



RAPTOR RACERS TRACK SET



5641

COMPONENTS

T-01



x4

T-02



x2

T-03



x2

T-04



x1



x1



x1

C-01



x1

C-02



x4

C-03



x1

C-04



x1

C-05



x1

C-06



x1

C-07



x1

C-08



x1

C-09



x1

C-10



x1

C-11



x1

C-12



x1

C-13



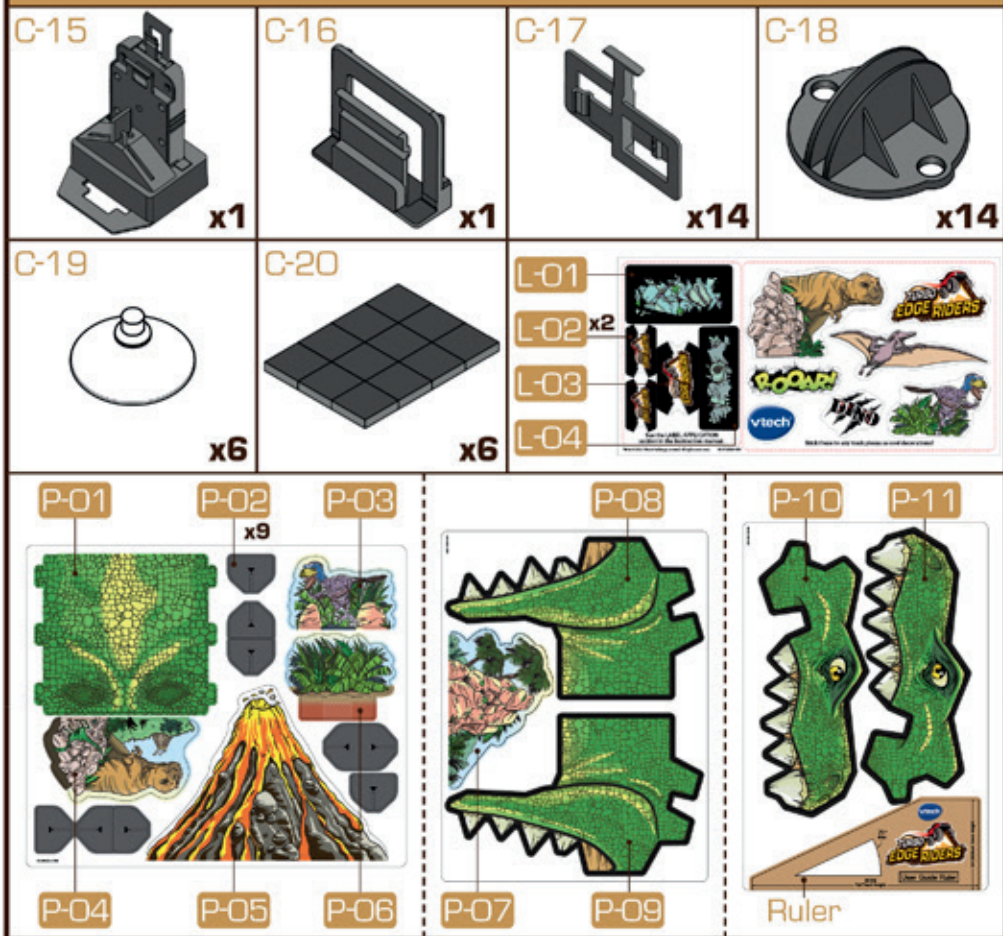
x2

C-14

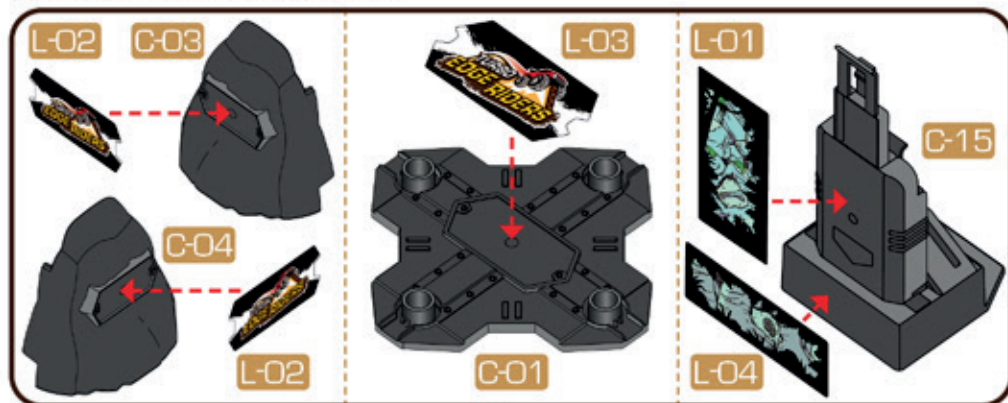


x1

COMPONENTS



LABEL APPLICATION

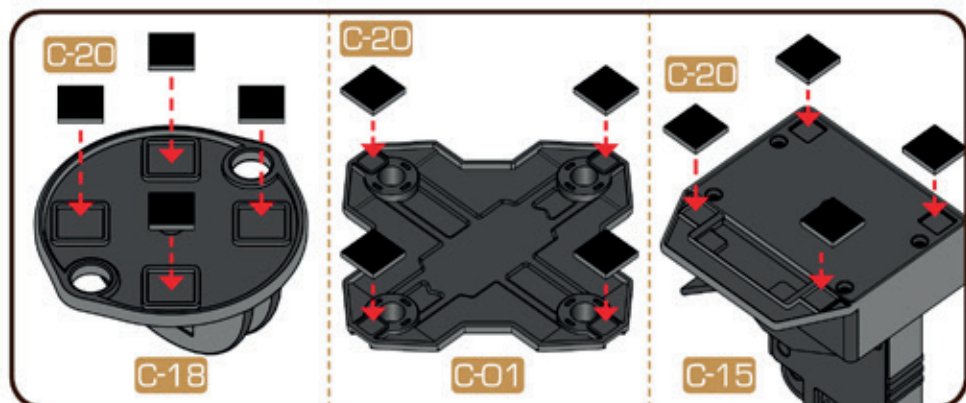


INITIAL ASSEMBLY

ASSEMBLY INSTRUCTIONS

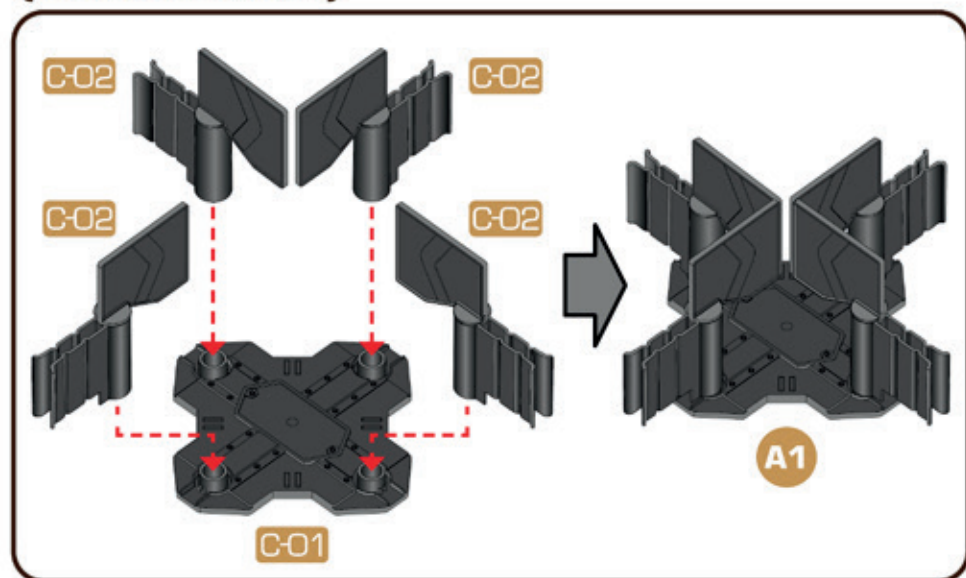
