

 sphero®
The Sphero logo consists of a white circle containing two smaller white circles, resembling eyes or a stylized 'S'.

RVR+
blueprint™

challenge cards

RVR+ BLUEPRINT PLATE

special delivery



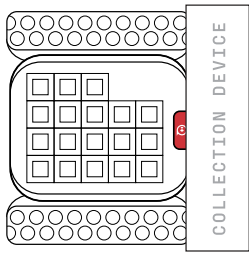
Many robots need to **collect materials** and deliver them to different locations. RVR+ can push, but it's not very good at containing objects... but Blueprint is here to help!

YOUR CHALLENGE :

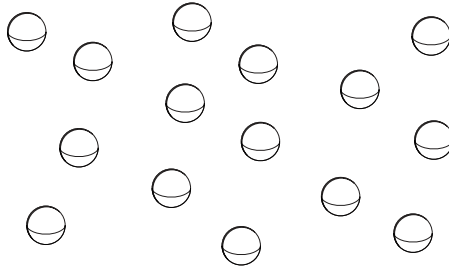
Build a collection device using Blueprint and the RVR+ Blueprint Plate. This device must:

- attach to the front of RVR+
- collect small objects (ping pong balls, 1x Pitch Trusses, etc.) as RVR+ moves from one place to another

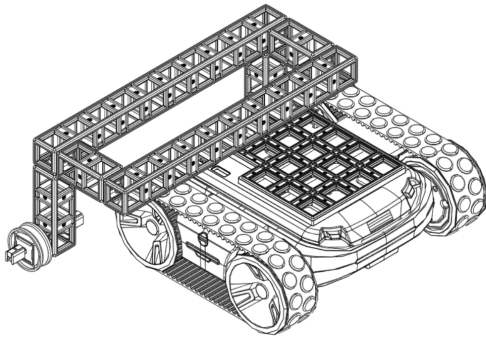
Whoever collects the most objects wins!



STARTING LINE



FINISH LINE




COLLECTION DEVICE EXAMPLE



extend

Want more of a challenge? Take your RVR+ outside, to a carpet, or on a ramp. Try your design on a different terrain and see if it still works! If not, redesign and try again.

haul aboard!

 Trailers are used to pull all kinds of things: food, boats, and packages to your doorstep! RVR+ is strong enough to haul objects but needs your design skills and Blueprint for a trailer.

YOUR CHALLENGE :

Build a trailer attached to the RVR+ Blueprint Plate. Your trailer must:

- tow an object of your choice (textbook, school supplies, another RVR+, etc.)
- roll behind RVR+ without tipping or your object falling out
- pivot while RVR+ is turning left or right

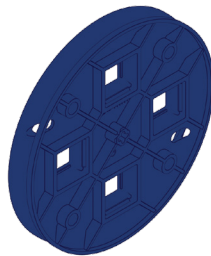
Once you have completed your design, transport your object from one end of your classroom to the other!



SHAFT



TRUSSES



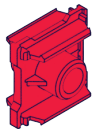
PULLEY



TIRE



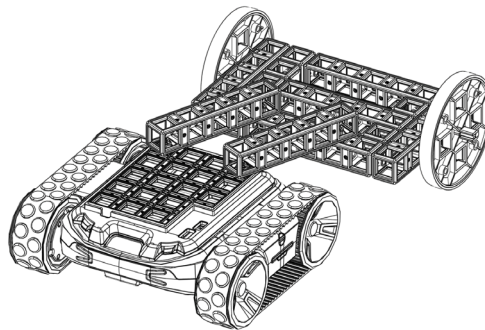
BEARING
PLATE



CONNECTOR




TURNTABLE



TRAILER EXAMPLE

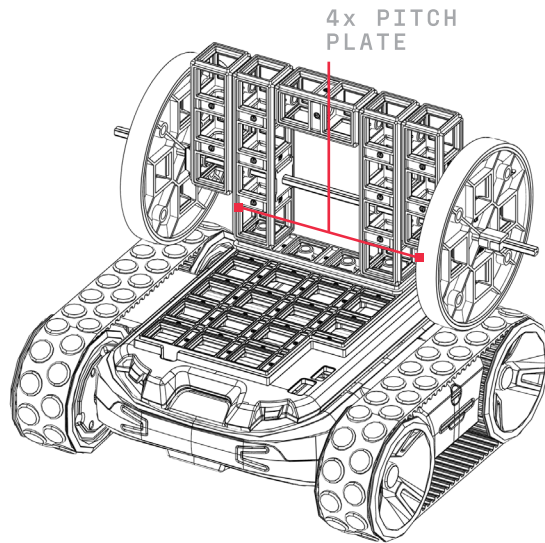
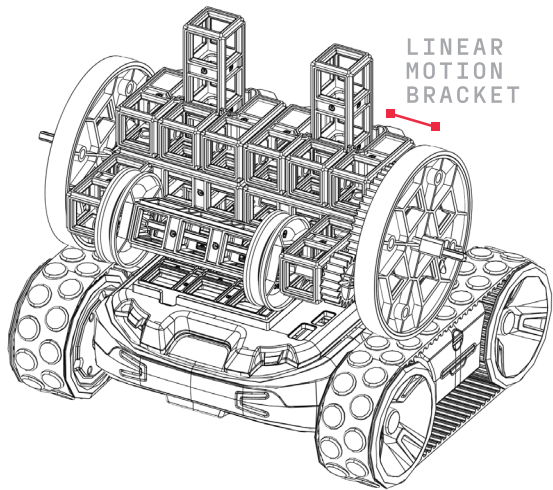
winch for the win

 **Winches** are used to move heavy objects by winding a rope or cables. RVR+ has the power and Blueprint parts can form a winch. Can you combine the two to make a **powered winch**?

YOUR CHALLENGE :

Construct a RVR+ powered winch. The winch must:

- drive a Blueprint wheel with RVR+'s tank treads
- guide the rope onto a Blueprint shaft or truss
- lift at least 300 grams (four 3x Pitch Weighted Trusses)



SOME IDEAS TO GET YOU STARTED