto, este tendrá más energía potencial. Hacerlo también le dará más energía cinética cuando se mueva, de modo que llegará más lejos.



Construye

Construye: Construye un *buggy* diseñado para explorar Marte y una muestra de roca.



Resuelve

Resuelve: Crea un nuevo brazo para el *buggy* que haga que las rocas lleguen más lejos. Alarga el brazo o aumenta su peso.

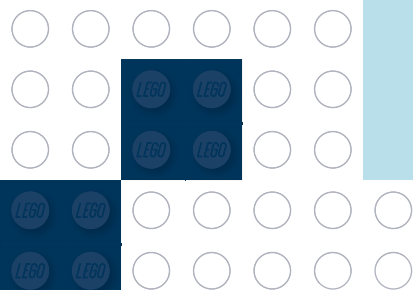
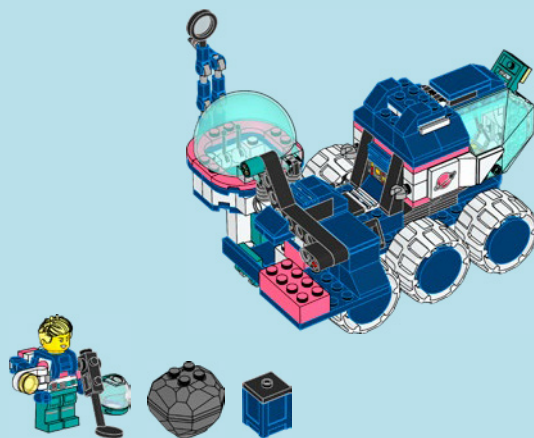
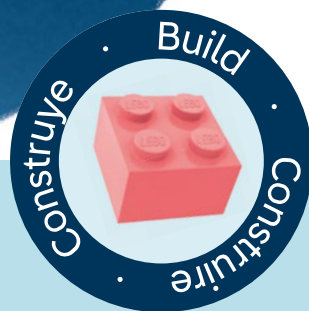


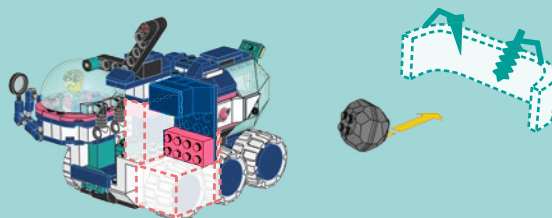
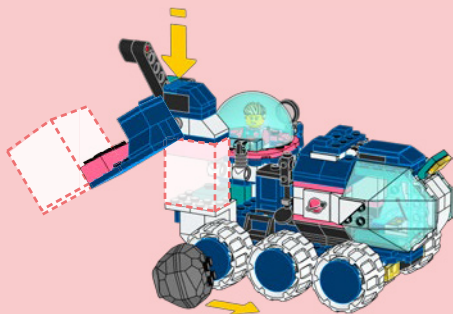
Inventa

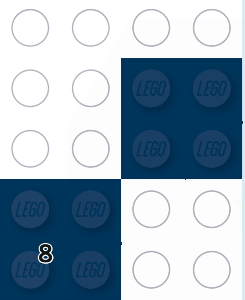
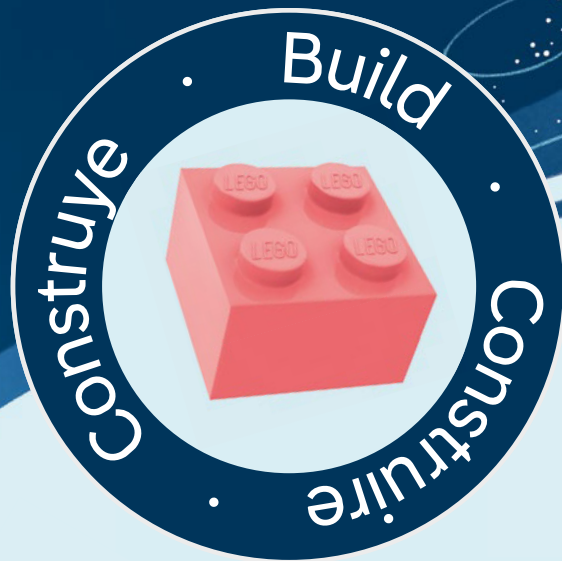
Inventa: Diseña una zona de recolección para las rocas.

Puedes apoyar el aprendizaje y despertar la curiosidad haciendo preguntas como las siguientes:

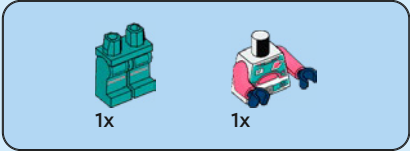
- ¿Qué cambios observaste en el movimiento de las rocas con los distintos pesos que probaste?
- ¿Qué tipo de zona de recolección funciona mejor para recolectar las rocas?
- ¿Y si tuvieras que mover rocas más grandes o pequeñas que estas? ¿Qué podrías hacer?



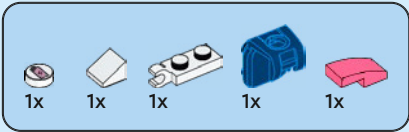
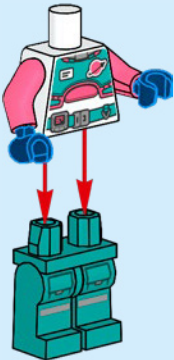




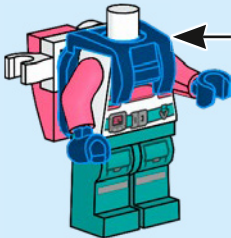
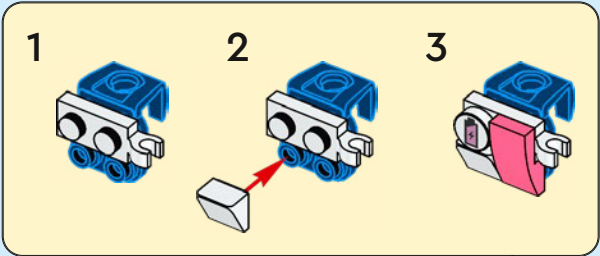




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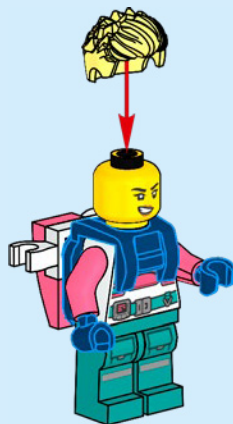


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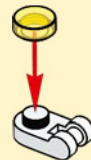
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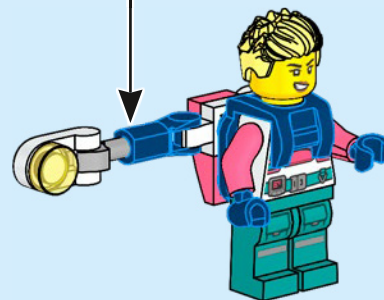
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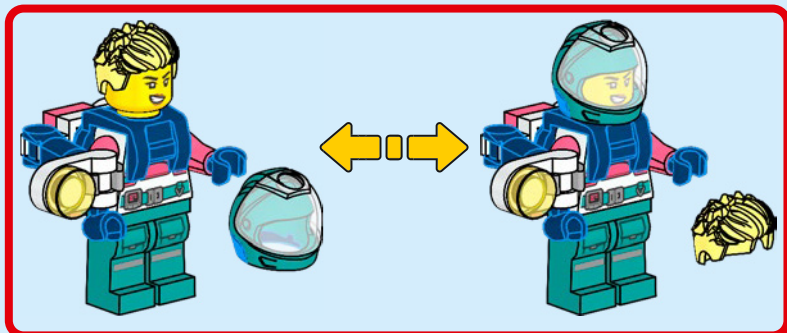
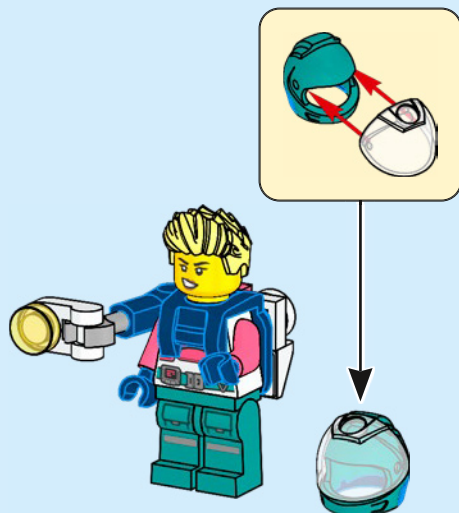


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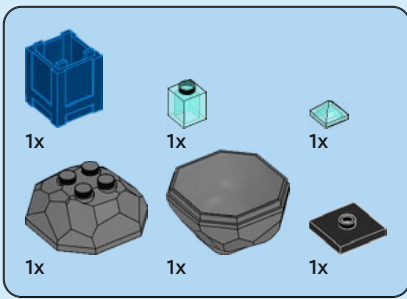
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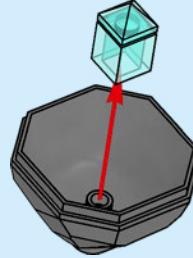


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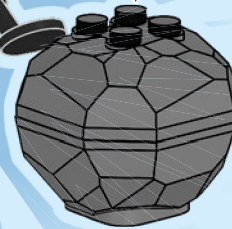
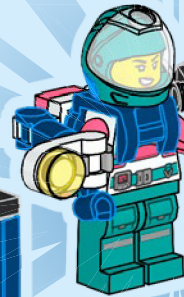
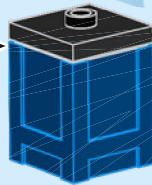
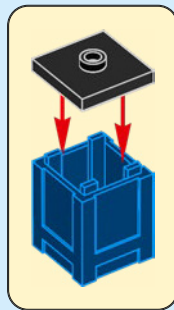
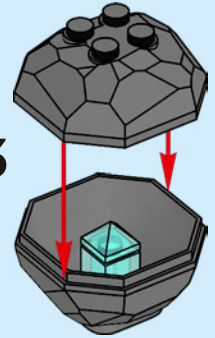
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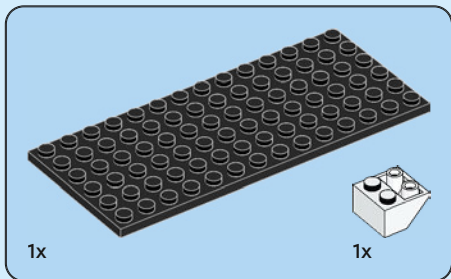
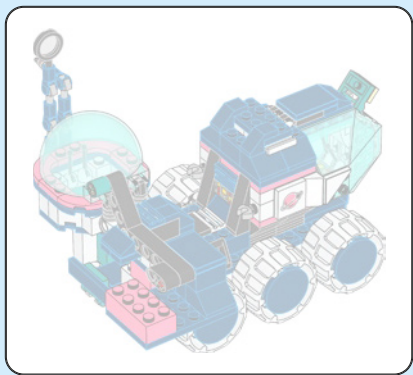


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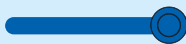
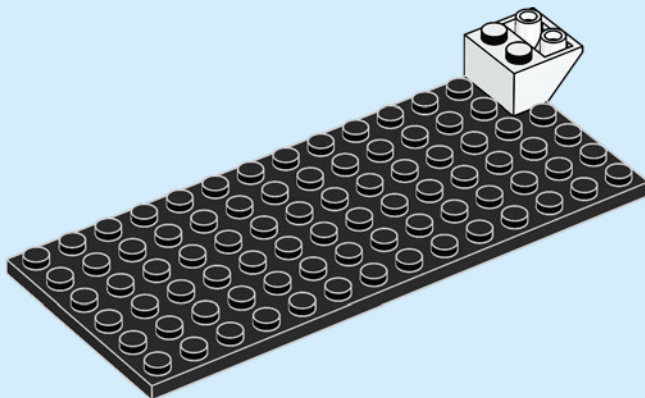


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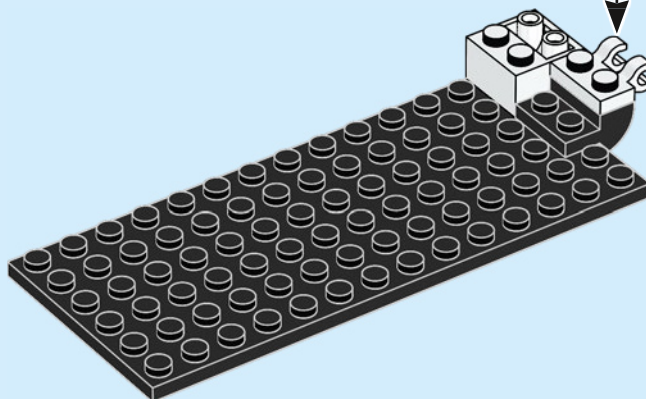
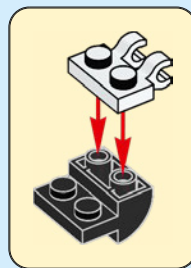


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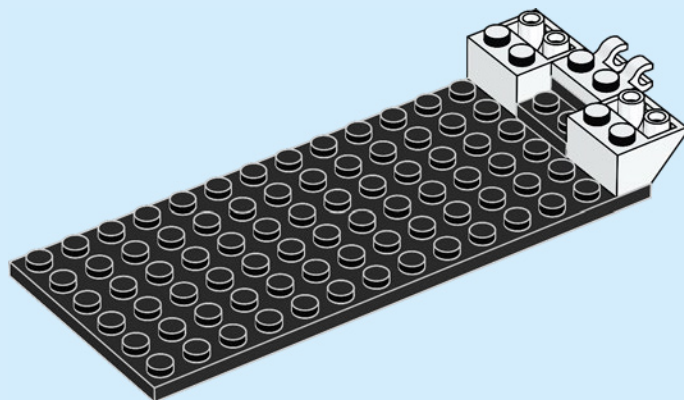
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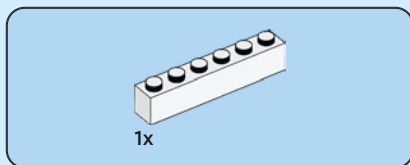




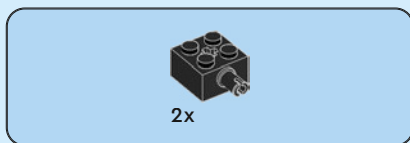
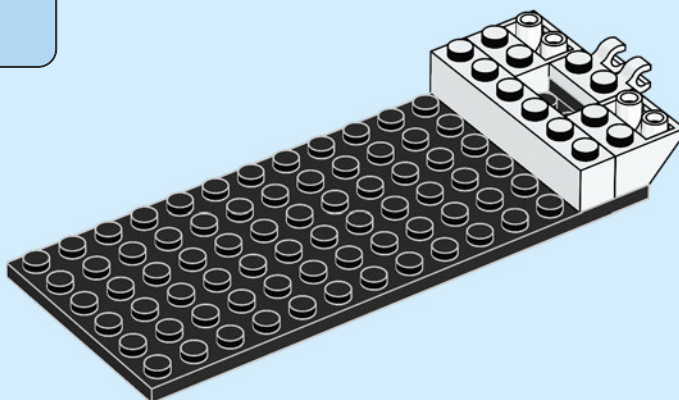
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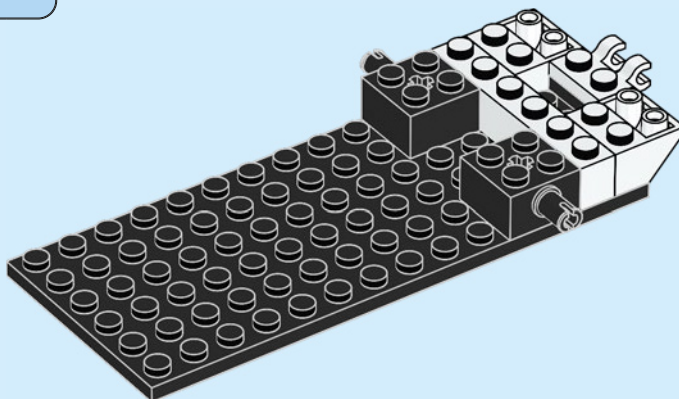