With the **Turbo Edge Riders™ Raptor Racers Track Set**, safety comes first. Adult assembly required. For your child's safety, do not let them play with this toy until the initial assembly steps are completed.

Stick the rubber label under all the stands



BUILDING THE CRISSCROSS STUNT

(C-01x1+C-02x4)



INITIAL ASSEMBLY

BUILDING THE LOG TILT STUNT



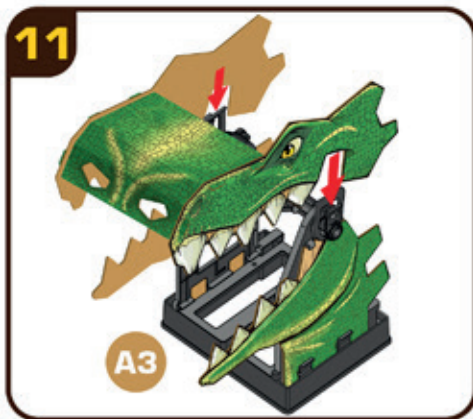
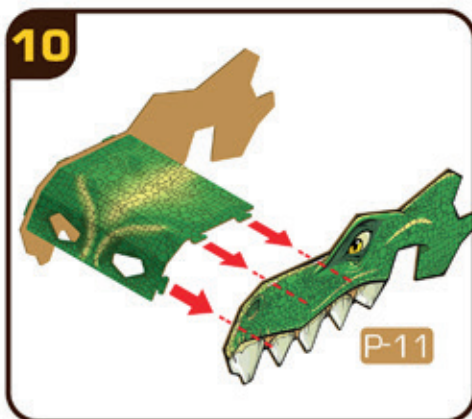
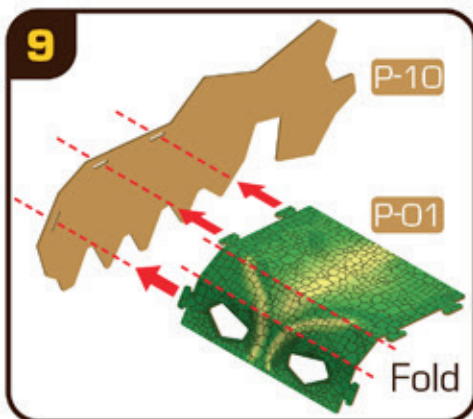
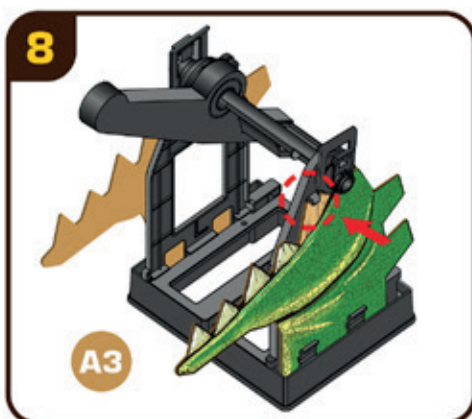
INITIAL ASSEMBLY

