

NEW VIDEO UNLOCKED

BUILD ALONG & LEARN WITH MARK ROBER

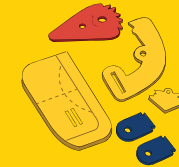


[CRUNCHLABS.COM/COIN](https://crunchlabs.com/coin)

PARTS



spinner bases



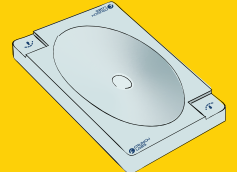
wood pieces



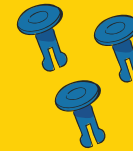
coin holders



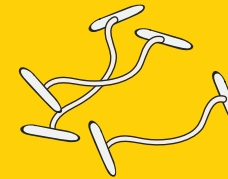
adhesive foam



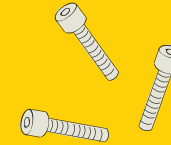
coin arena



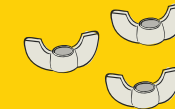
rivets



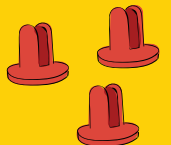
elastic cords



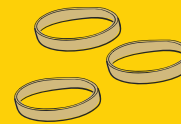
bolts



wing nuts



coin stands



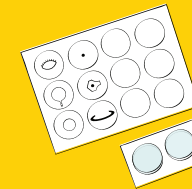
large
rubber bands



small
rubber bands



o-rings



stickers

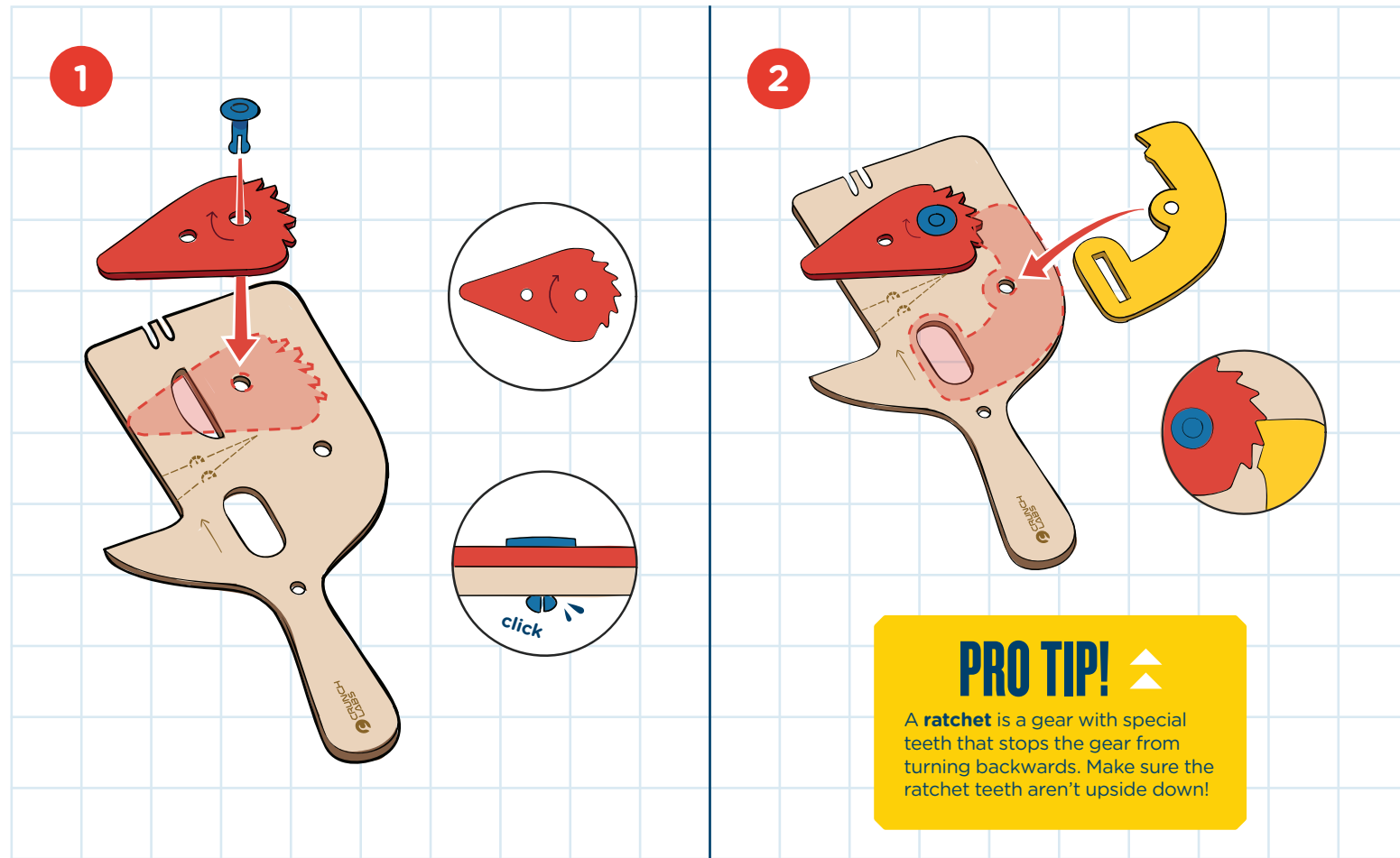


pen

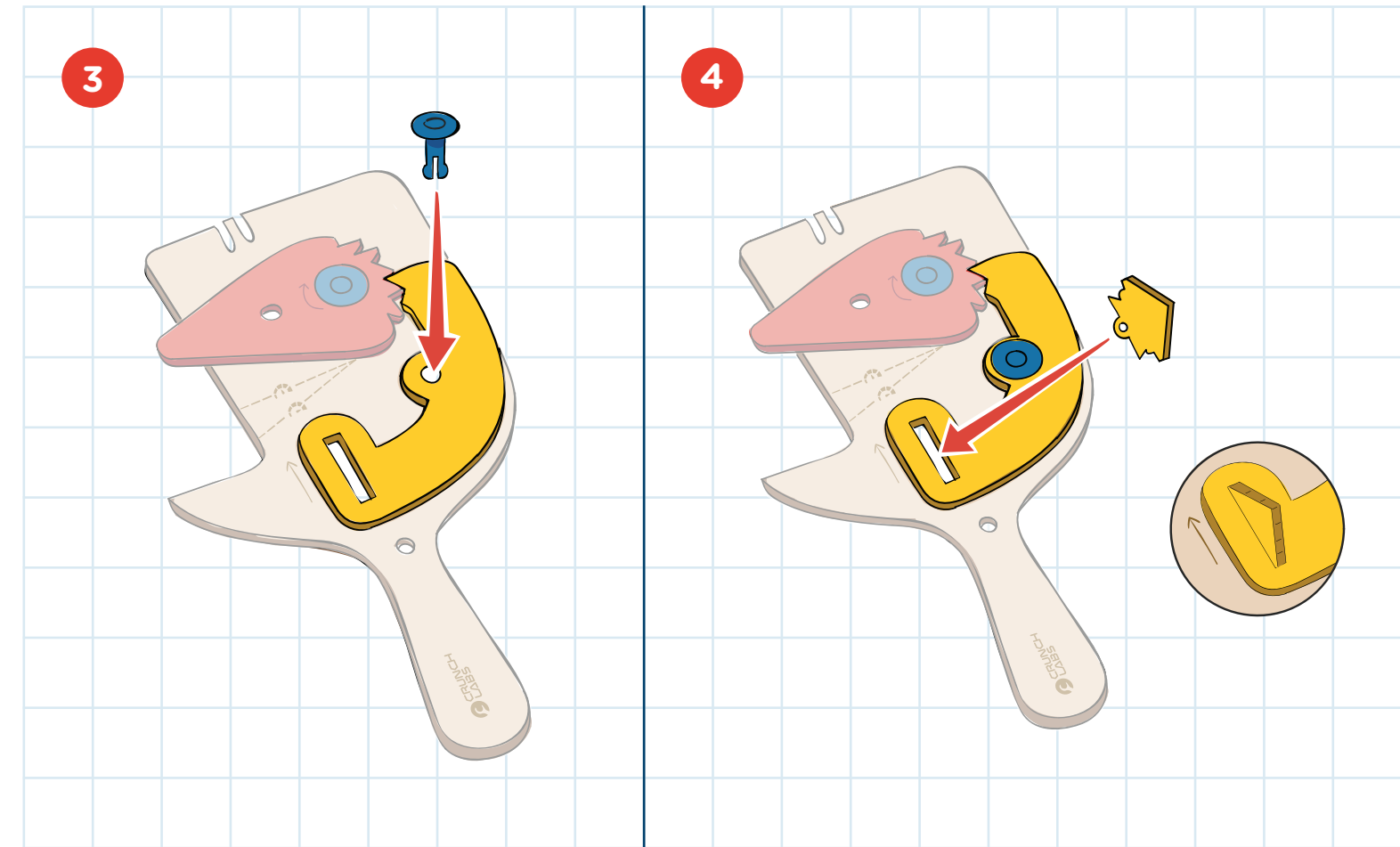


coins

BUILD

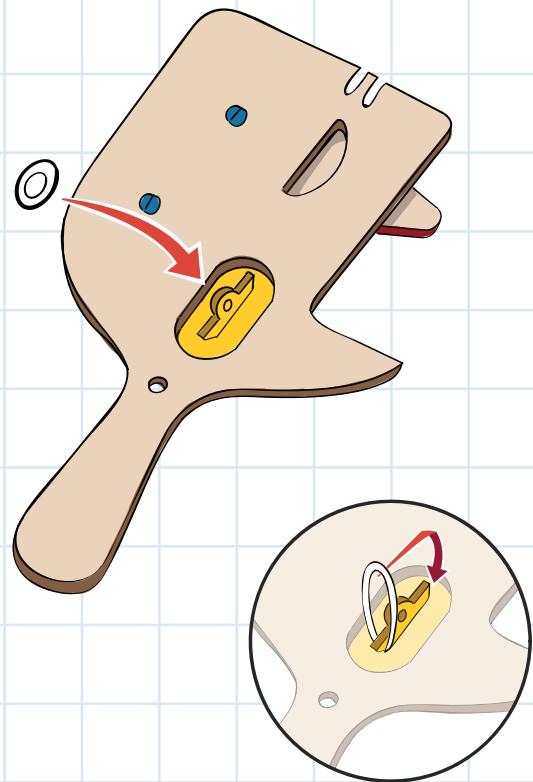


BUILD

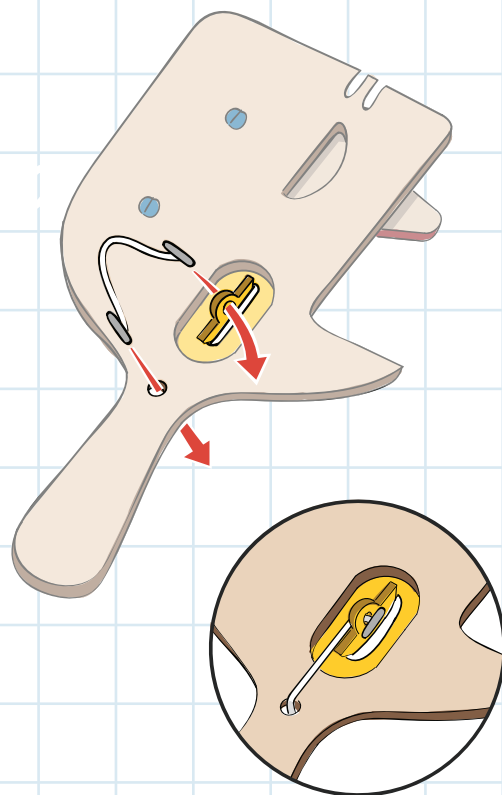


BUILD

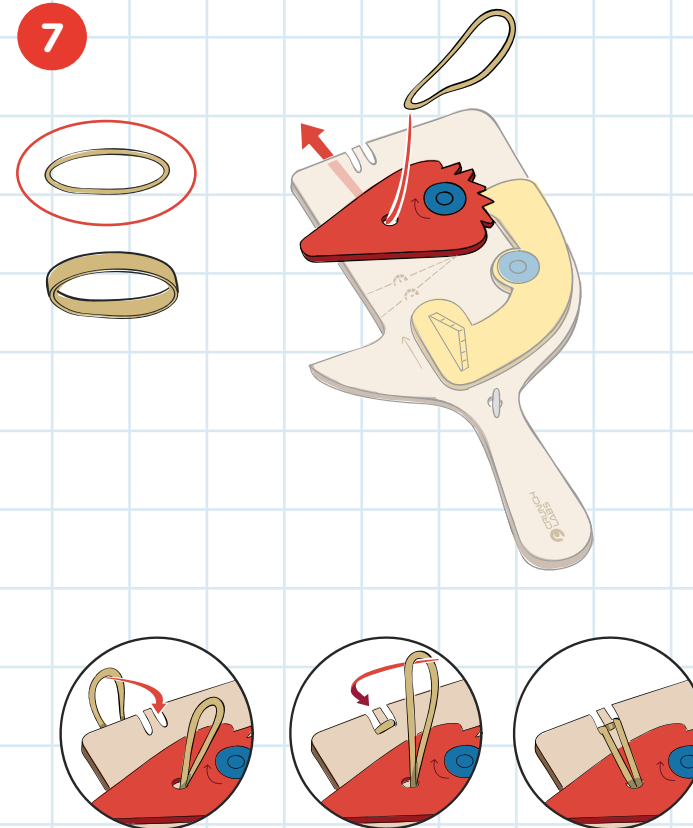
5



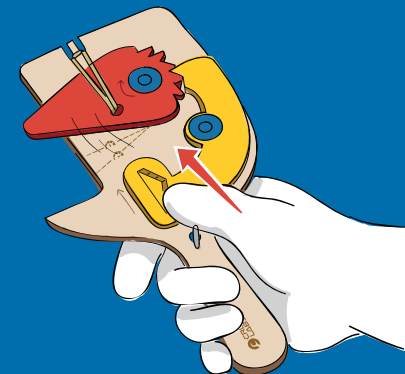
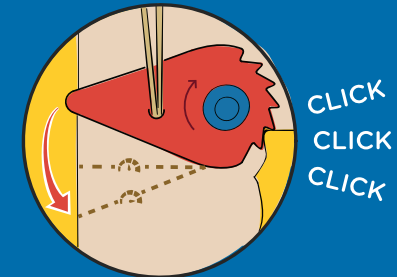
6