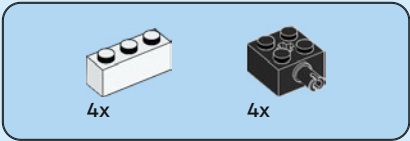


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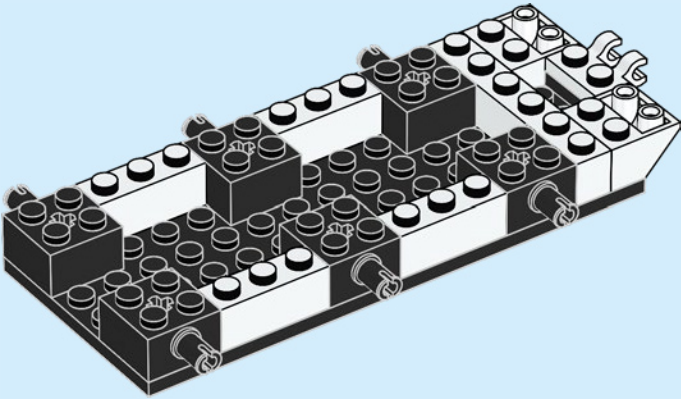


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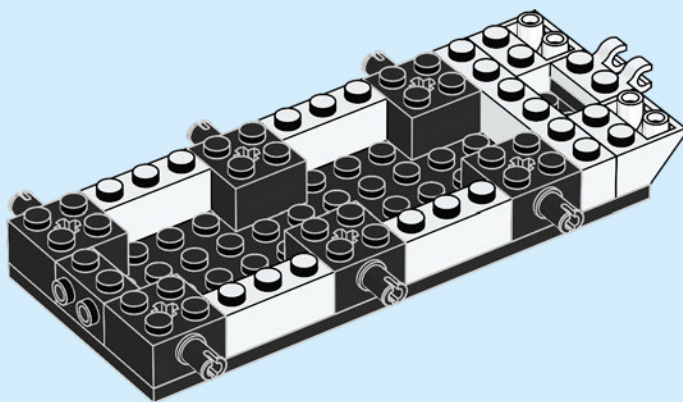
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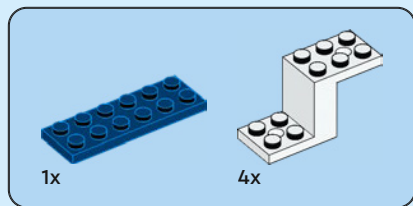




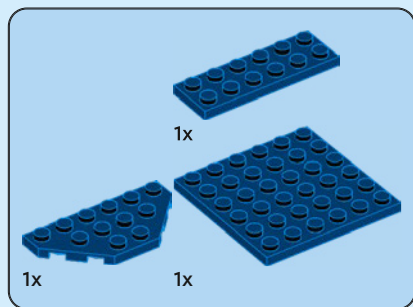
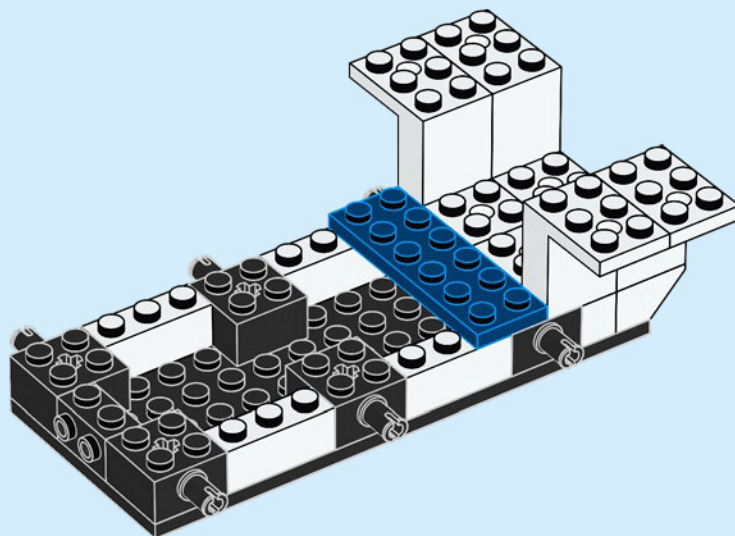
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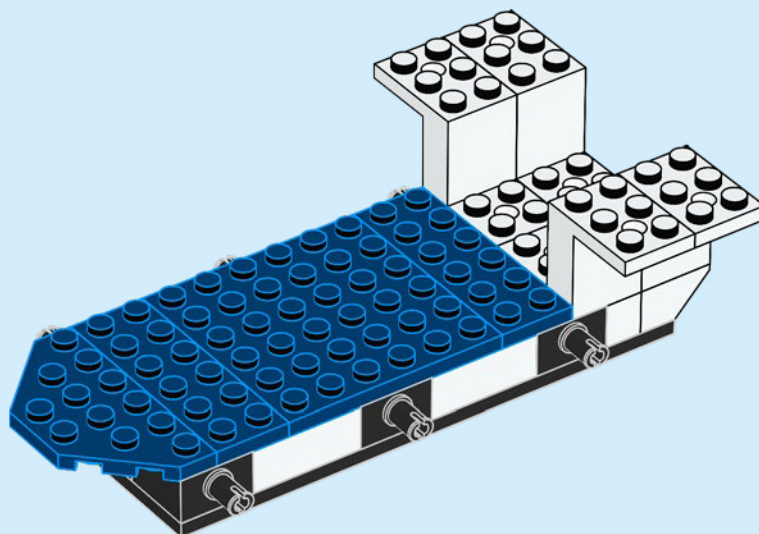


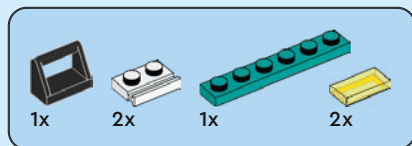


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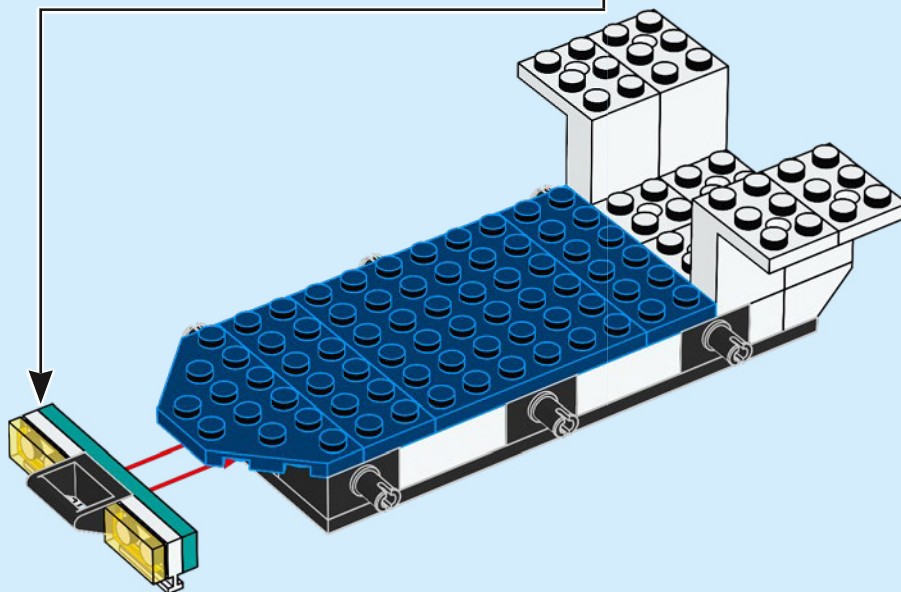
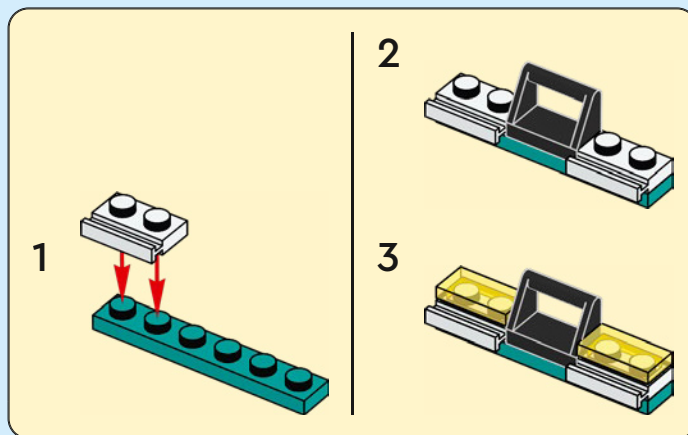


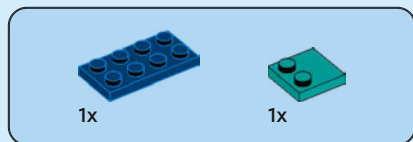
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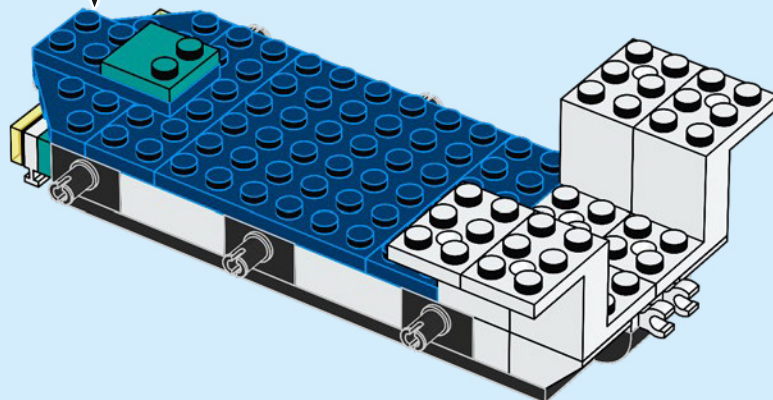
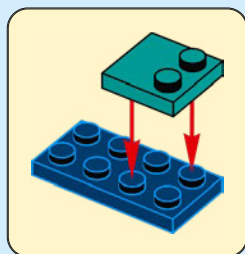


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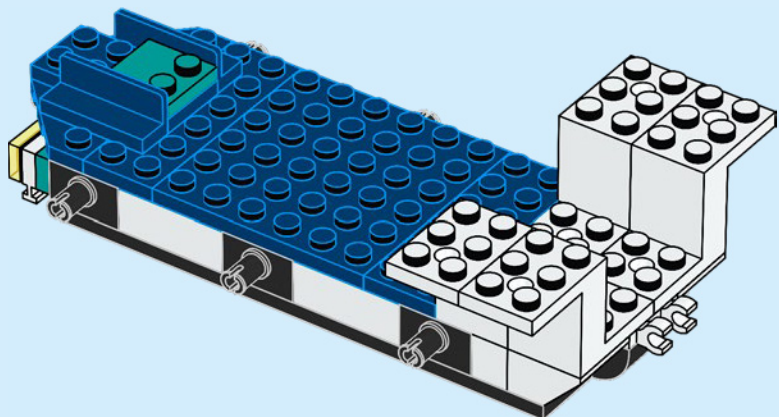
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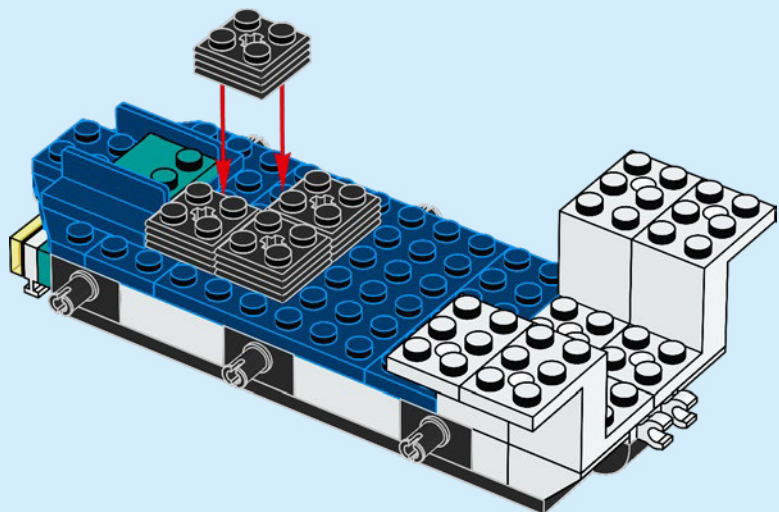
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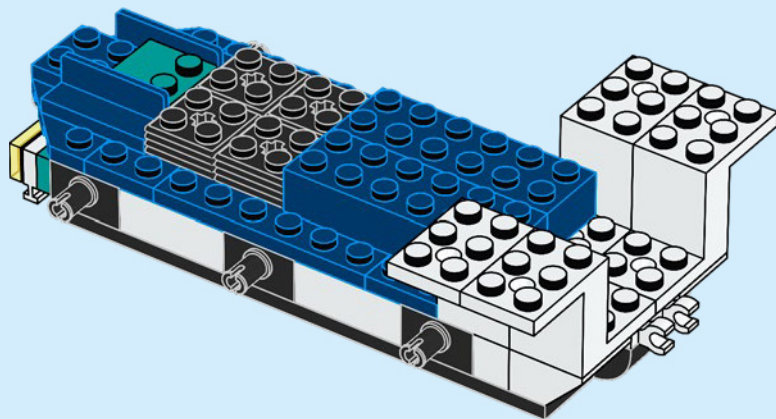
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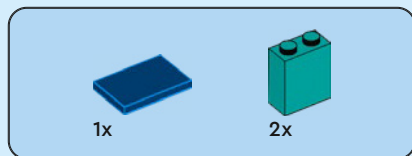




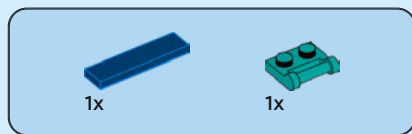
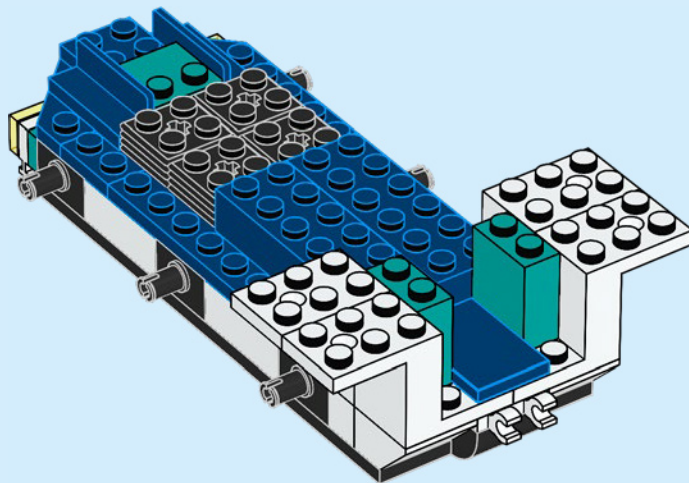
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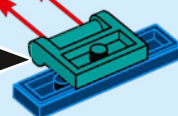
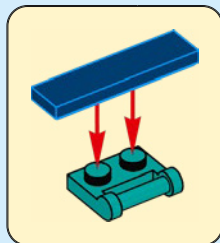
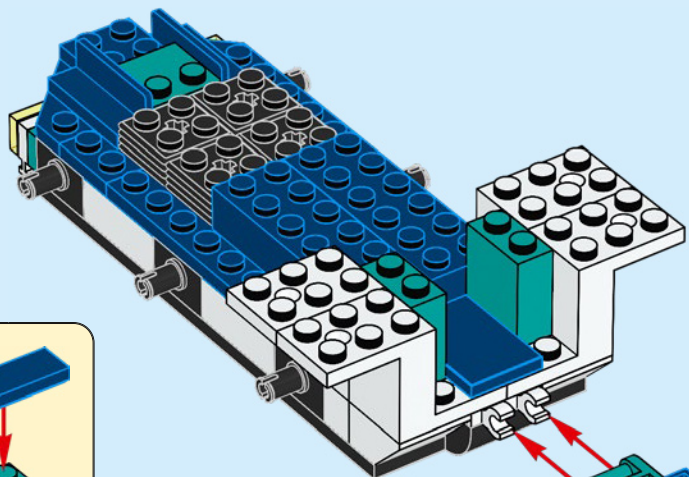