BUILDING THE RAPTOR CHOMP STUNT



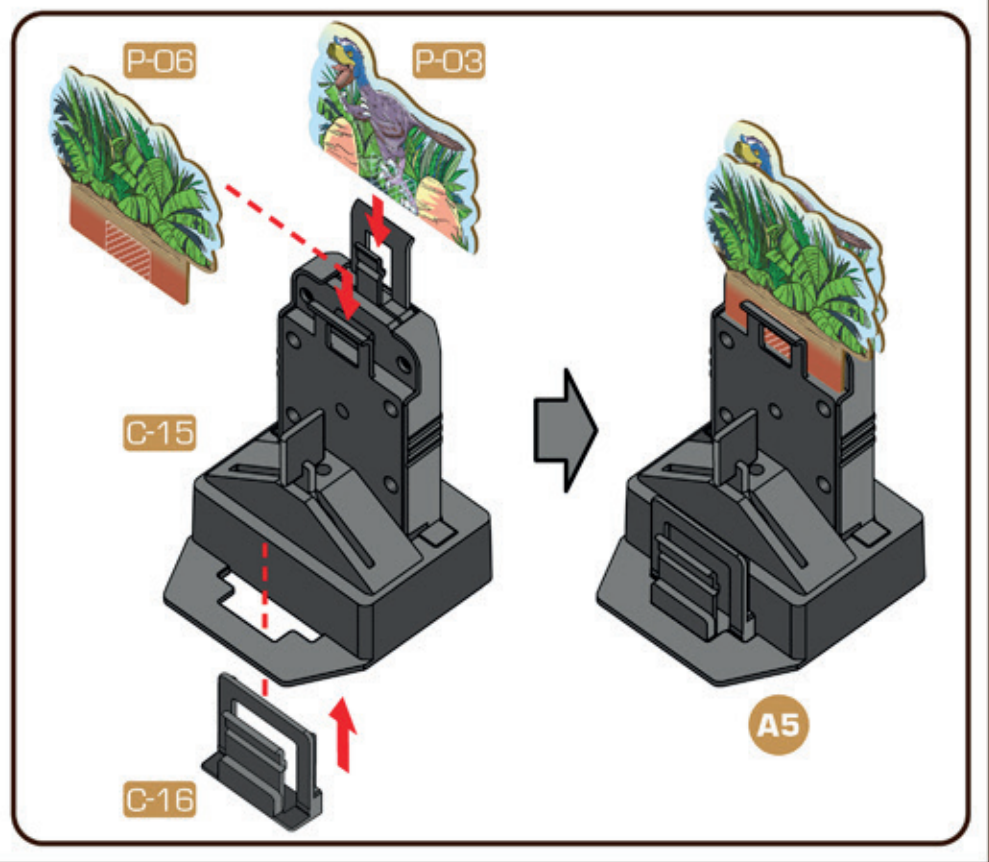
INITIAL ASSEMBLY

BUILDING THE RAPTOR CHOMP STUNT

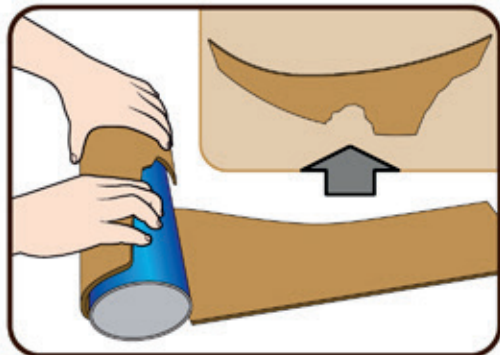


INITIAL ASSEMBLY

BUILDING THE SNEAK ATTACK STUNT



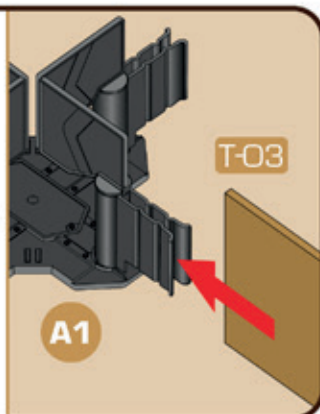
Color the Cardboard. Roll T-01, T-02 and T-03 up with a can to make smooth curves.



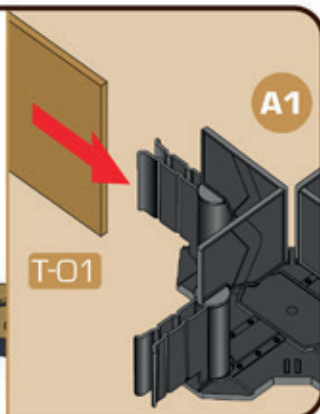
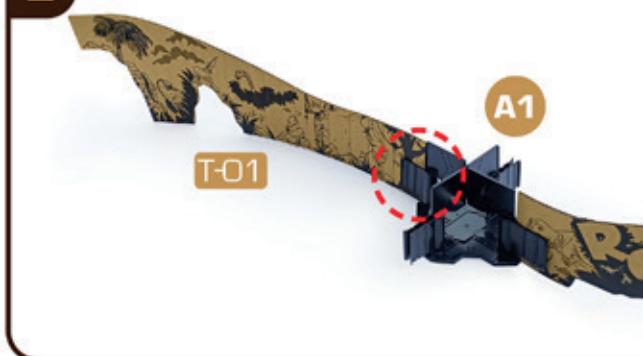
TRACK ASSEMBLY