7

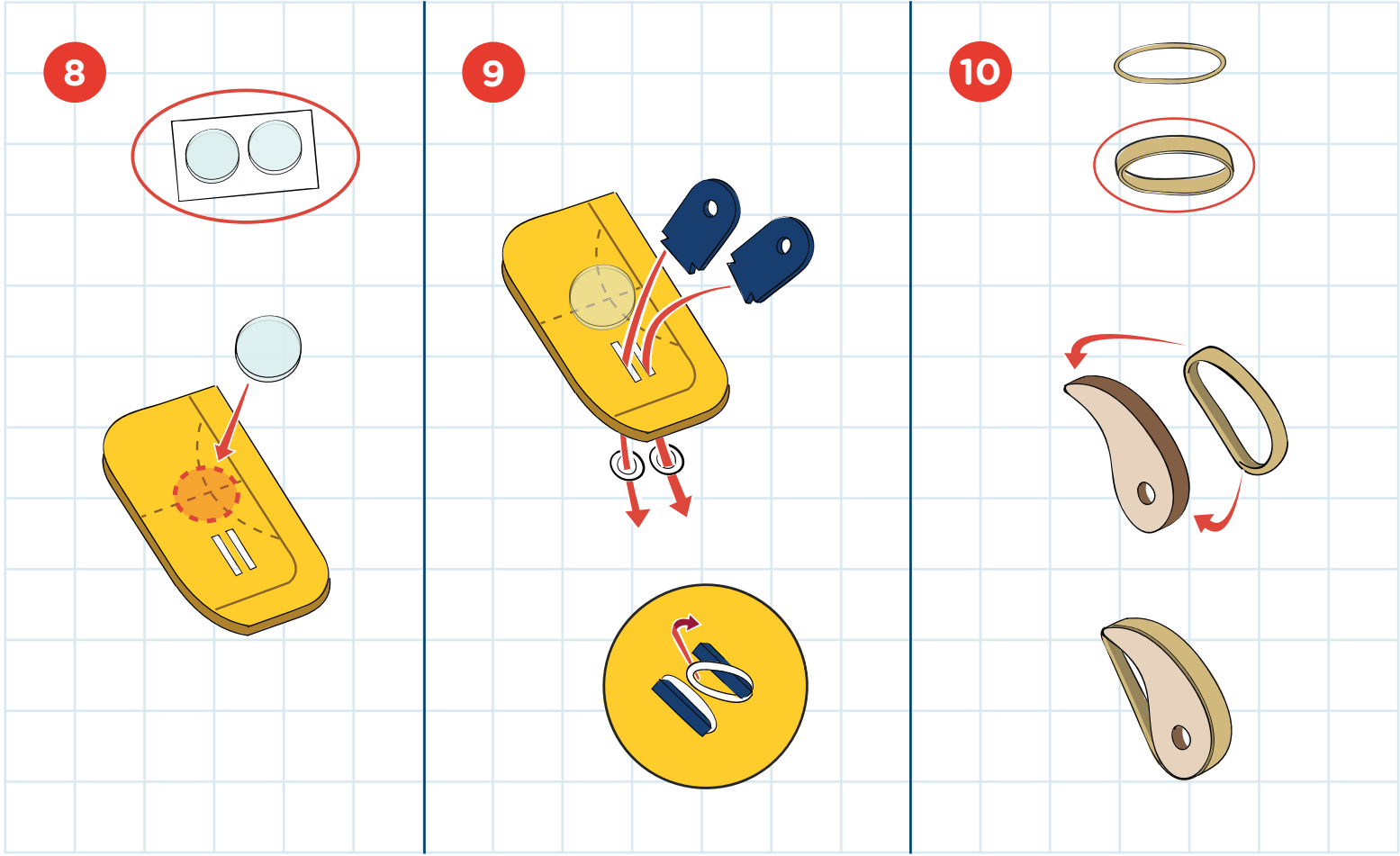


TEST

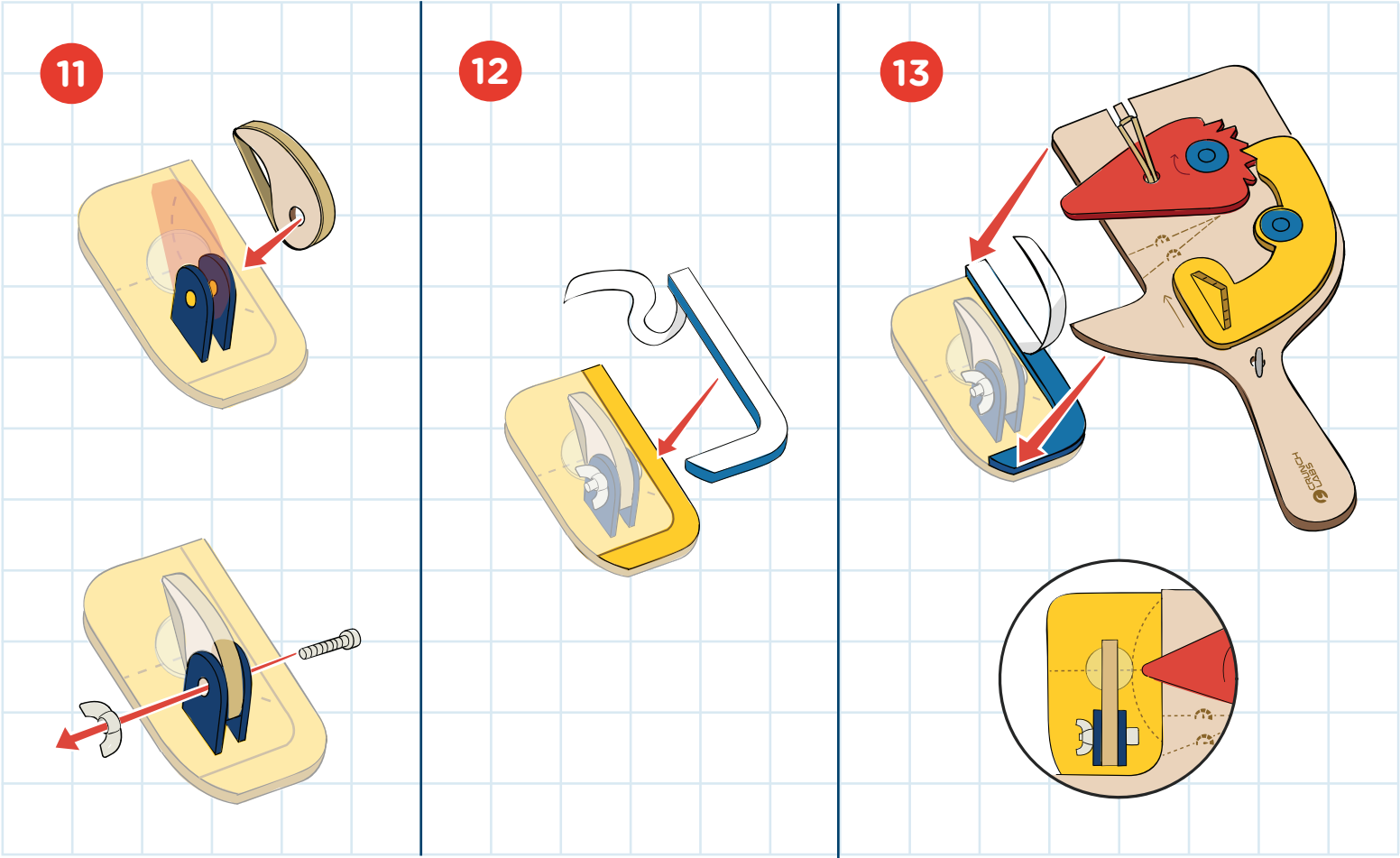


Having trouble? Watch the video at crunchlabs.com/coin

BUILD

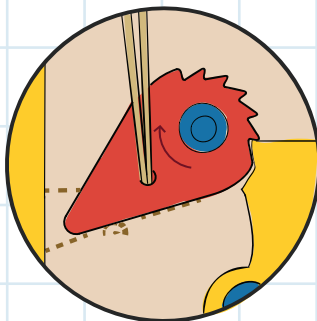
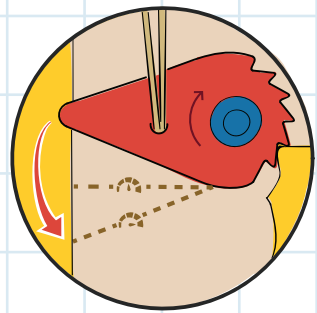