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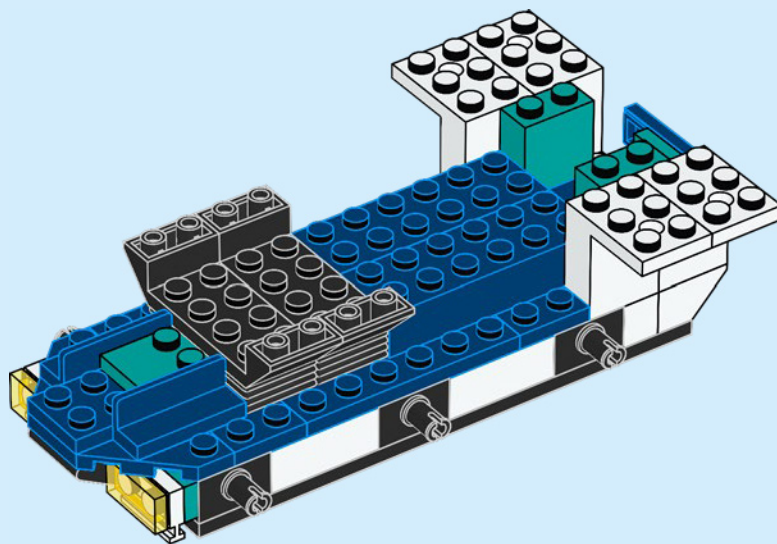
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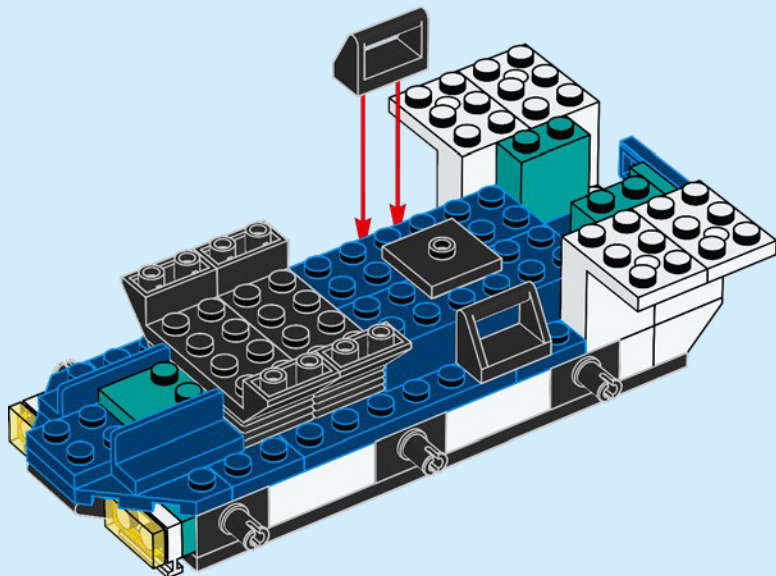


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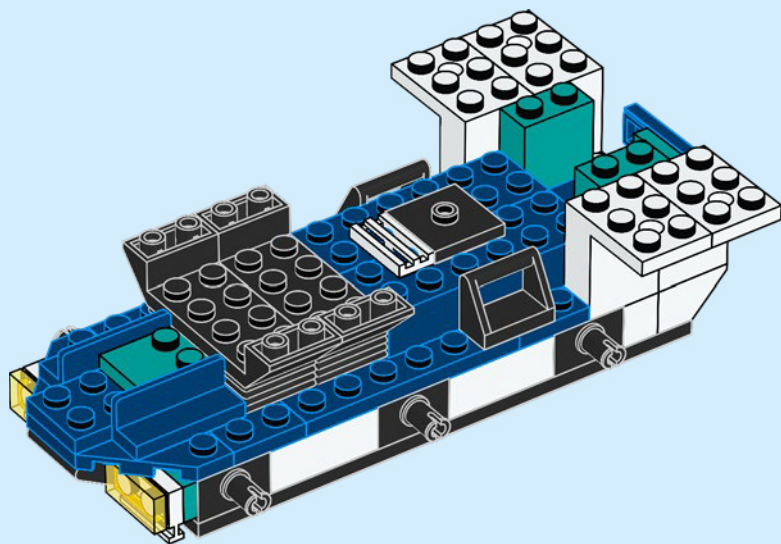
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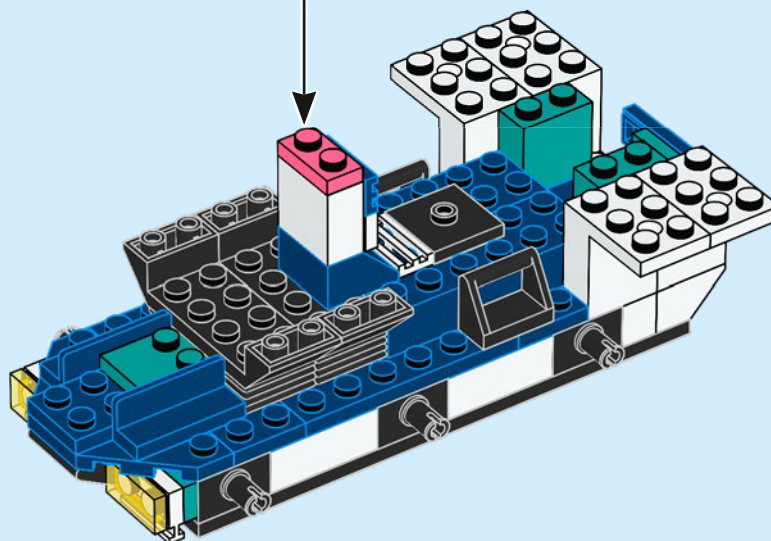
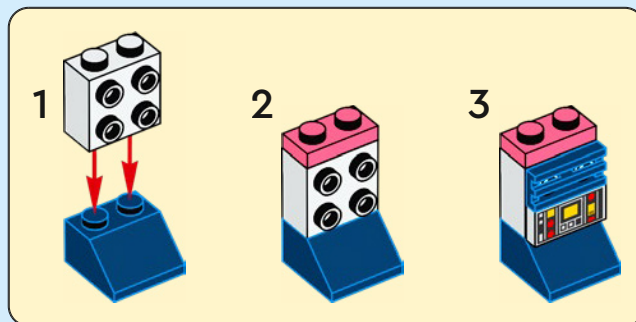
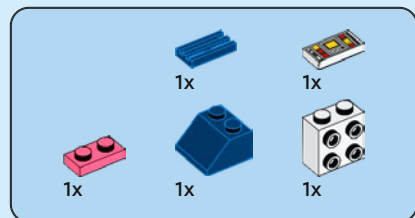


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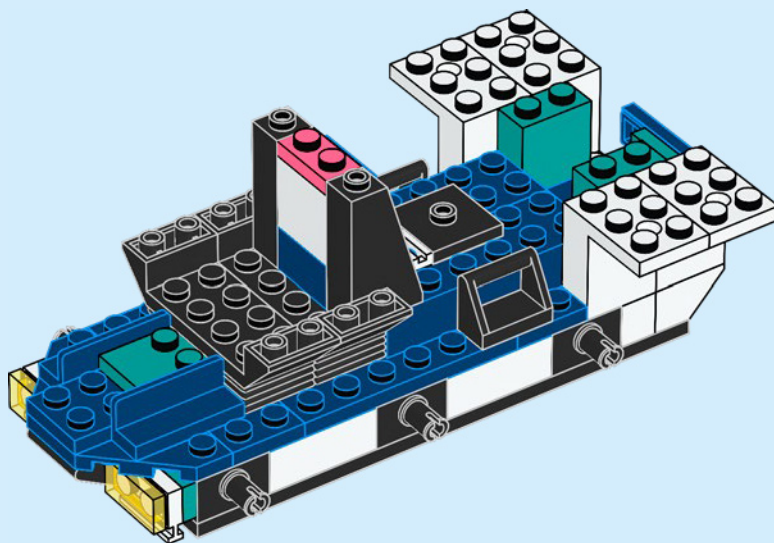
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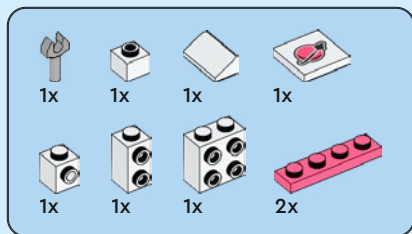




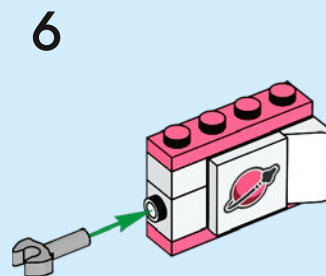
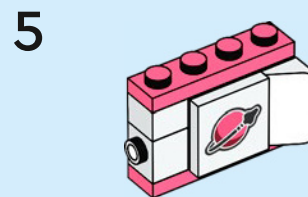
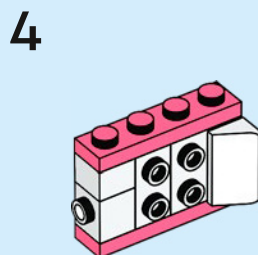
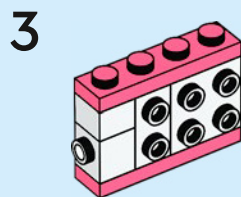
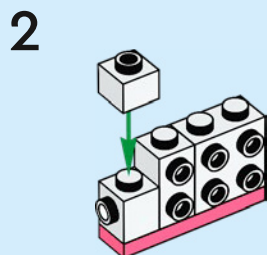
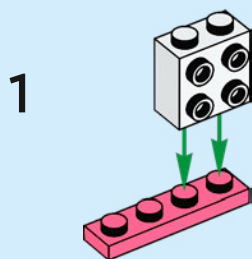
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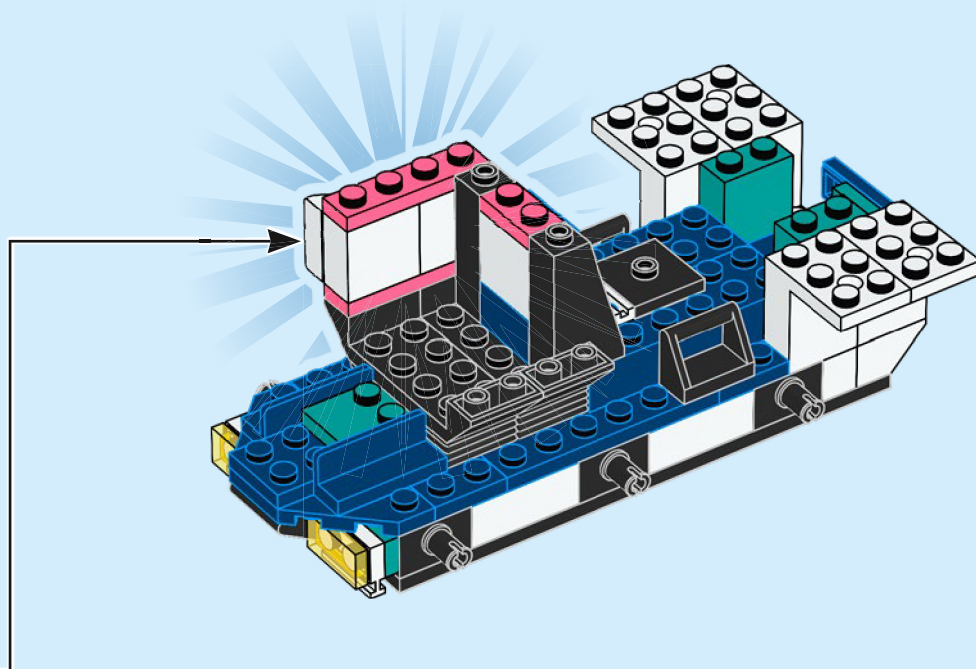
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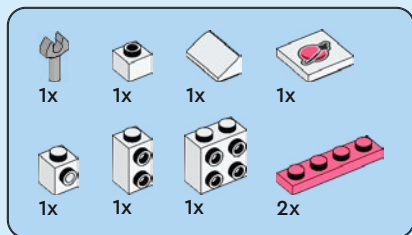




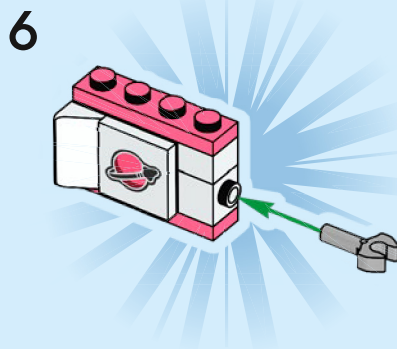
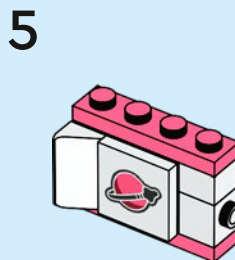
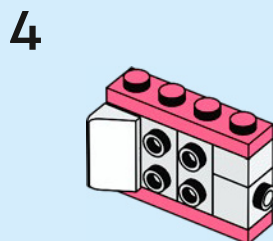
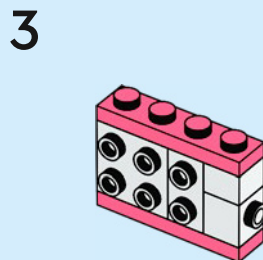
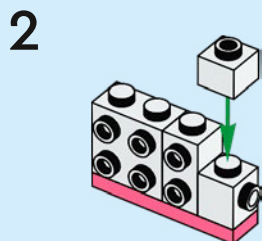
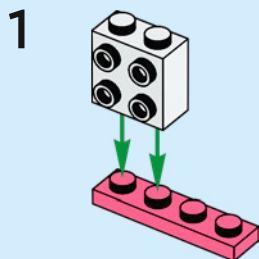
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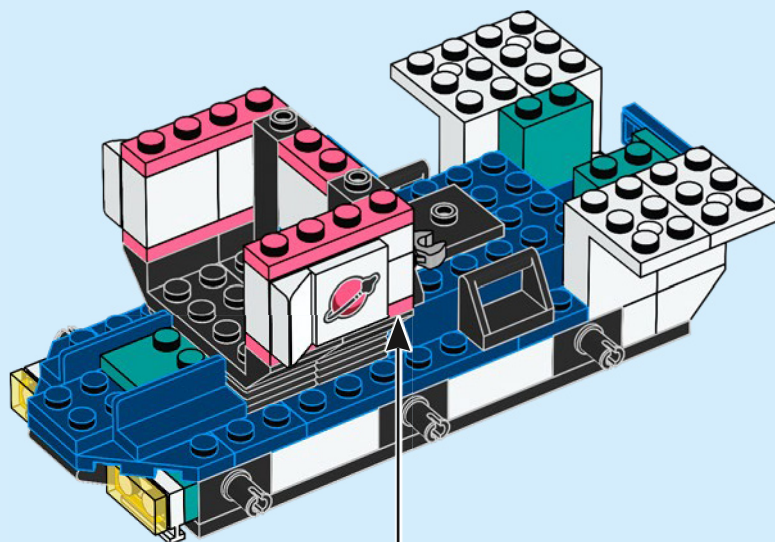






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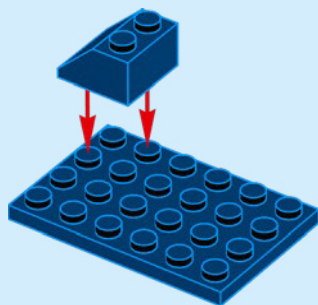




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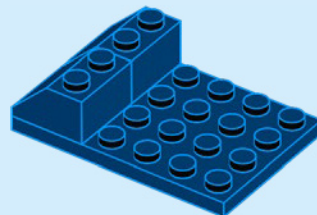
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25