BUILDING THE TRACK

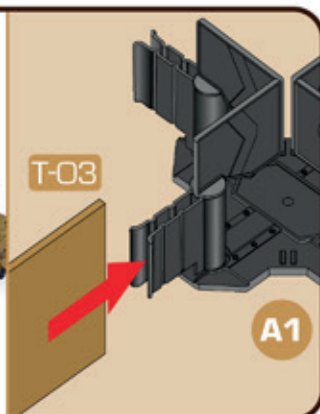
1



2



3



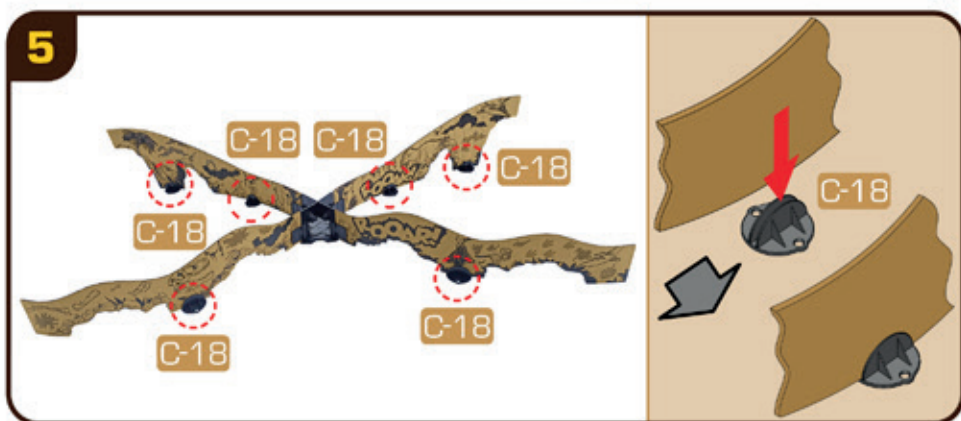
TRACK ASSEMBLY

BUILDING THE TRACK

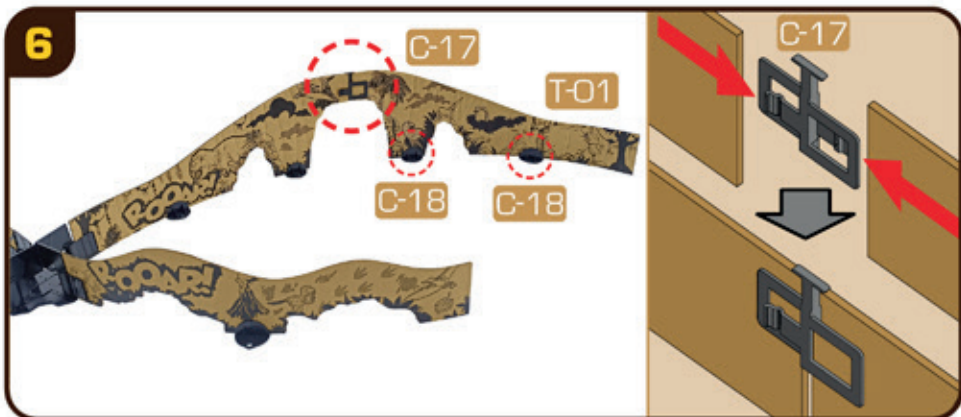
4



5



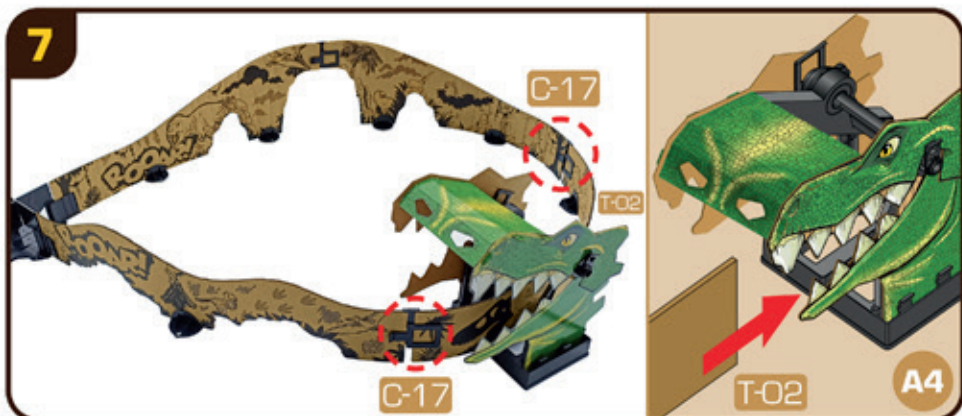
6



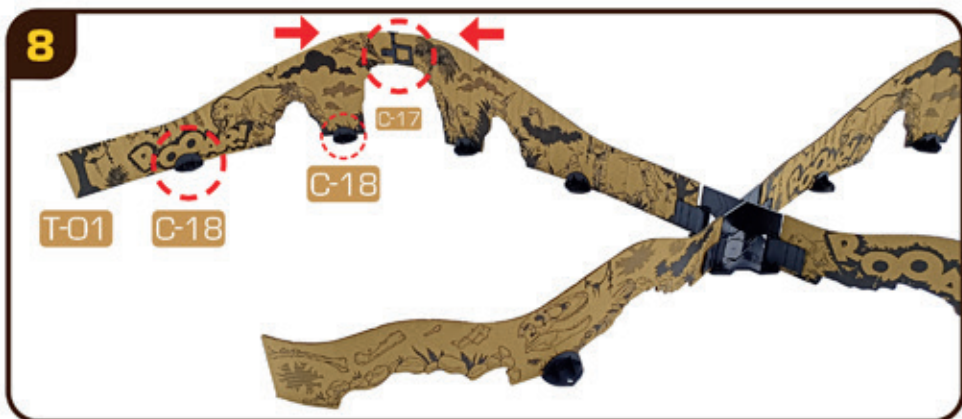
TRACK ASSEMBLY

BUILDING THE TRACK

7



8



9



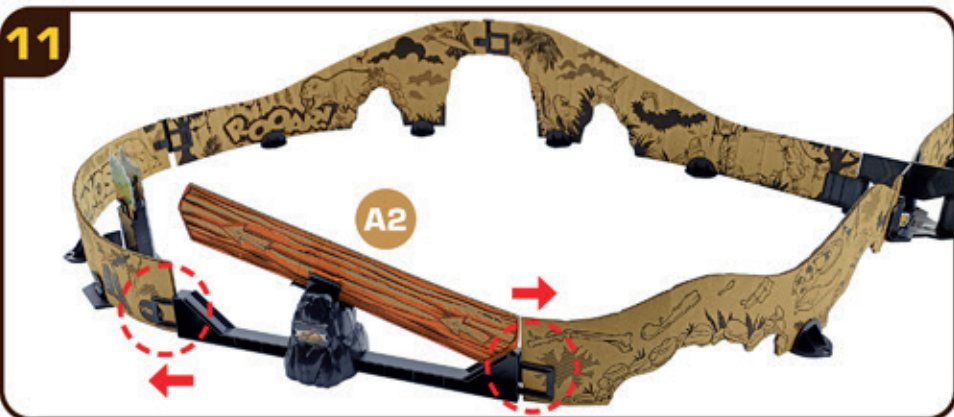
TRACK ASSEMBLY

BUILDING THE TRACK

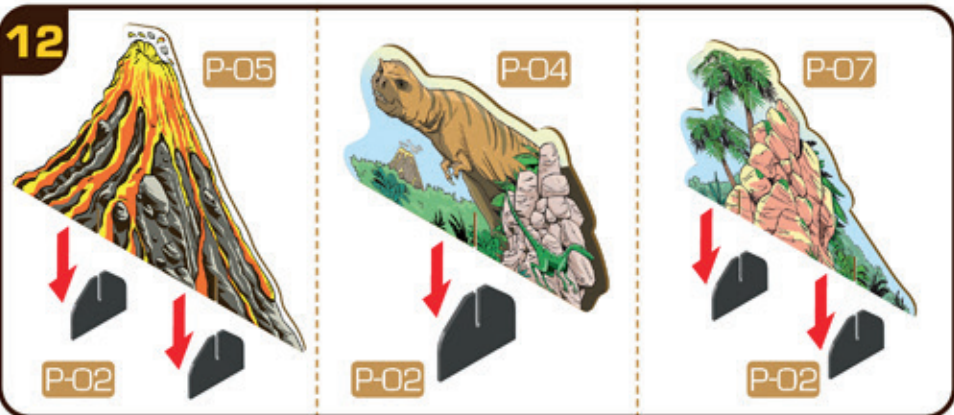
10



11

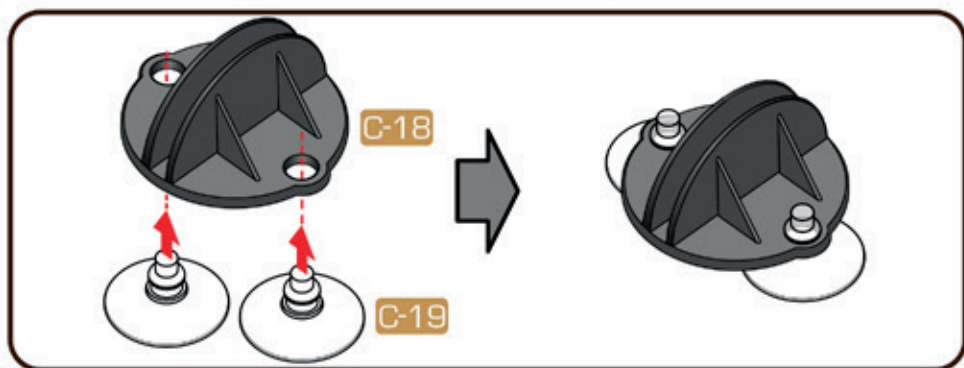


12