BUILD

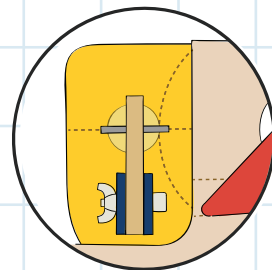
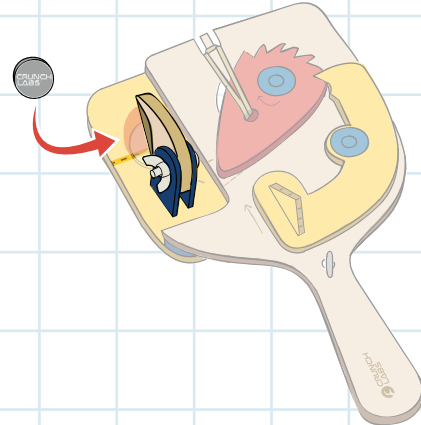


BUILD

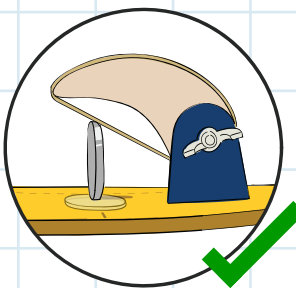
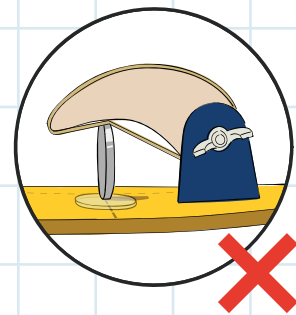
14



15



16

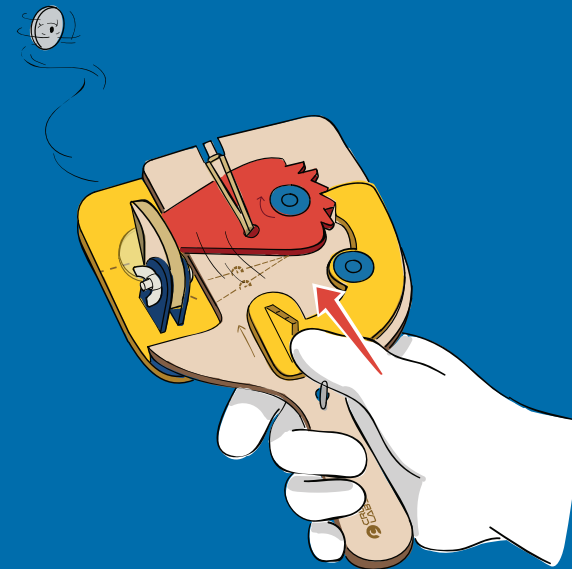


PRO TIP! ▲

Adjust the **tension** of the rubber band on the coin by lowering or raising the coin holder.