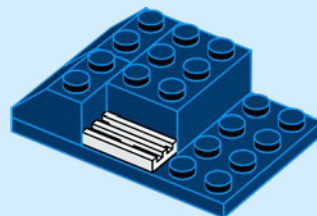


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1x

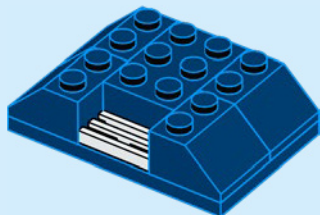
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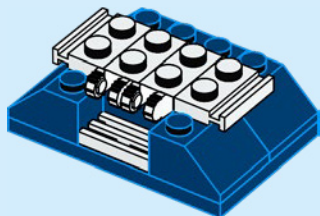


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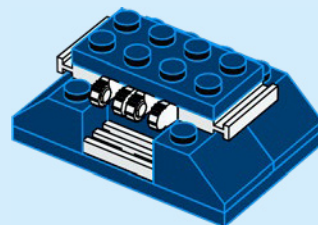
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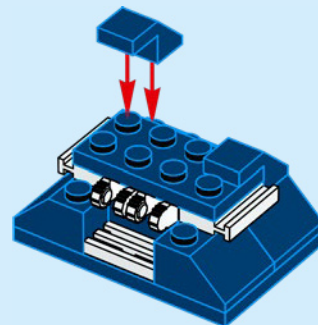
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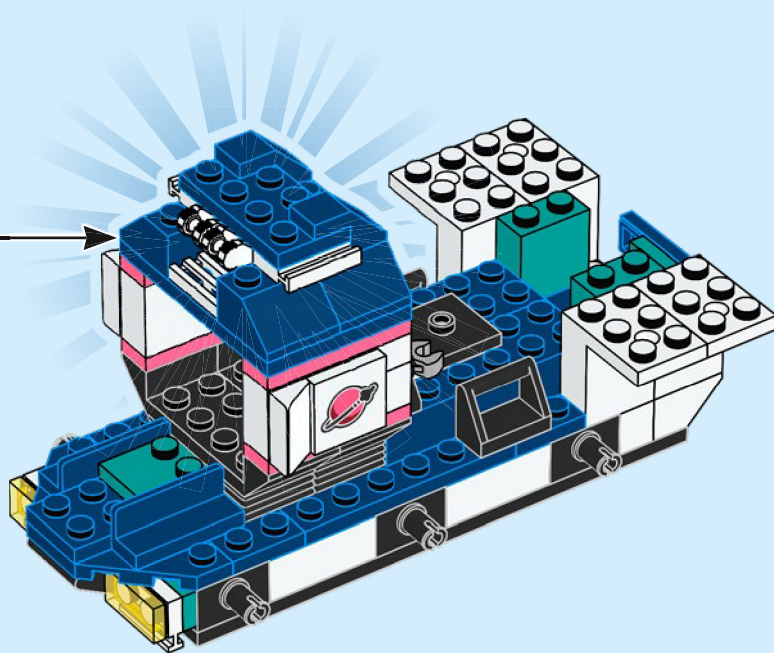
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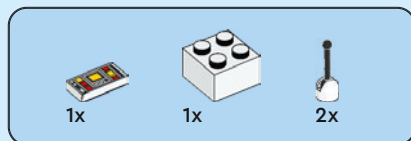


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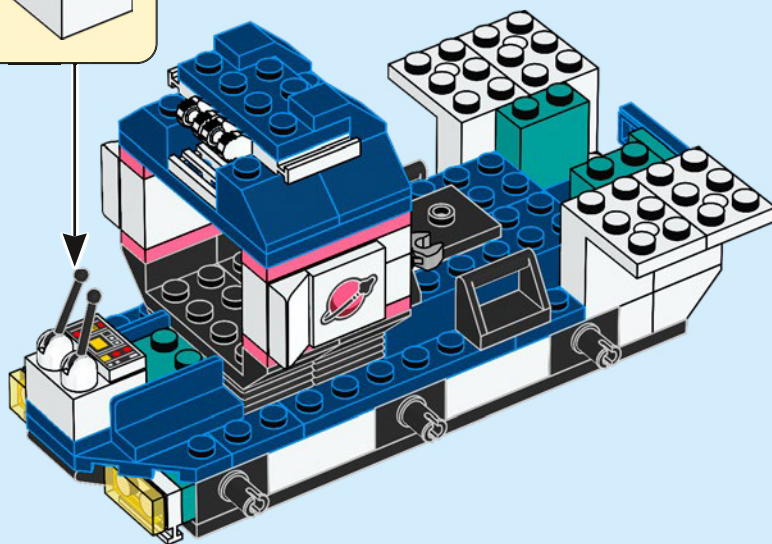
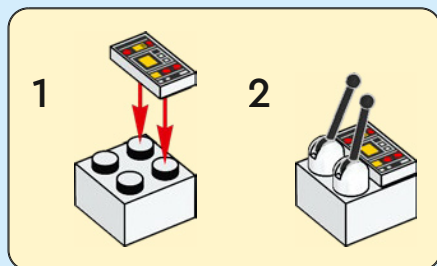
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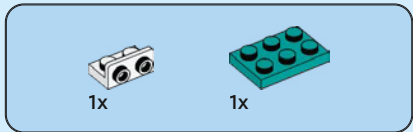
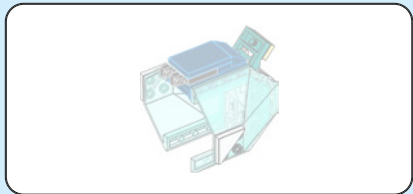




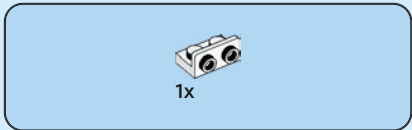
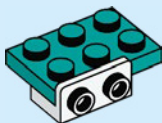


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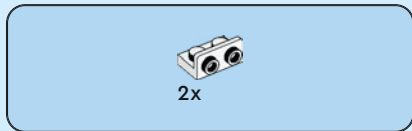
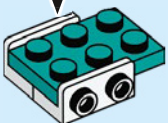




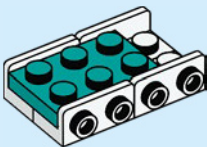
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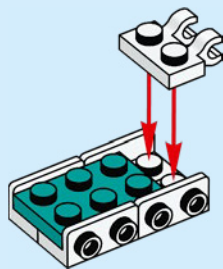
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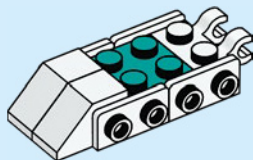
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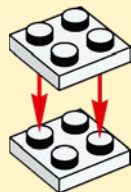
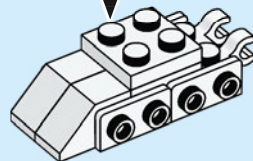
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2x

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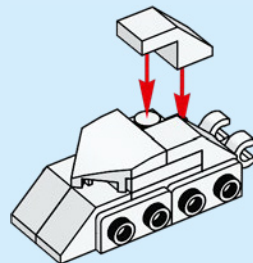


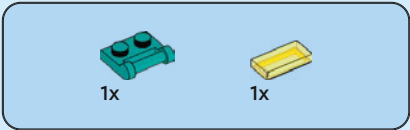
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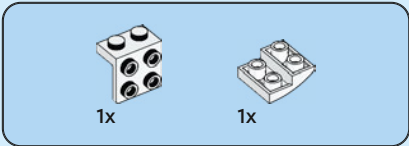
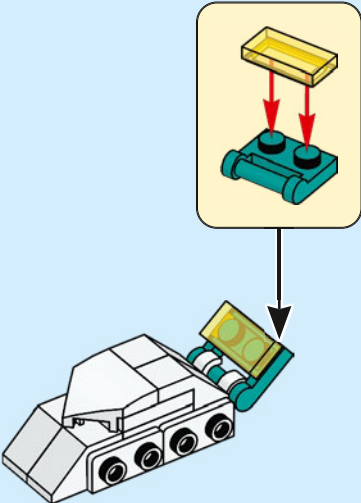
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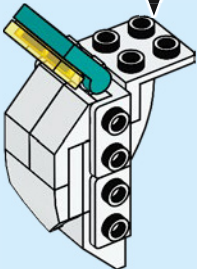
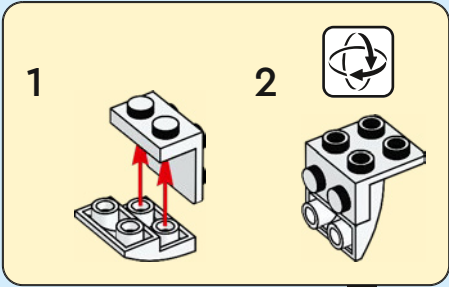


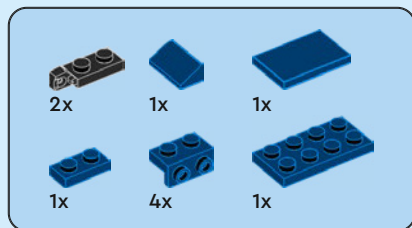


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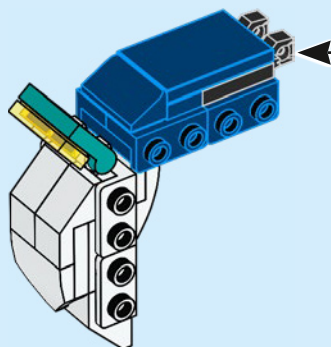
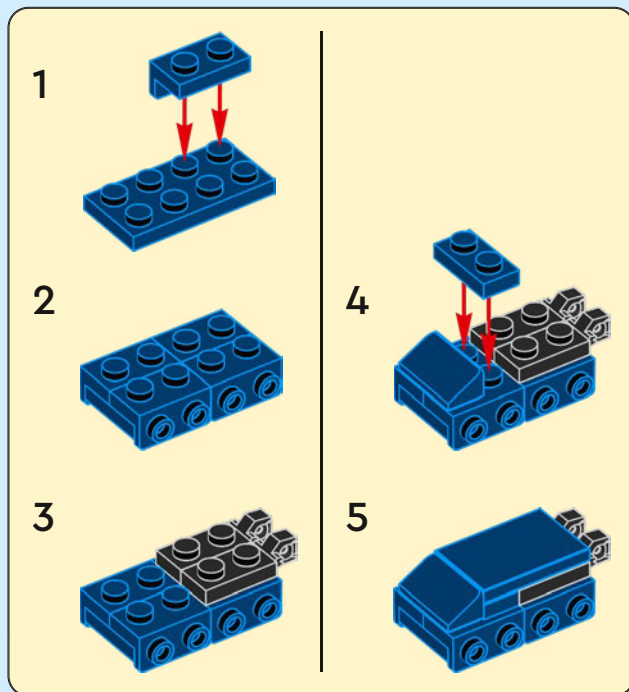


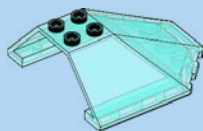
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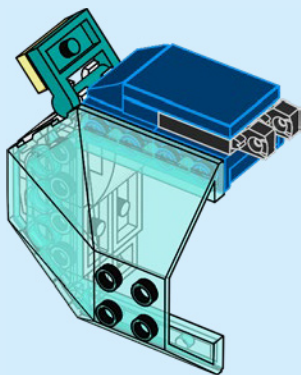
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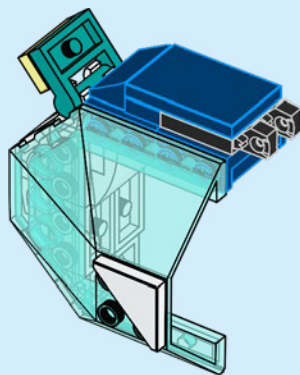
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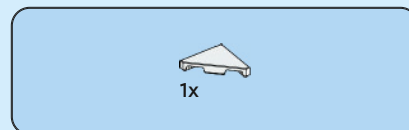
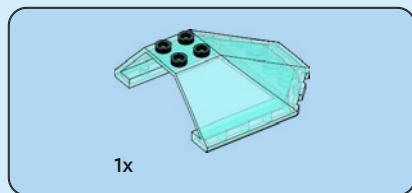
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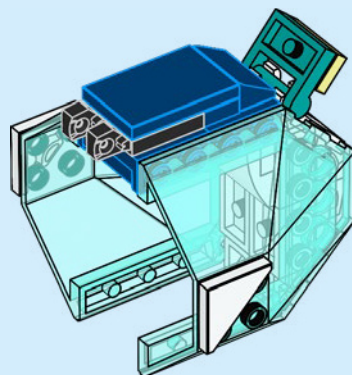
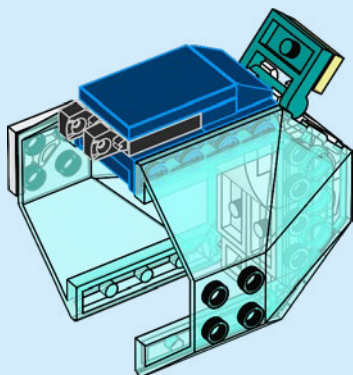
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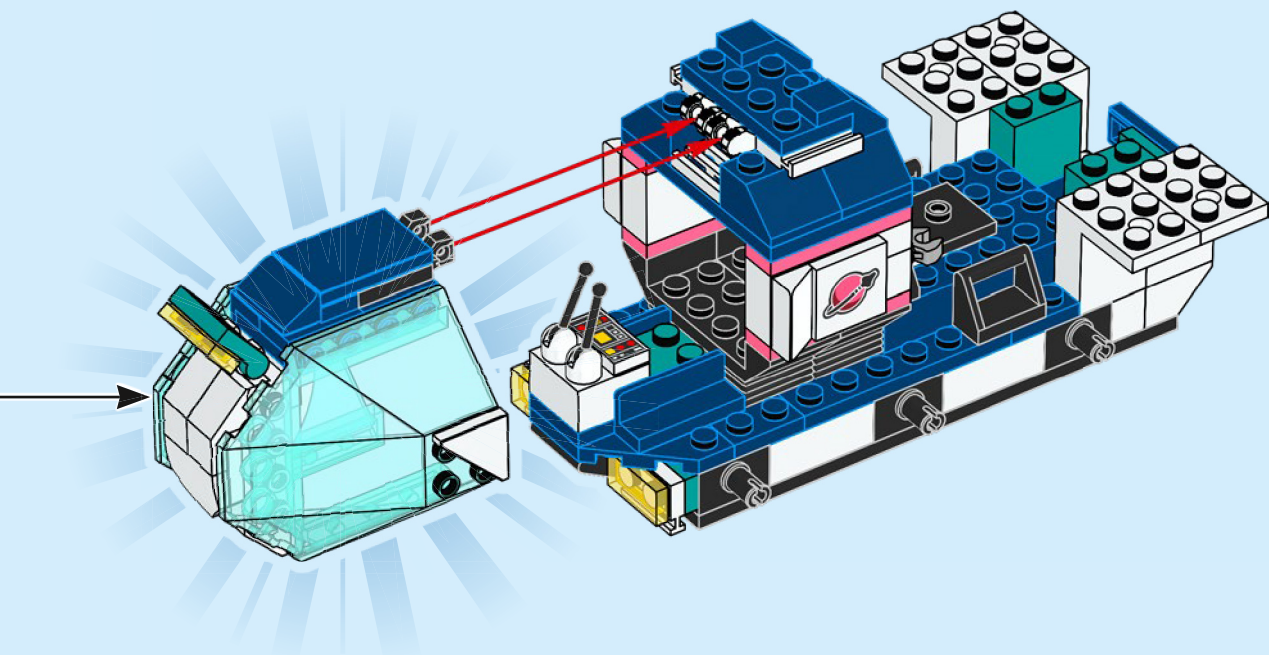