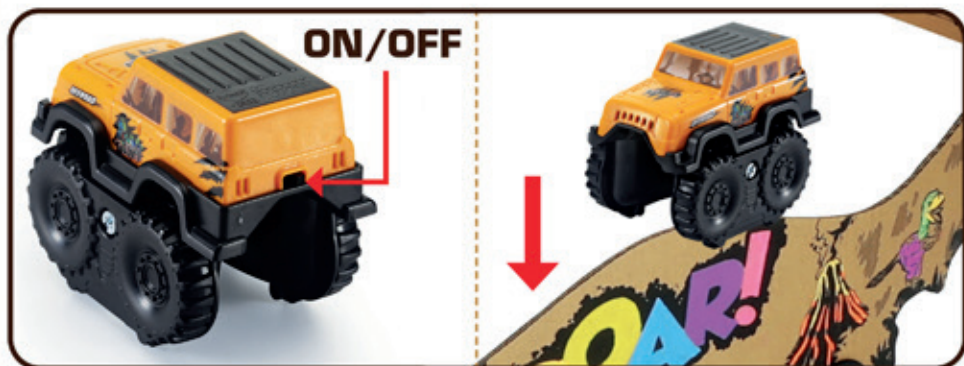


LET'S GO!

If necessary, add suction cups to one stand to make it stay on the floor firmly.



Switch the vehicle on and place it carefully on the track to start the race.





Getting Started

Gather your DIY tools.



Warning: Adult supervision is required.

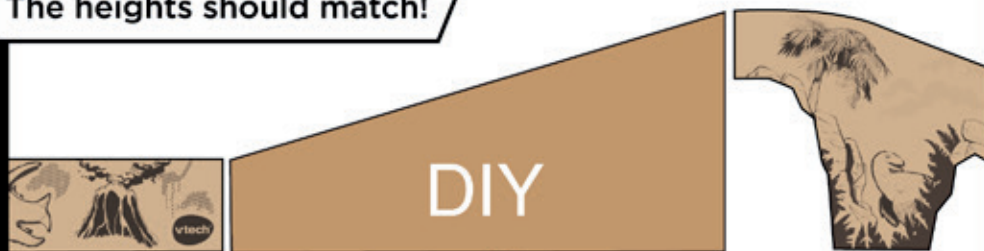
Recycle any spare cardboard with thickness of approximately 6-8mm to make new tracks.



Use the ruler to measure the height.



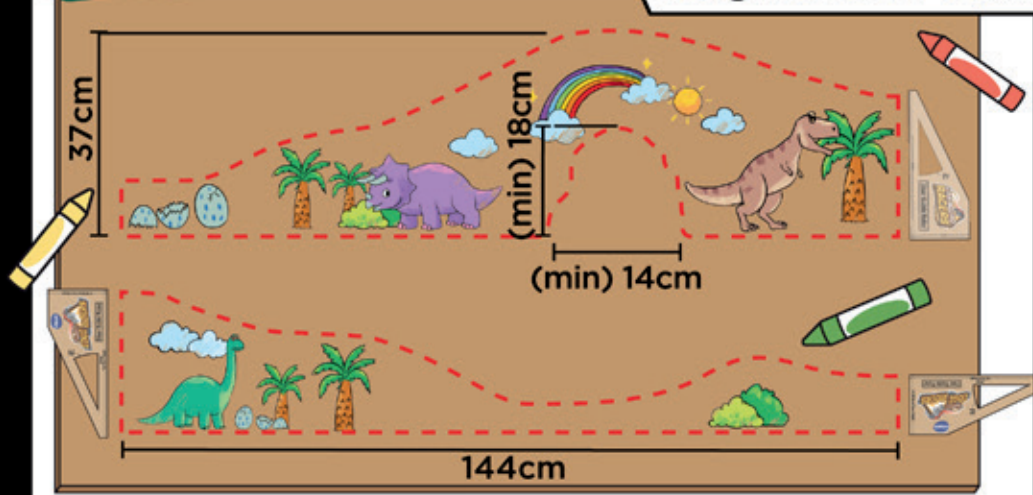
The heights should match!