BUILD

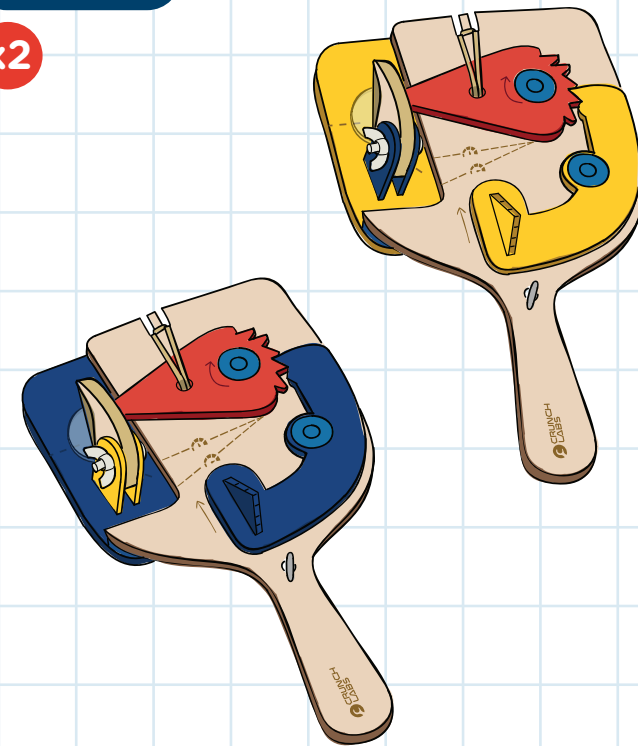
TEST



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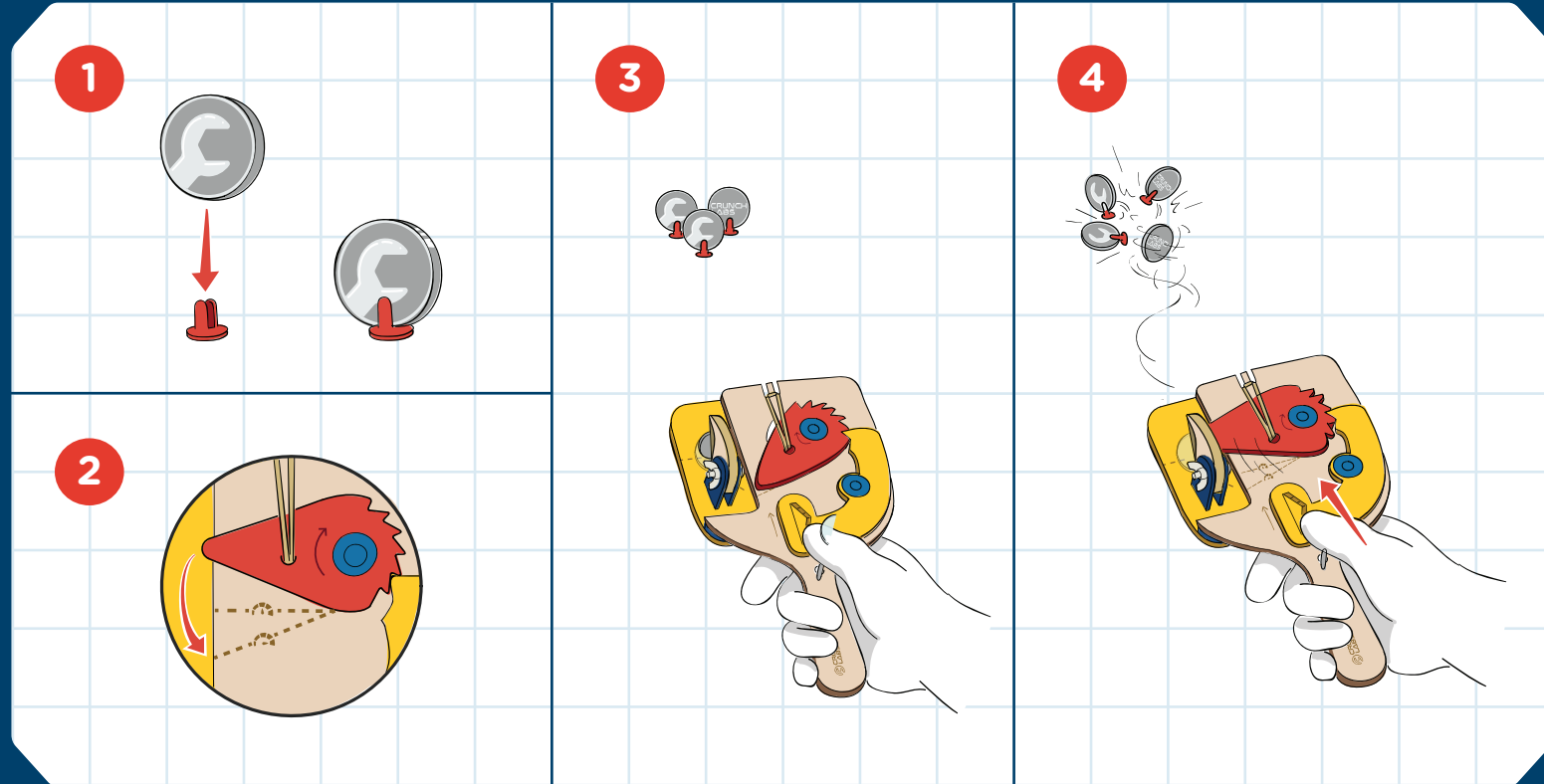
BUILT!

x2