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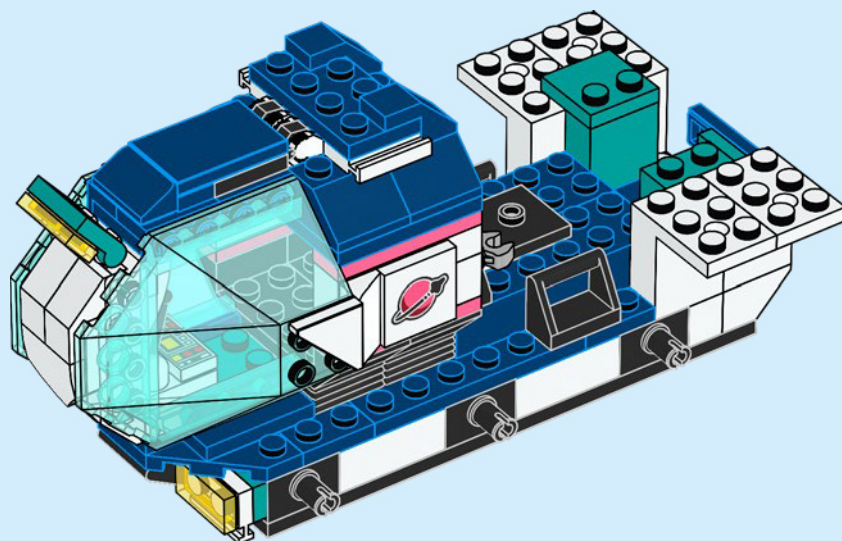


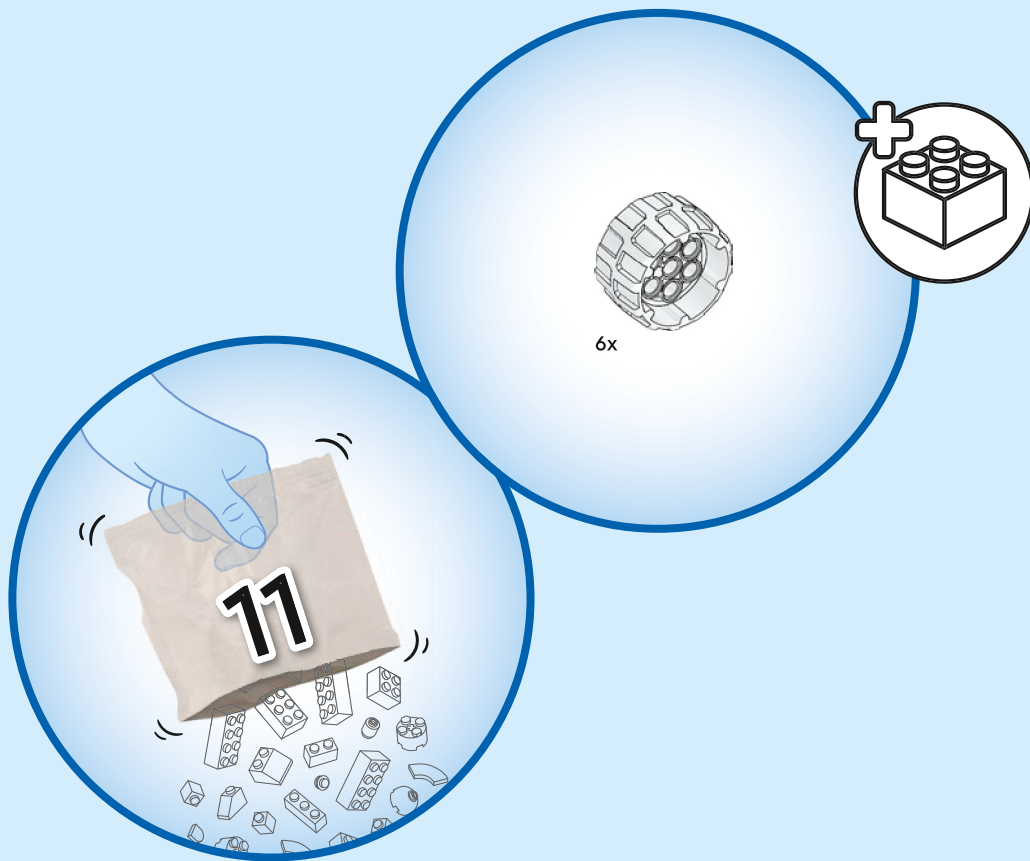


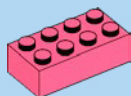


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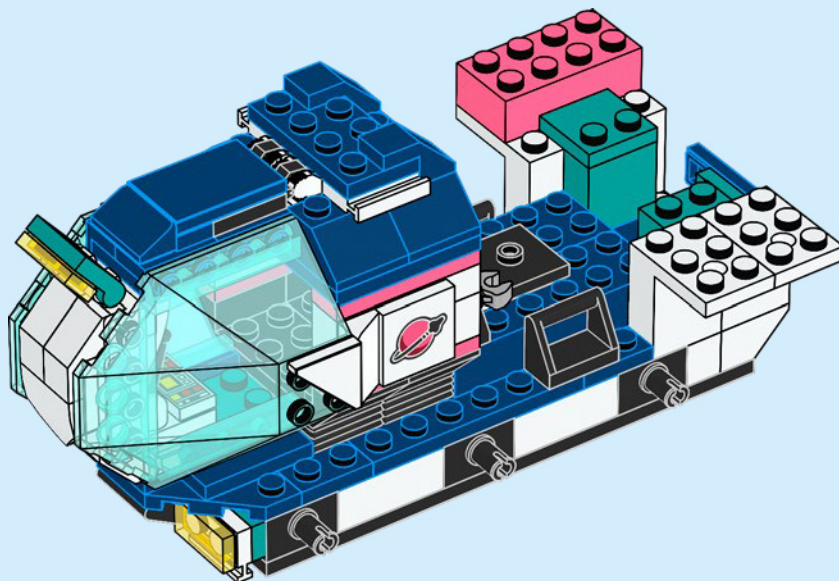


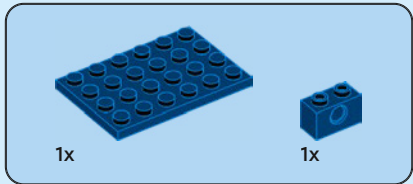
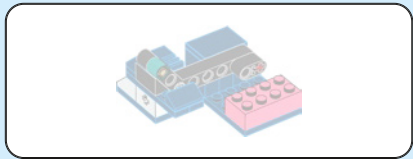




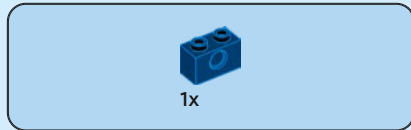
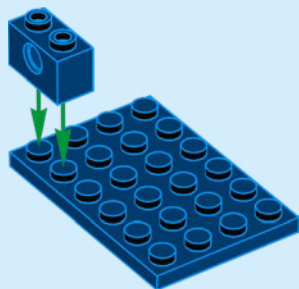
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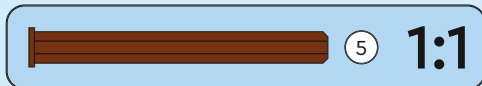


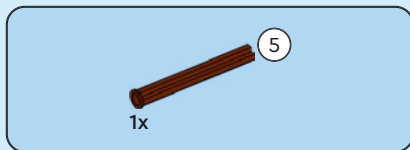


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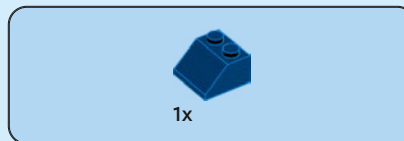
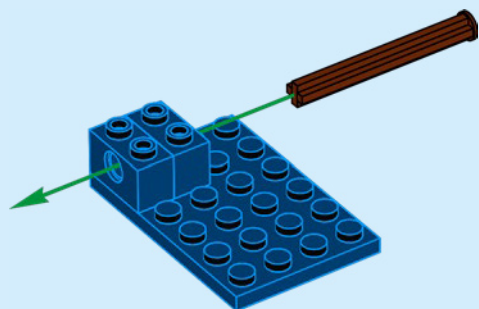


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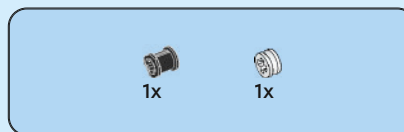
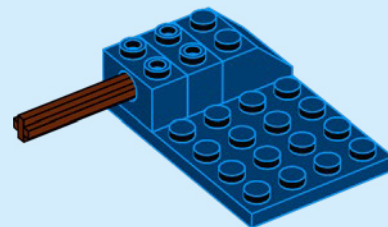




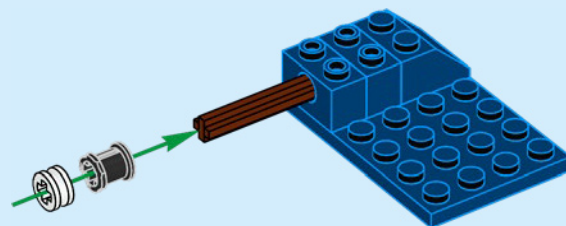
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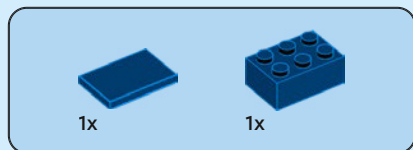


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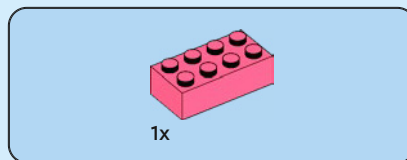
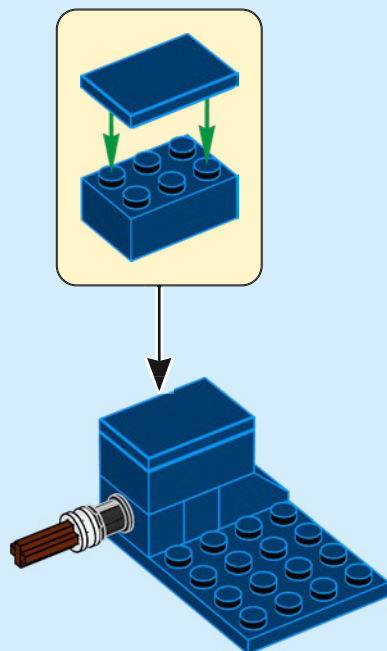


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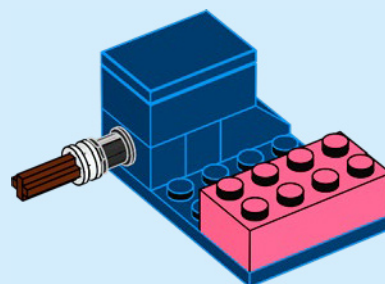


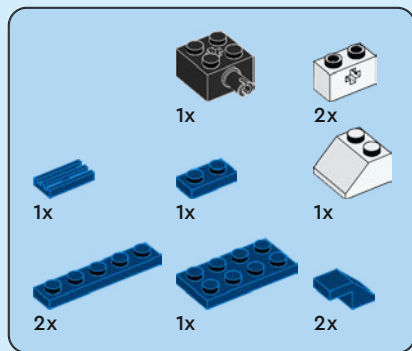


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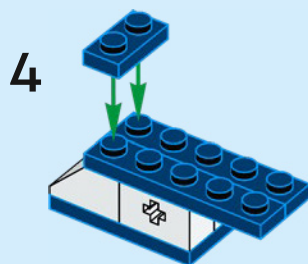
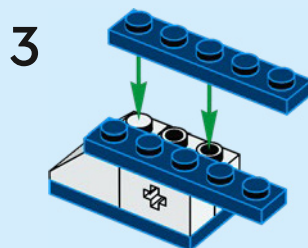
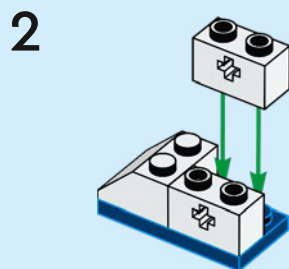
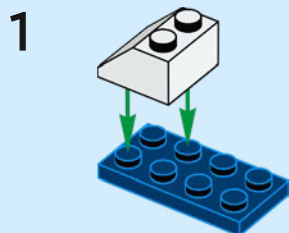


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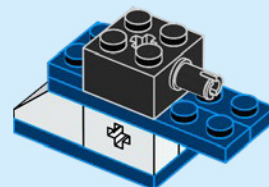




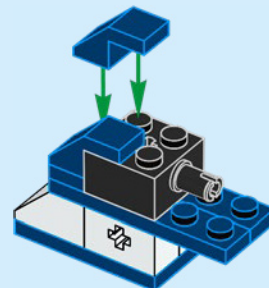
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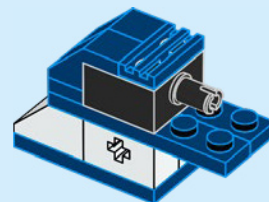
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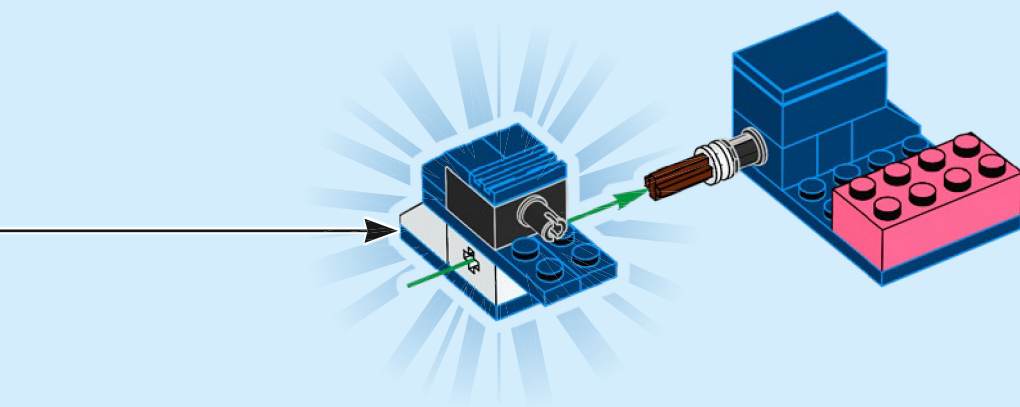