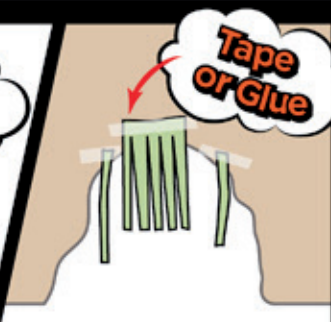
DIY

More Tracks, More Fun

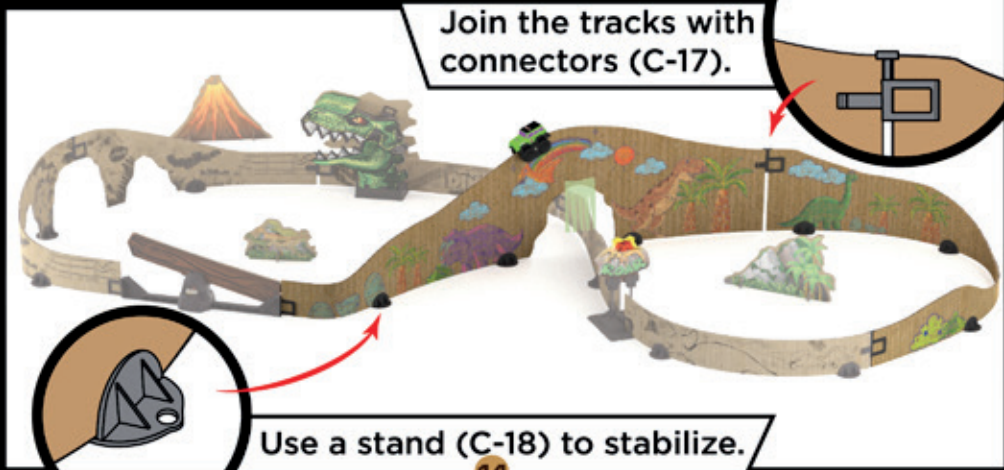
Design some DIY track.



Use scrap paper to add some fun!



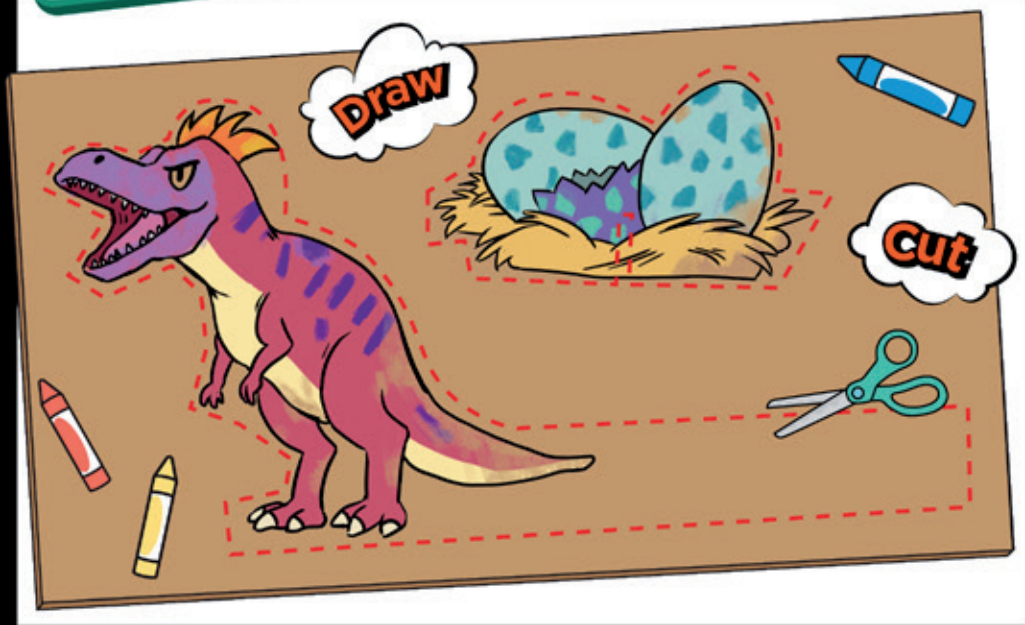
Join the tracks with connectors (C-17).



Use a stand (C-18) to stabilize.

DIY

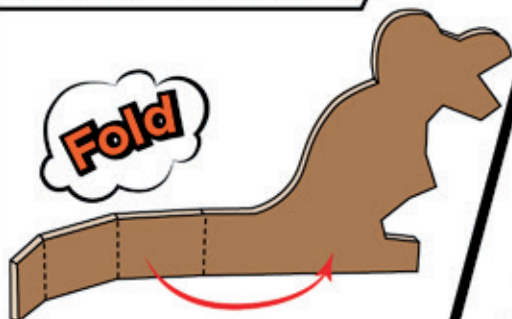
Design Fun Accessories



Don't forget the stand...

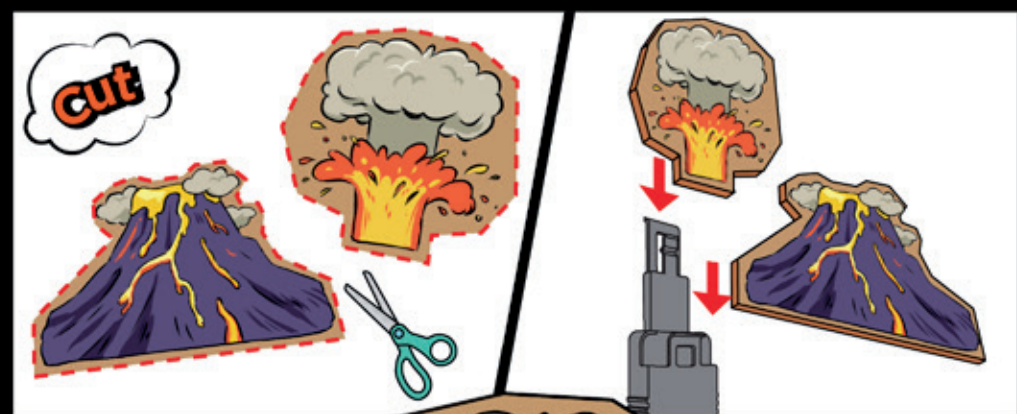
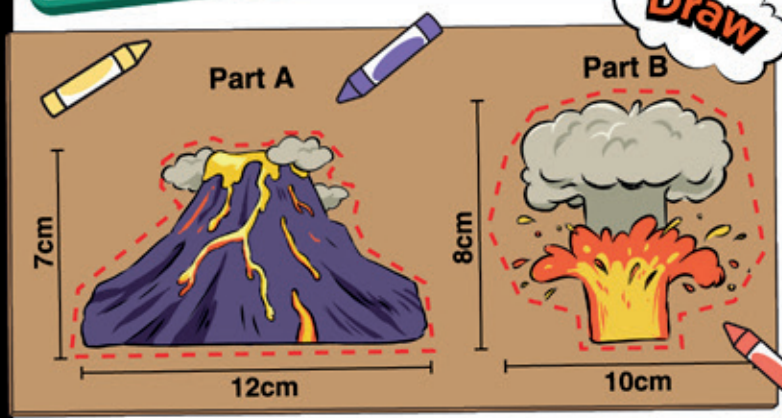