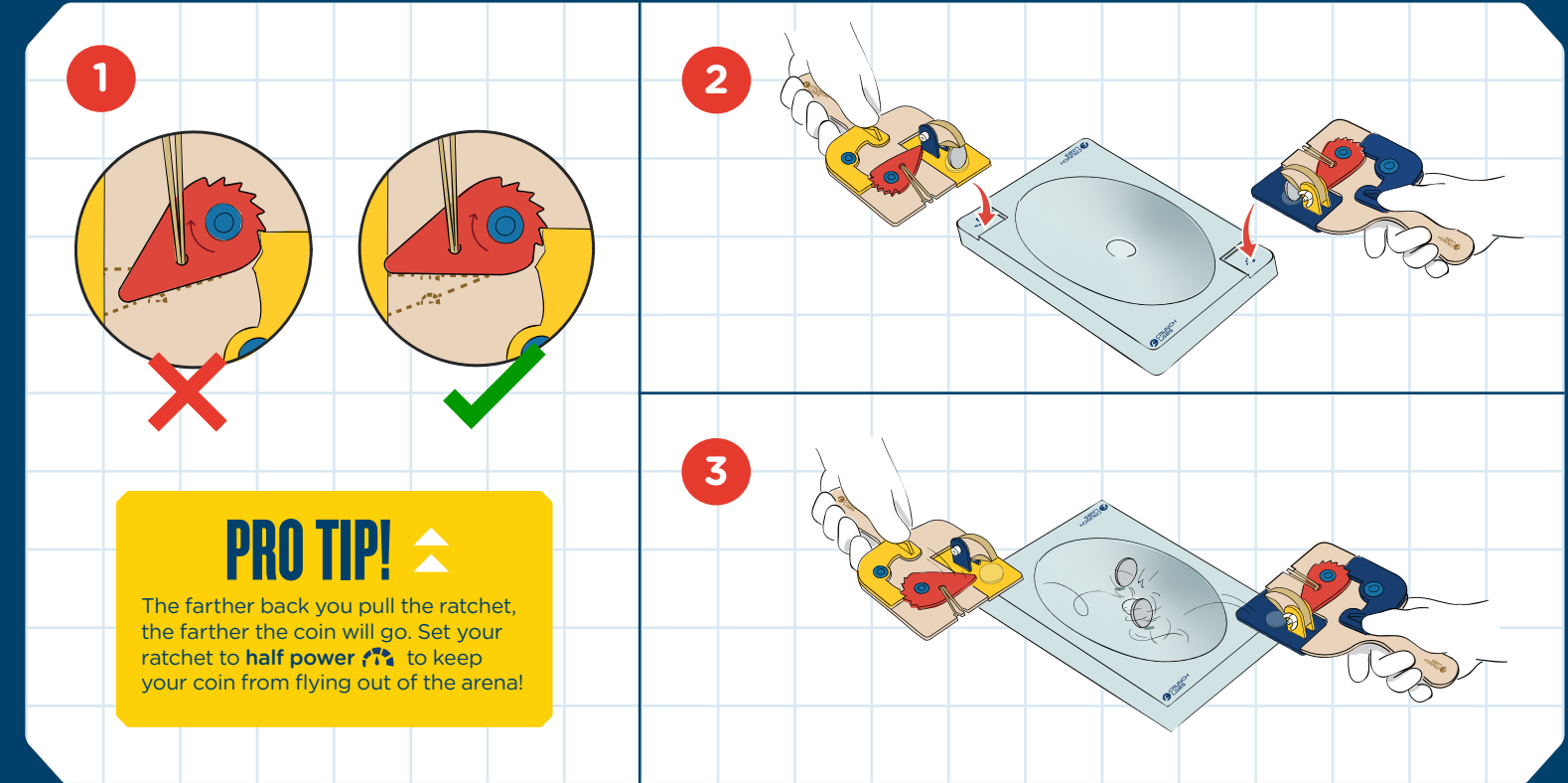
COIN BOWLING

Use the coin stands to set up three coins like bowling pins. Grab your coin spinner and try to knock them over. See if you can get a strike!