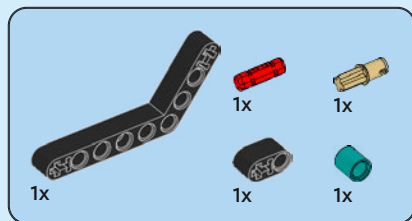
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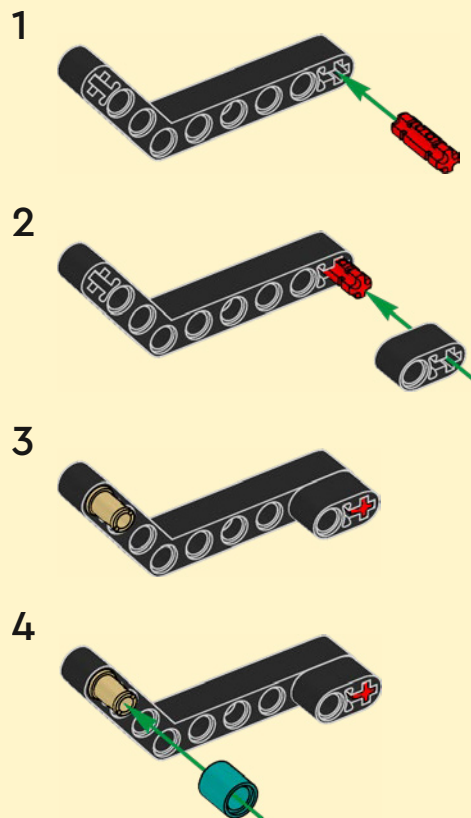
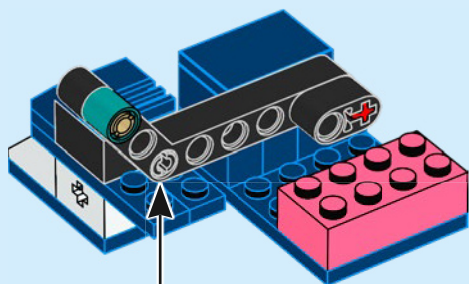
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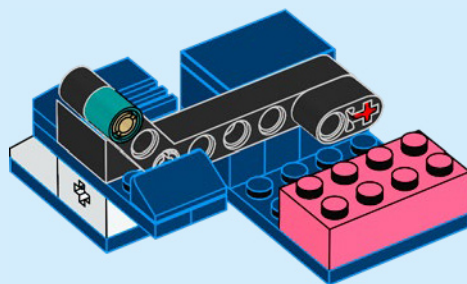
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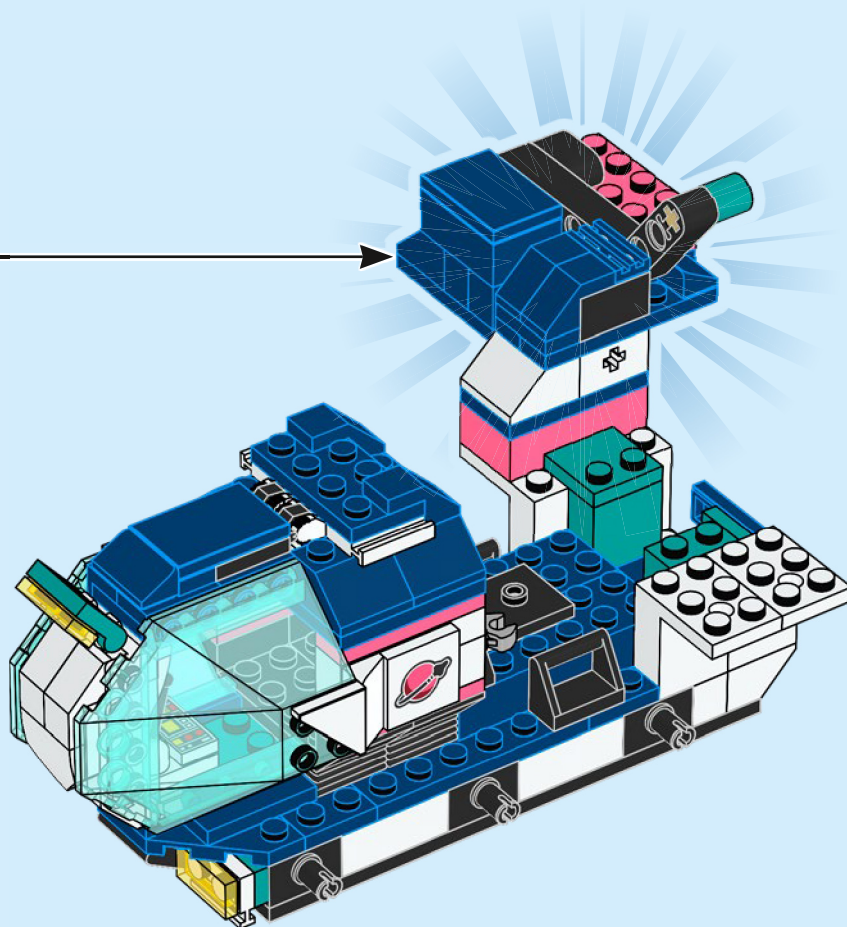


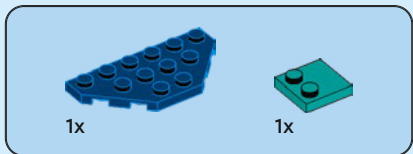
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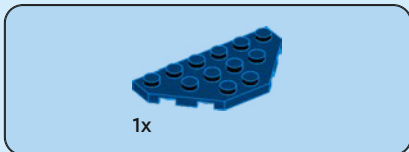
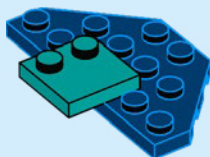


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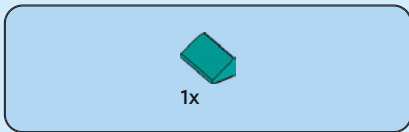
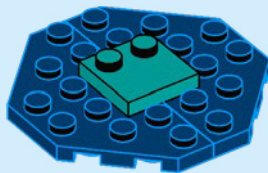




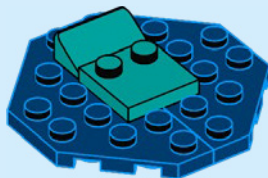
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62



63





2x

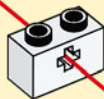


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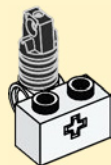


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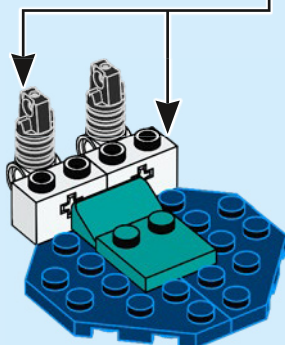
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2

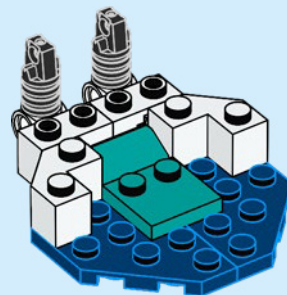


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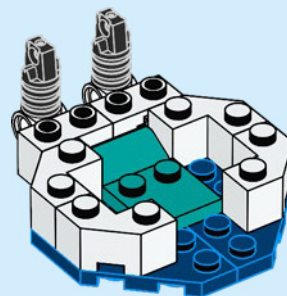
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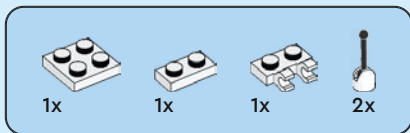
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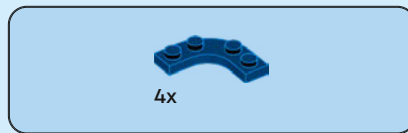
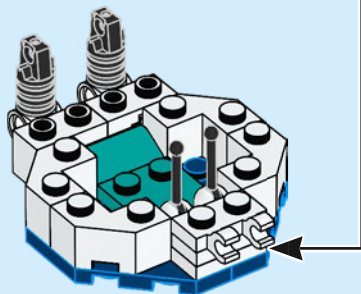
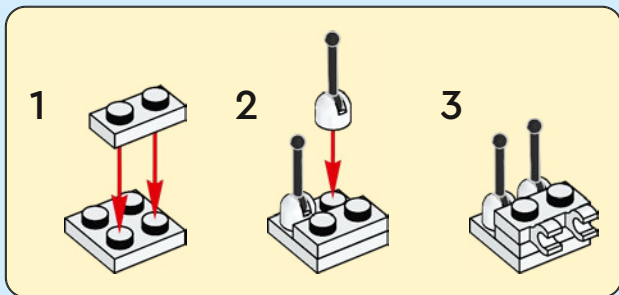
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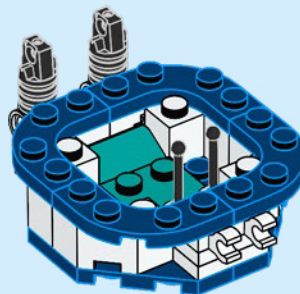




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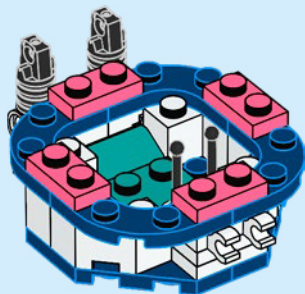


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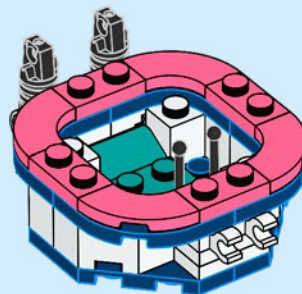


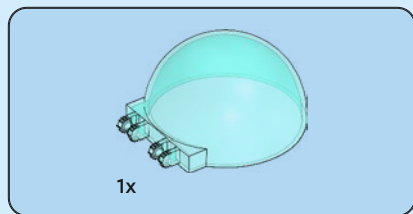


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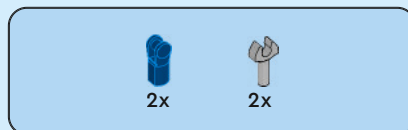
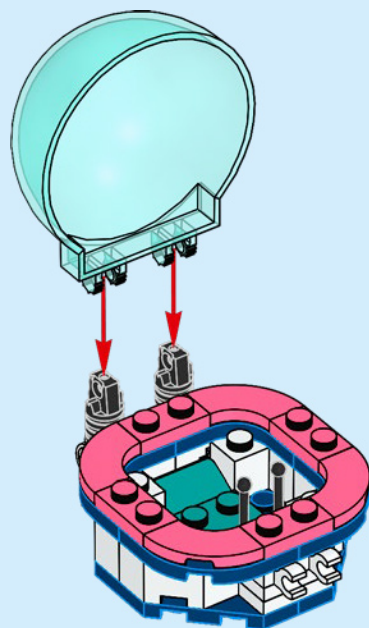


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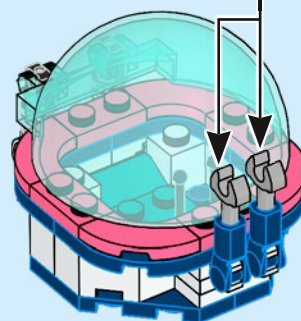
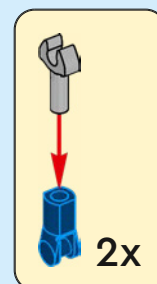




71



72



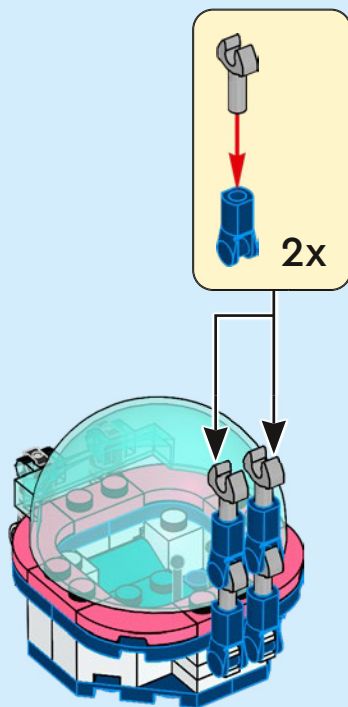


2x



2x

73



1x

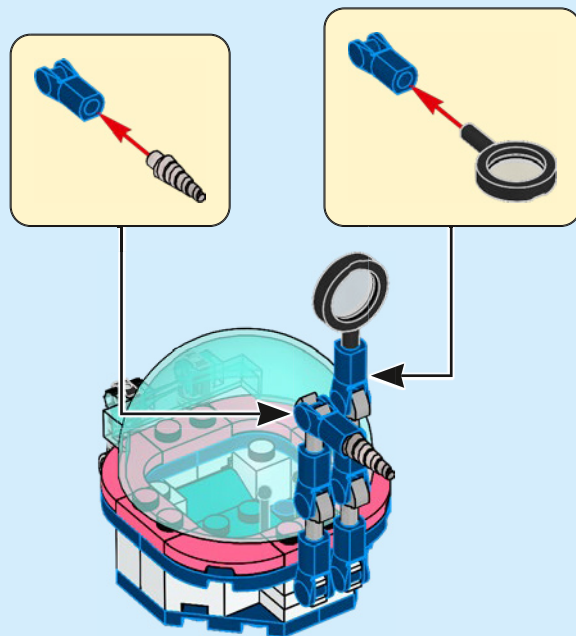


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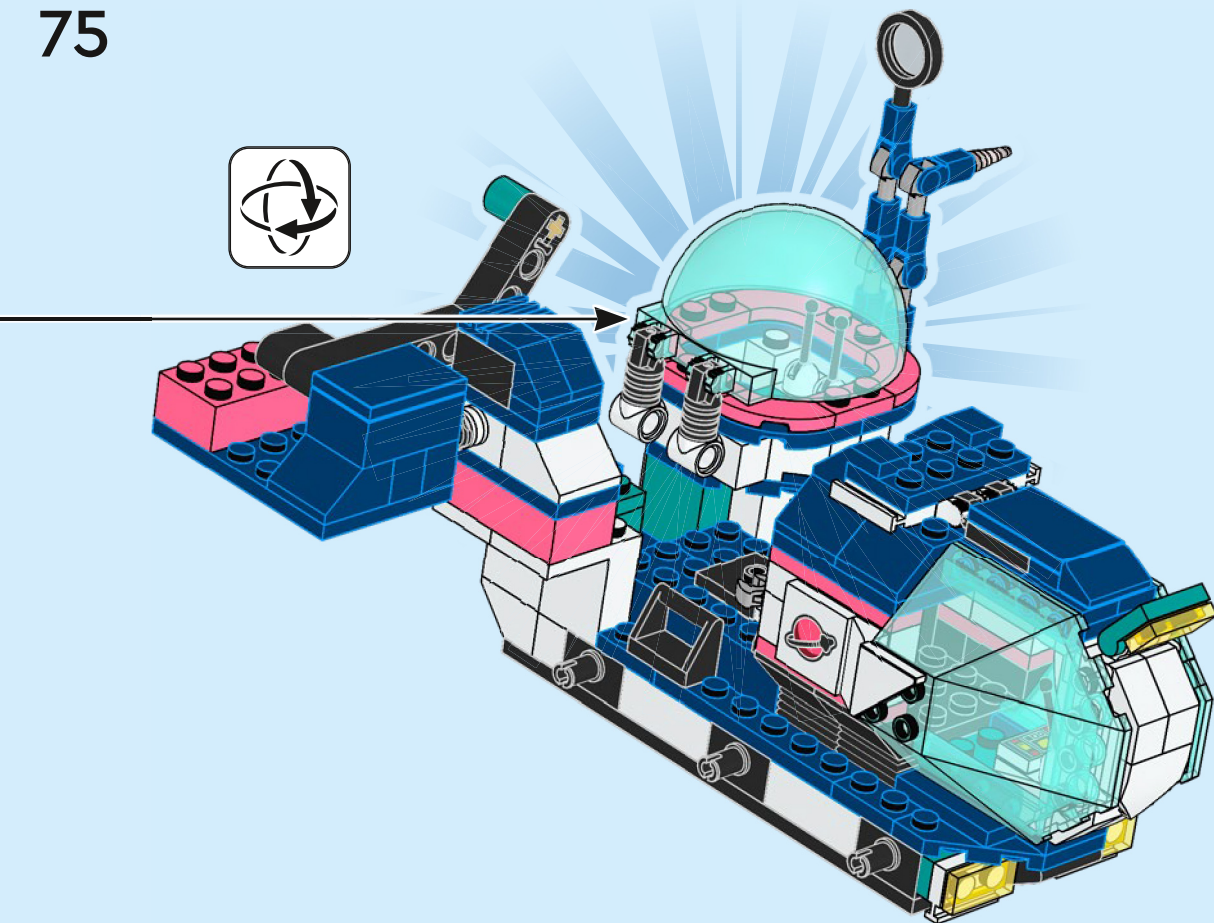


1x

74



75





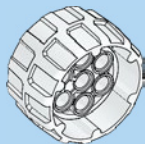
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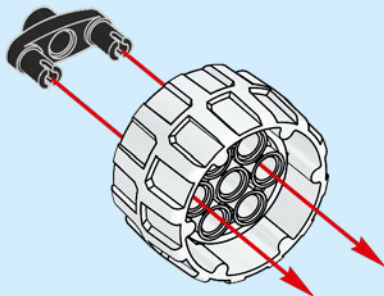


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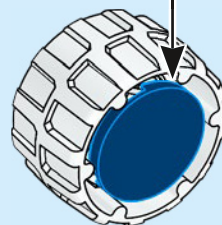
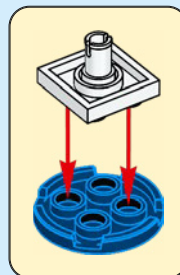