...or build the stand in.



DIY

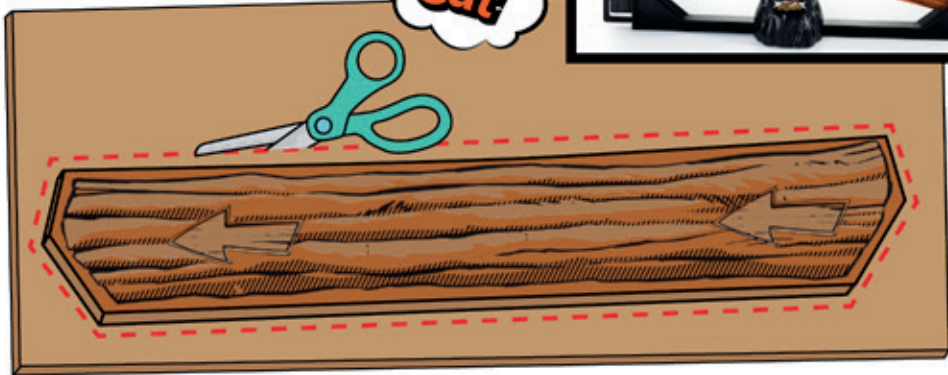
Make a Pop-up Volcano



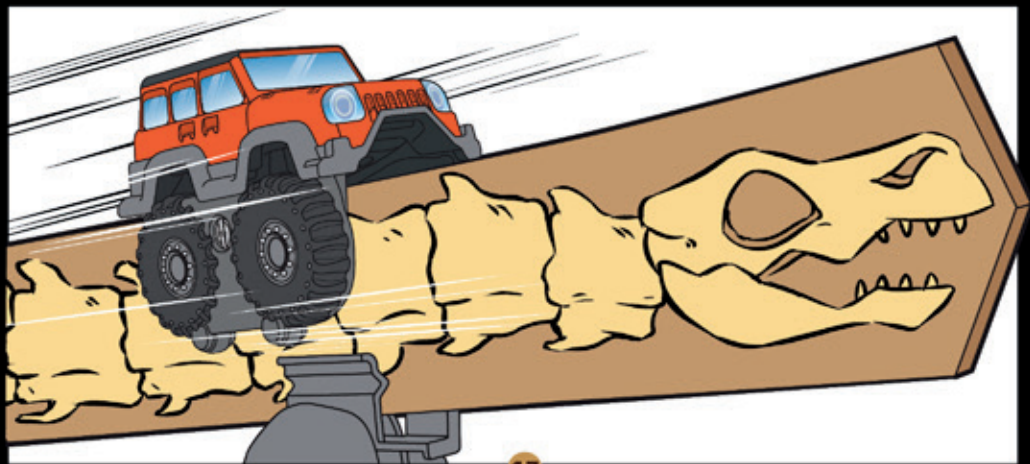
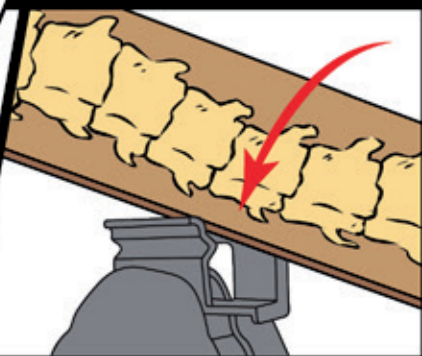
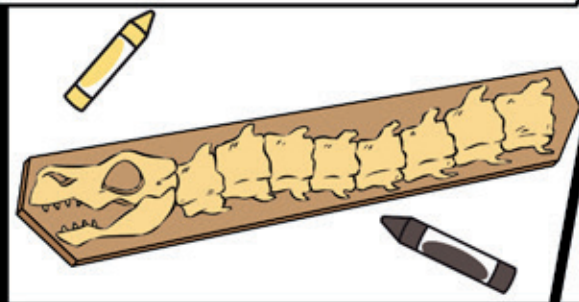


Create a Fossil See Saw

Trace the log.



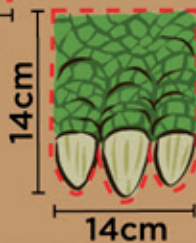
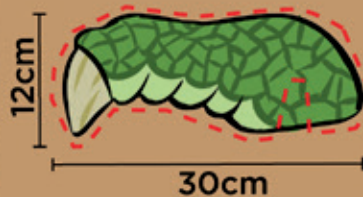
Draw a fossil on the DIY cardboard.



DIY

Design Your Own Action Dino

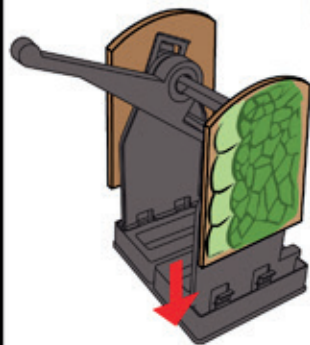
Draw



Cut



Fold



Tape or Glue



ZOOM!



Think Like an Engineer!

STEAM



What Engineers Do?