COIN ARENA

Hold a coin spinner in each of the coin arena's notches. Ready, set, spin! Launch both coins into the arena at the same time to battle. Last coin standing wins!

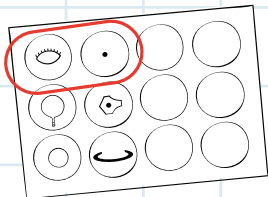


PLAY

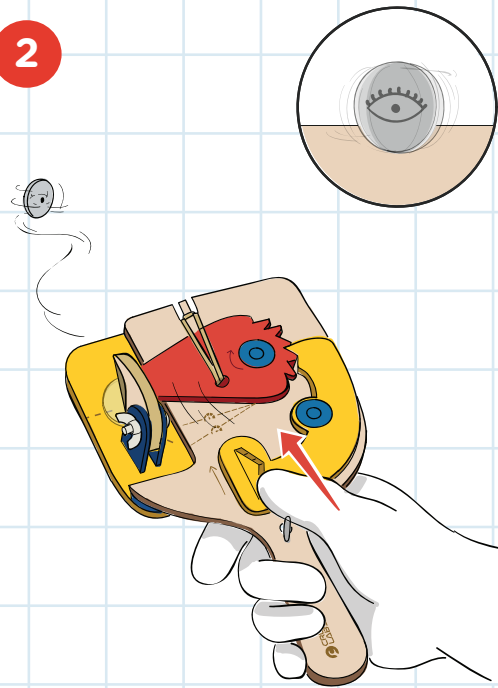
OPTICAL ILLUSION

Stick the matching stickers on each side of a coin. Give the coin a spin, and watch the pictures combine! This is called a thaumatrope (thaa·muh·truhp).

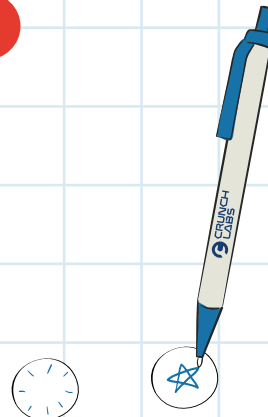
1



2



3



PRO TIP! ▲

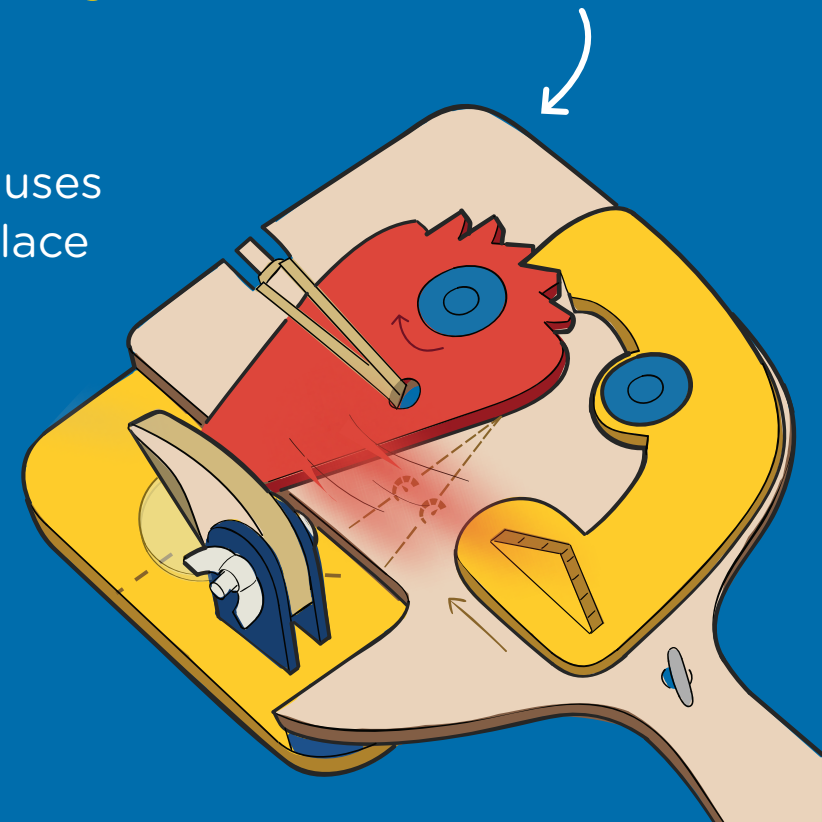
Thaumatropes are made from two different images that combine together. Try and draw your own thaumatrope!

THINK

A ratchet is a mechanical device that allows rotation in only one direction.

Basically, it only turns one way.

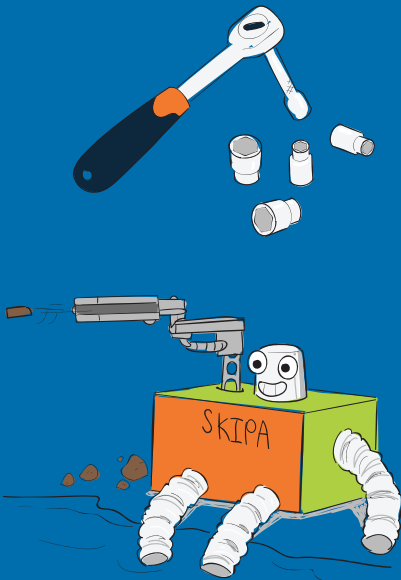
A **ratchet** is a device that typically uses special “teeth” to lock a wheel in place that is under tension. For the coin spinner, when you pull the ratchet back, the **teeth lock** into place to store the energy of the rubber band until you decide to release it with the trigger. Once the ratchet is released, it **transfers the stored energy** to the coin.