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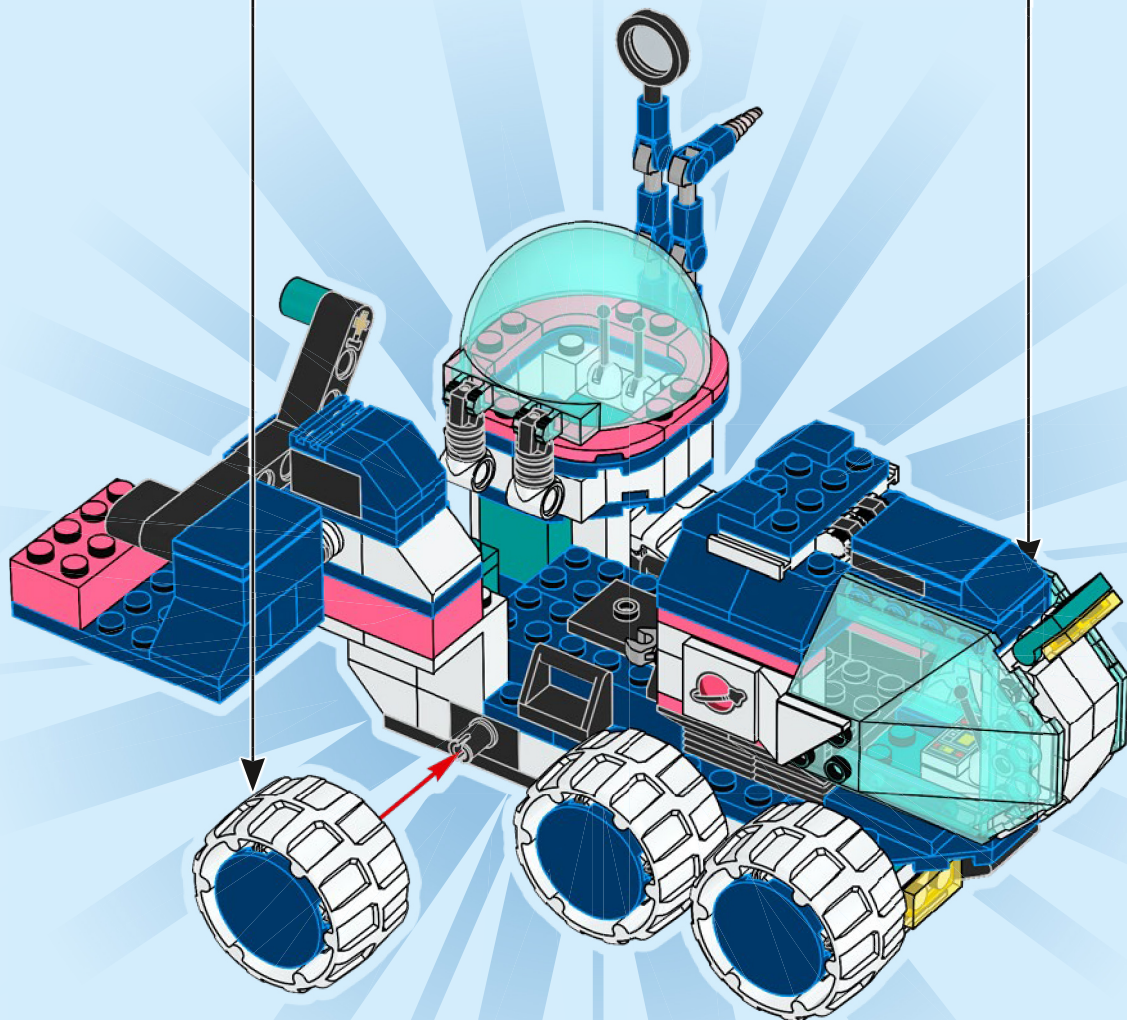
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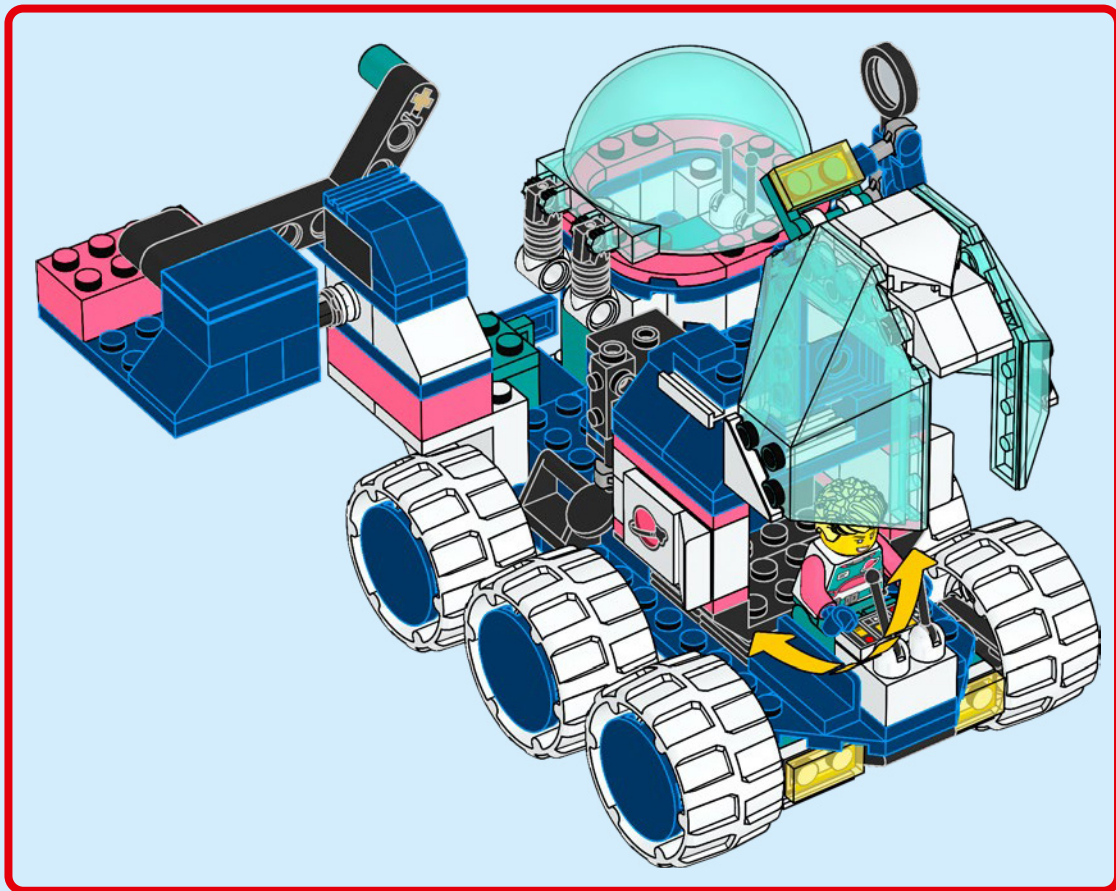


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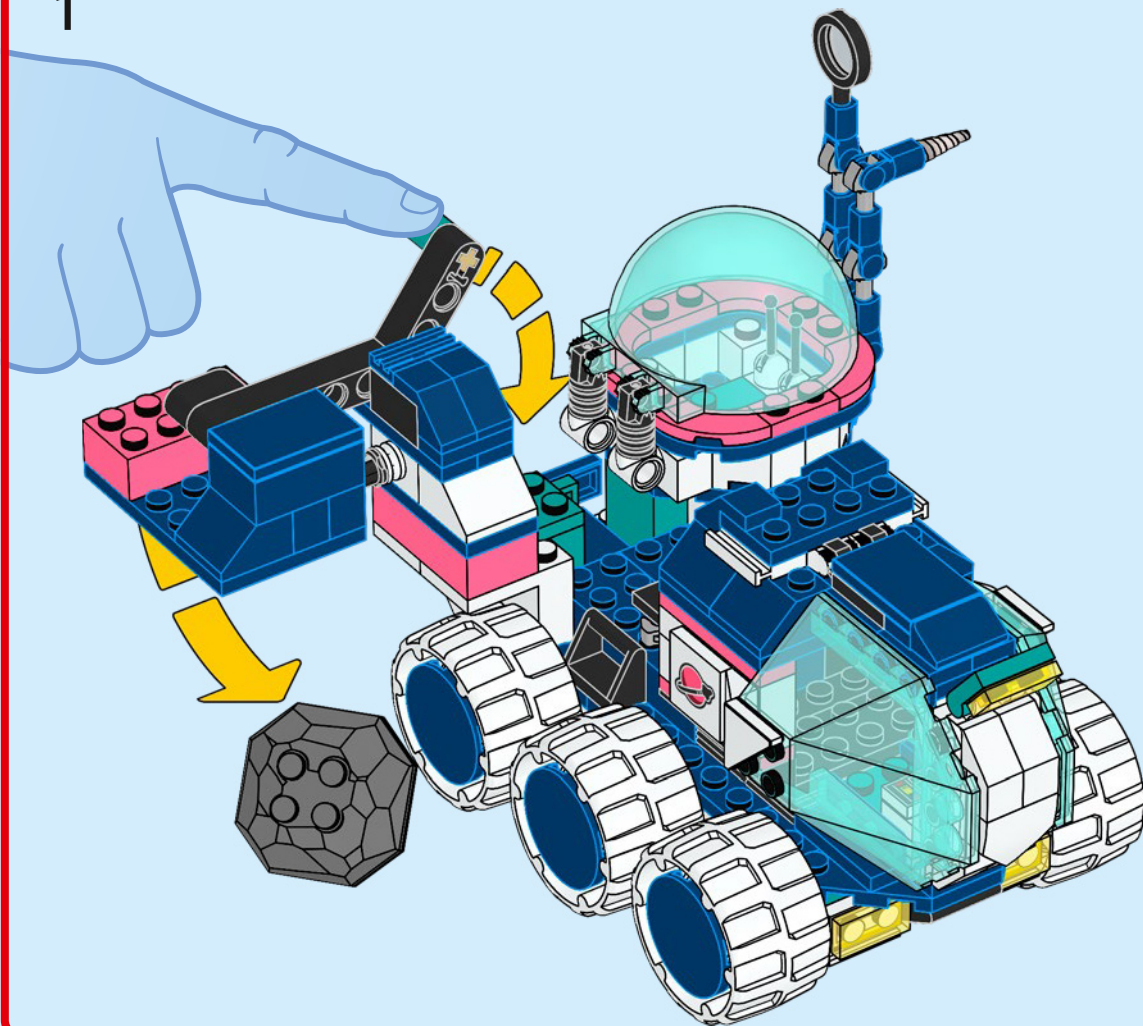


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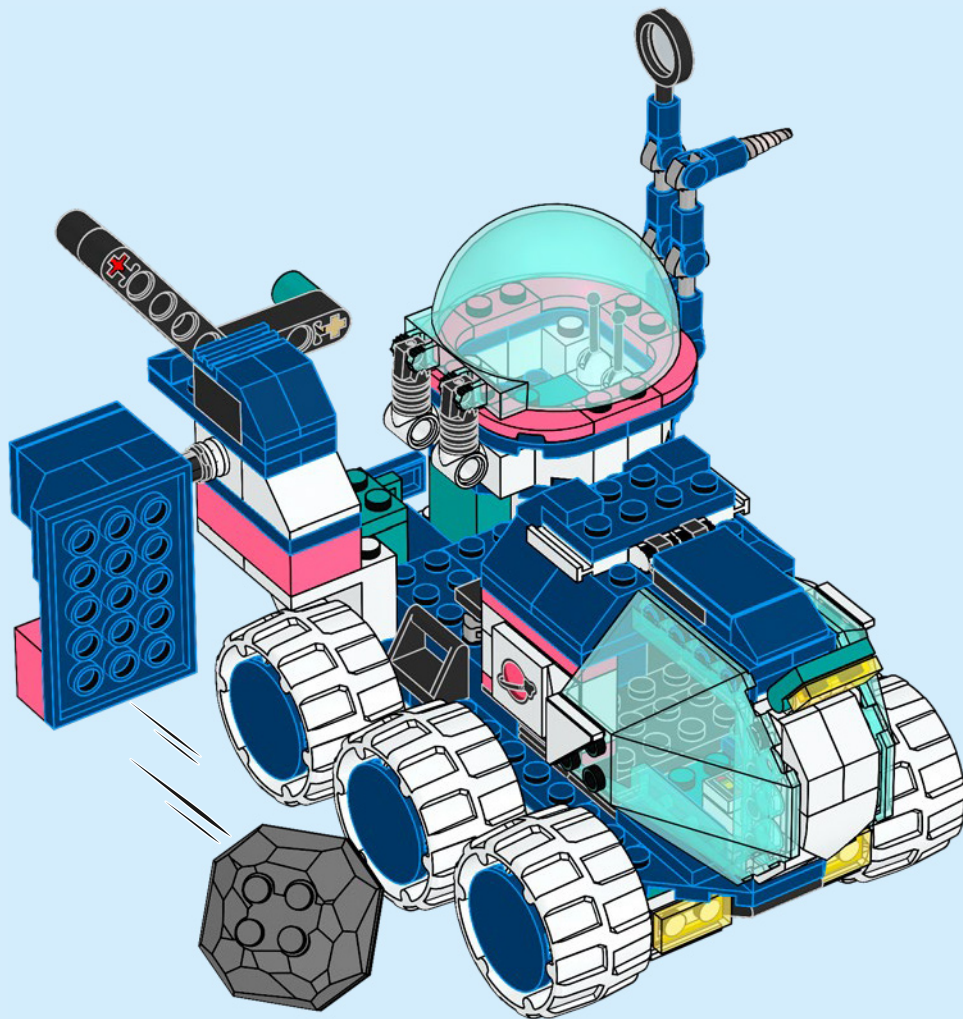


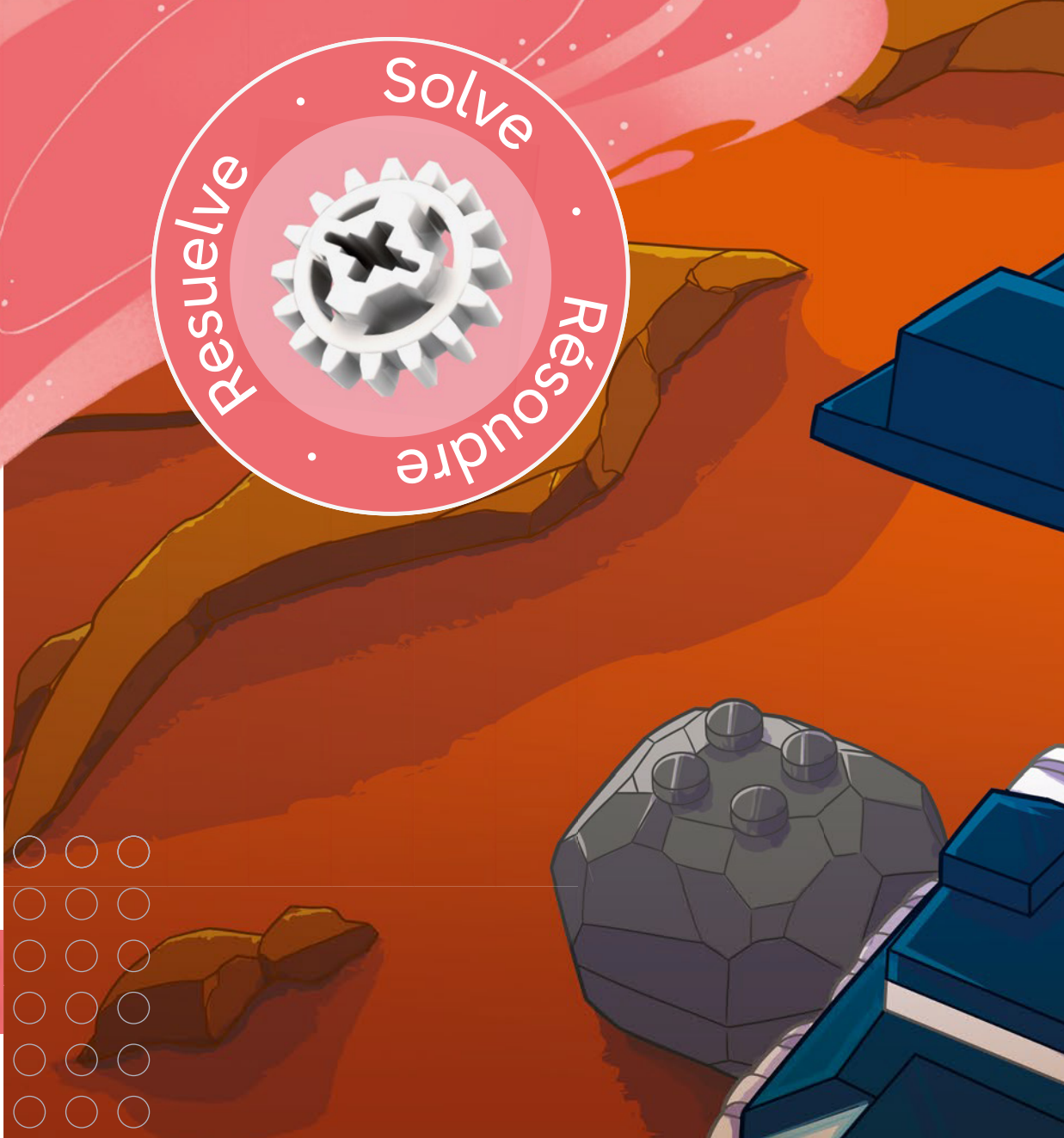
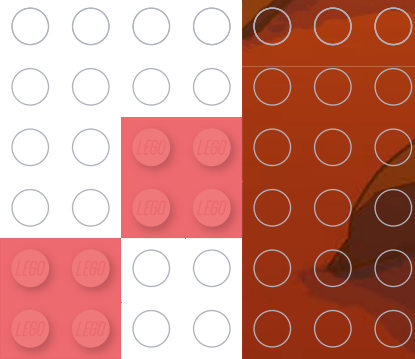


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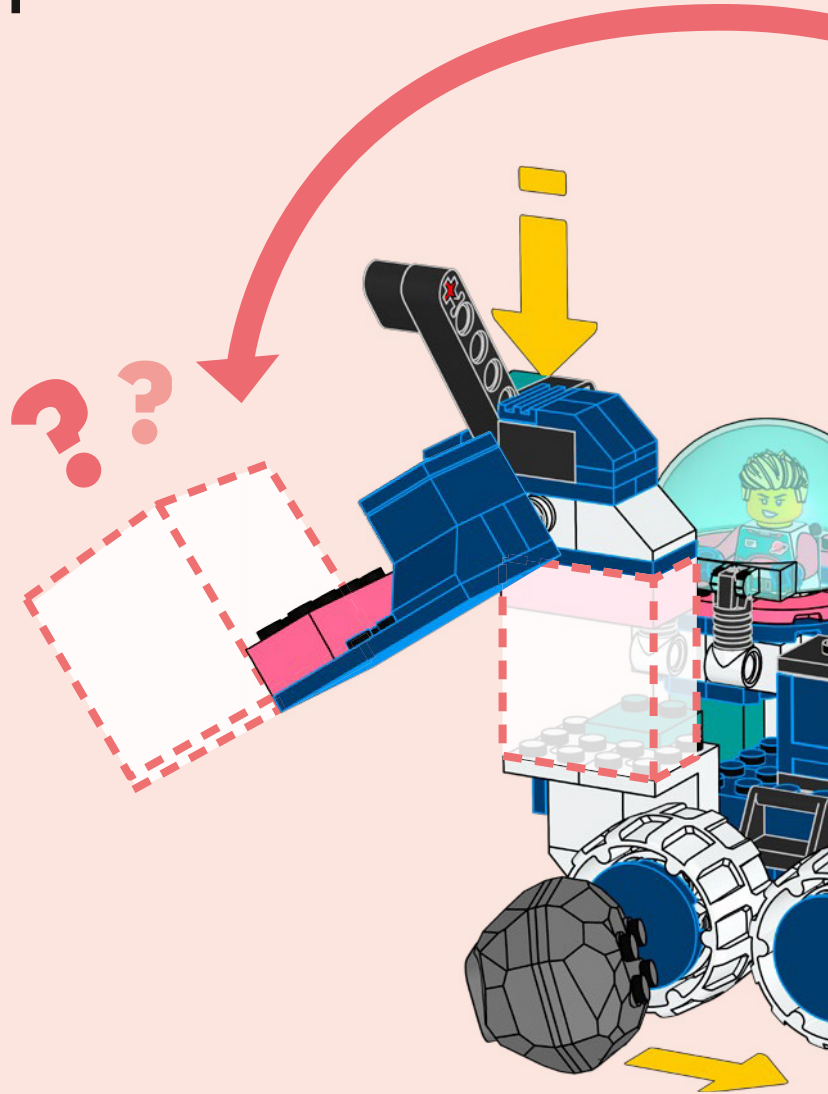


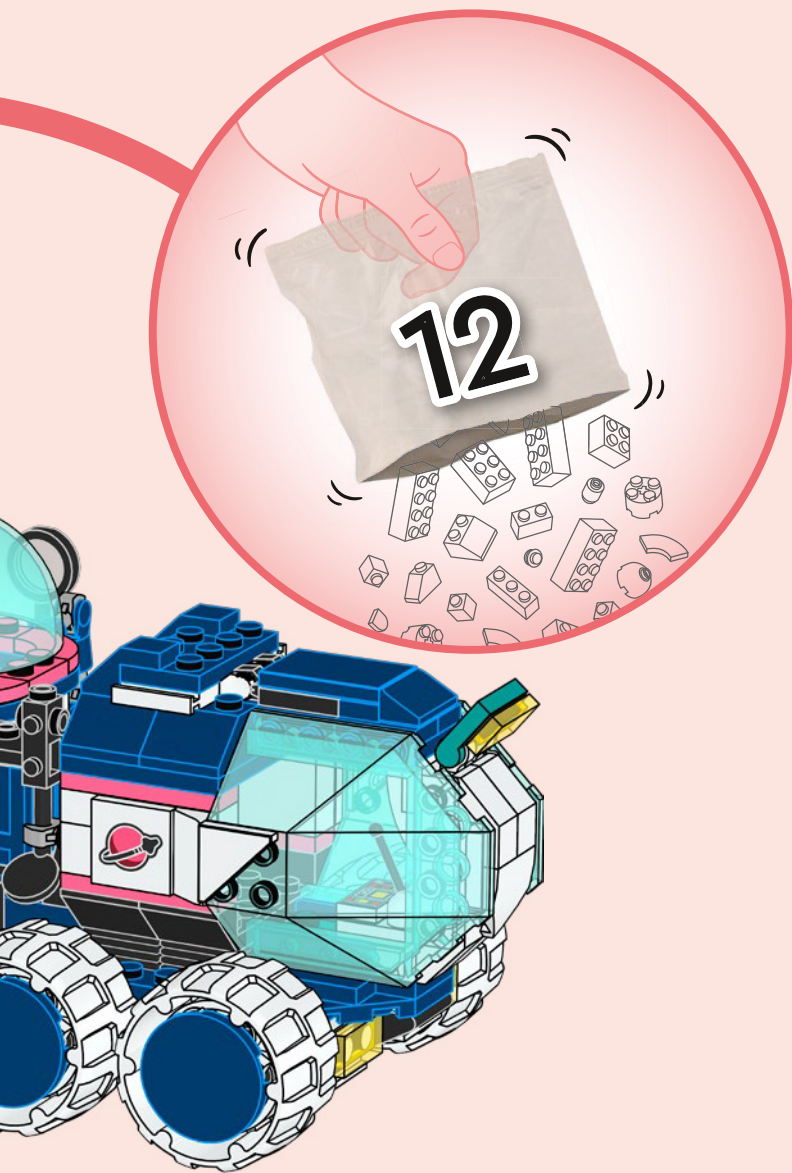




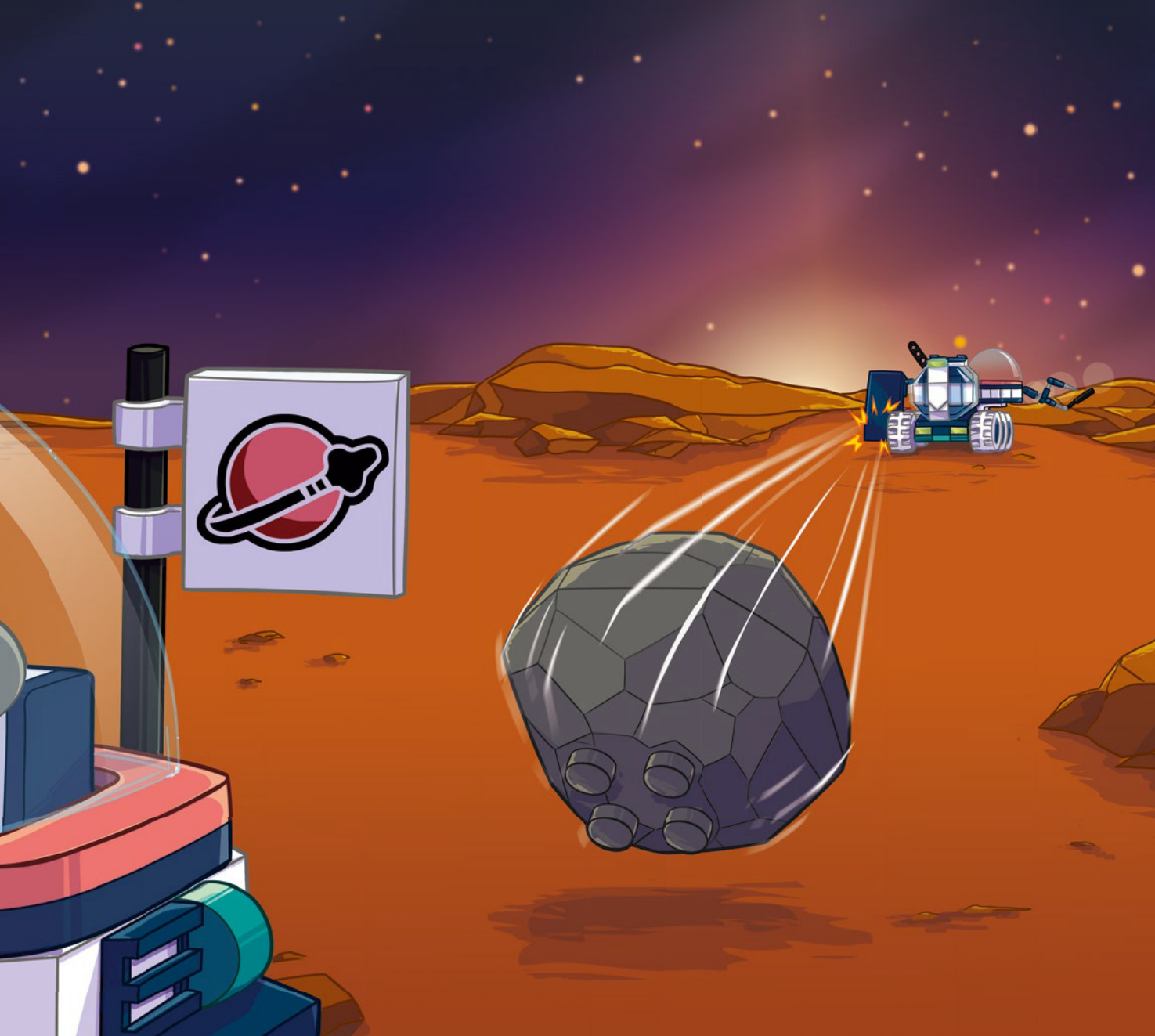


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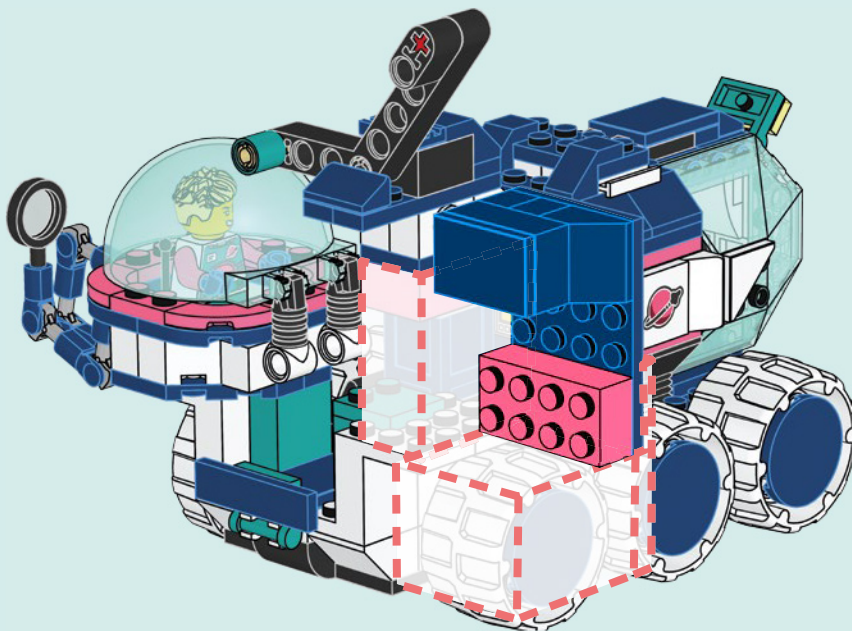


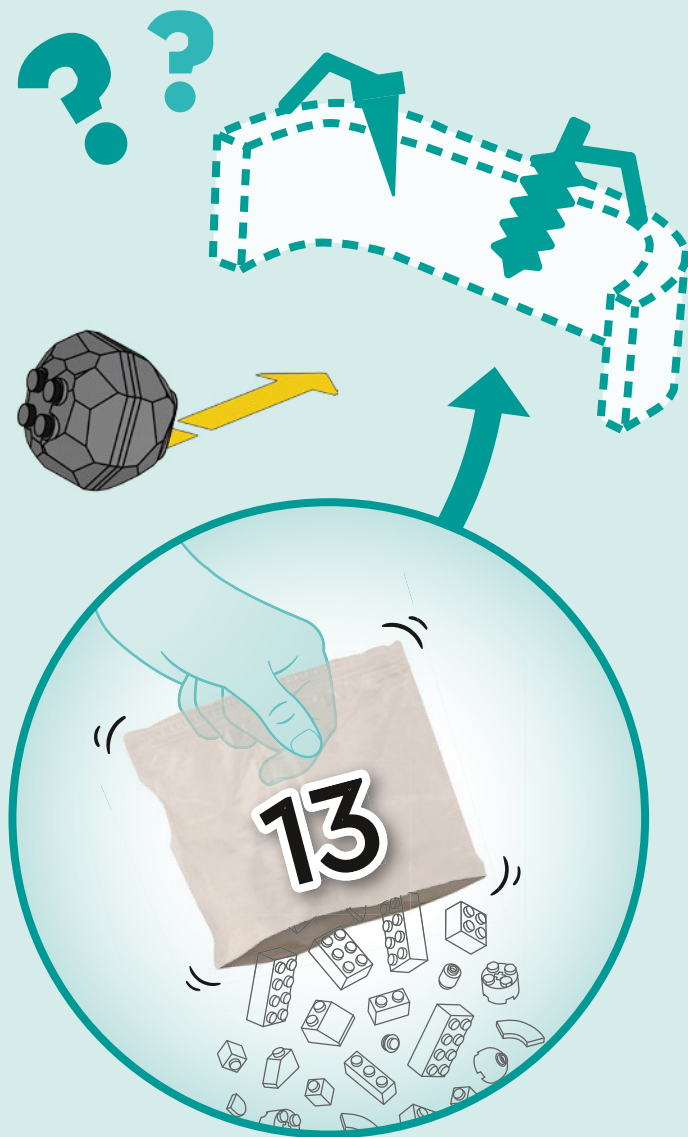






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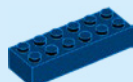
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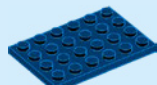
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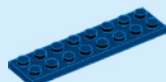
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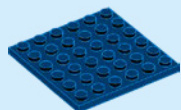
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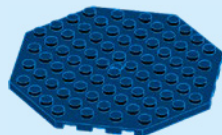
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1x
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1x
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2x
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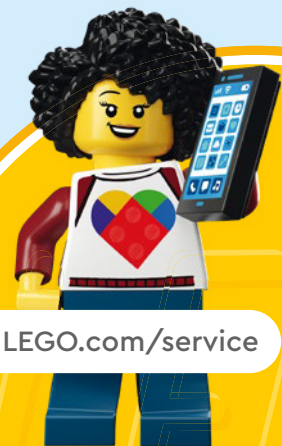


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