THINK

Find ratchets in other machines!

Ratchets are a useful part of many machines. They are especially useful when a wheel needs to turn in only one direction but not the other, even if you let go of the wheel. No matter if a machine is **simple** or **complex**, ratchets are perfect to keep things moving in one direction.



SOCKET WRENCHES

Socket wrenches are just like regular wrenches, except they contain ratchets. Adding a ratchet to a **simple** tool like a wrench makes the job faster and easier for the person using it.

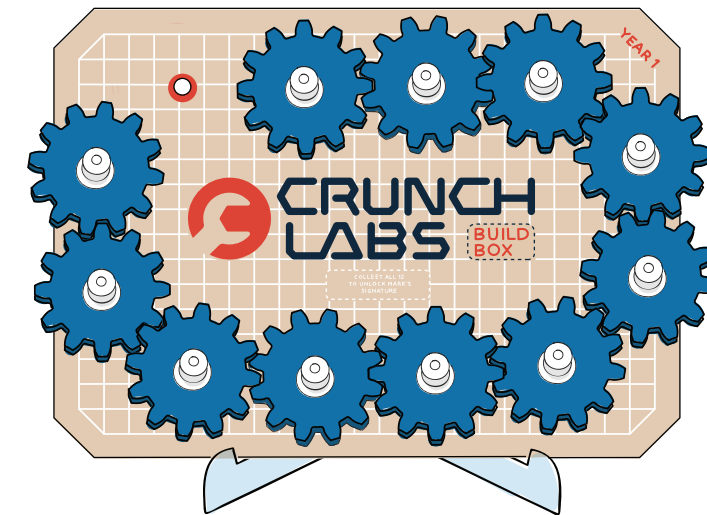
ROCK SKIPPING ROBOT

Mark built a machine that uses a ratchet help skip rocks across a pond. The rock skipper is a **complex** machine that uses a powerful spring. The ratchet makes winding up the machine up easier and safer.

THINK

CONGRATULATIONS!

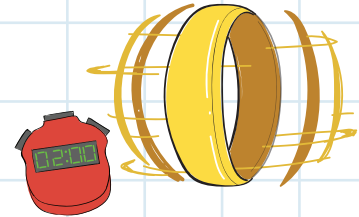
You earned a gear badge for ratchets



Don't forget to add your gear badge to your gear train!

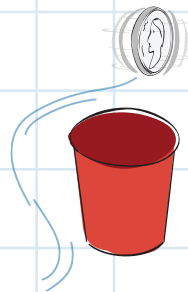
CRUNCH

It's crunch time! Use your engineering superpowers to keep building.



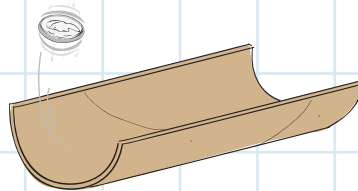
SPIN-DURANCE RACE

Try spinning things like other coins, rings, or shapes you cut out on your own. See what shapes spin the longest!



OBSTACLE BOWLING

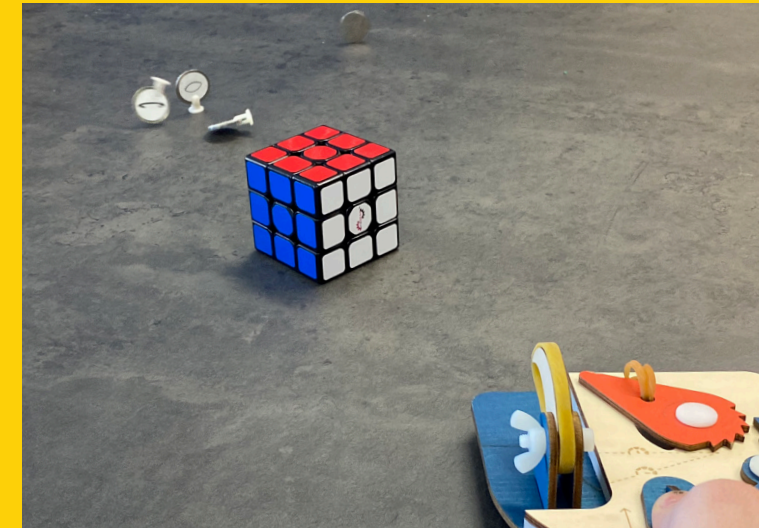
Try setting up an obstacle course to bowl through! The coin's spin will add curve to the coin's path!



COIN SKATE PARK

Find a new arena to spin your coins in. See how your coins do on ramps, jumps, bowls and half pipes!

SHOW OFF YOUR BUILD



Share your coin spinner skate park and coolest mods!

#crunchlabs @crunchlabs    



WARNING: Do not aim at eyes or face.

SWEEPSTAKES

Each CrunchLabs build box contains the chance to WIN a trip to visit CrunchLabs with Mark Rober! Sadly, you are not a prize winner this time. Check inside your next build box for another chance to win.

Trip includes roundtrip transportation and two (2) night's hotel accommodations for a family of four (4). Approximate value: \$4,500. NO PURCHASE NECESSARY. Open to legal U.S. residents, 18 years of age or older. Void where prohibited. For complete Official Rules, including promotion end date and information on how to obtain a free game ticket, visit www.crunchlabs.com/win.

This toy is intended for use by children over the age of eight years. These instructions contain important information, do not throw away.