- Design
- Fix things
- Build

The Engineering Design Process is a way of thinking to solve problems.

? Start with a question

Example:

How can I make a paper airplane that flies across the room?



1

Plan & Design



Start by researching.



Write or sketch ideas.



Pick an idea to try.

There are no bad ideas in brainstorming.



Brainstorm

Different colors of paper

Throw plane harder

Change size of wings



Try new folding method

Use thick paper

Start to build

2

Build

Gather materials and start creating!



It doesn't have to be perfect!

Ask an adult for help with safety.

3

Test



Gather testing tools.



- ✎ Test your solution a few times.
- ✎ Take notes as you go.
- ✎ Set up testing environment.
- ✎ Test your solution in different ways.

4

Reflect & Improve

Hmm.. my idea didn't work.

I wonder why...

I have an idea to improve it!

I'll try wider wings next time.

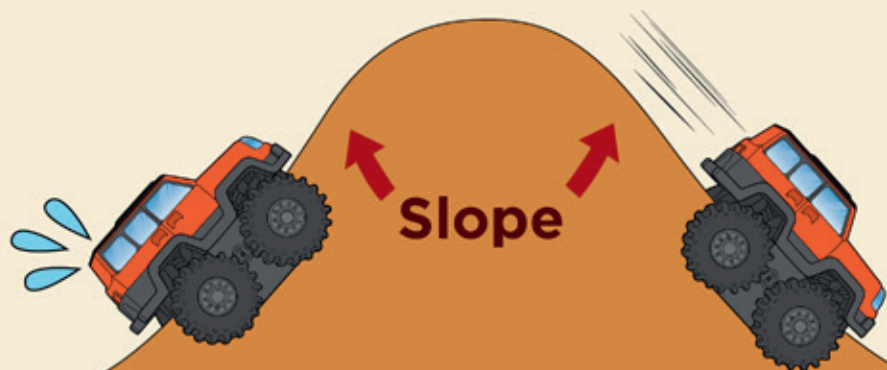


- ? What went well?
- ? What could you do differently?

- Go back to the Plan and Design phase to make adjustments.
- Use what you learn on your next try.

Knowledge Pit Stop 1

Steep hills have a slope that **rises very quickly**.
It goes higher and higher as you move forward.



Engineering Challenge



1 Start with a question



“ How steep a hill can this
Turbo Edge Rider climb? ”

How, oh how,
will I get up
this hill?



2

Plan and Design

Use this space to sketch out ideas!



A hill is like a triangle. Some triangles are tall and narrow; others are short and wide.



Draw three different hills in the Test Table.



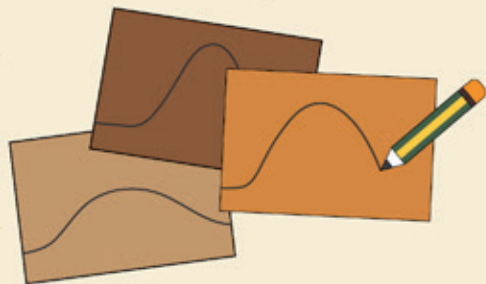
Pick an idea you'd like to try

3

Build

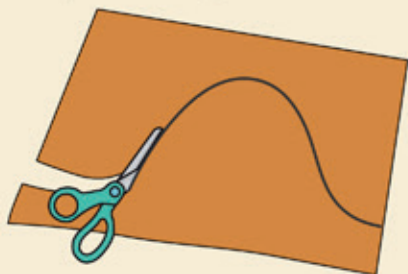
Step 1:

Draw your design



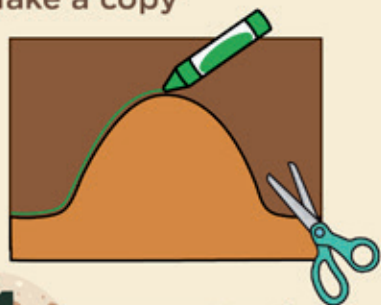
Step 2:

Cut your design



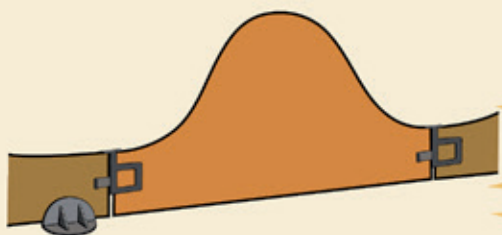
Step 3:

Make a copy



Step 4:

Attach to the track and test



4

Test

Can the Turbo Edge Rider climb this hill?

Hill A

Hill B

Hill C

5

Reflect

- ? Can the Turbo Edge Rider climb all 3 hills?
- ? Is it easier to climb a steeper and higher hill?
Or a flatter and lower hill?
- ? Can you adjust the copy to make each hill
too steep to climb?

Knowledge Pit Stop 2



This lever is connected to the track using a piece called a **fulcrum**.



This lever always has one side **up** when the other side is **down**.



The teeter totter, or seesaw, is a simple machine called a **lever**.



You can find levers in real life!

Engineering Challenge



1

Start with a question

“Surprise!”



“

How do I create a secret message revealed by the teeter totter?

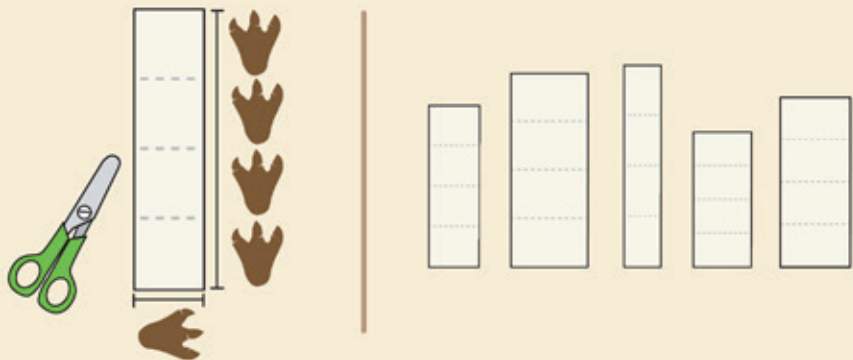
”

2

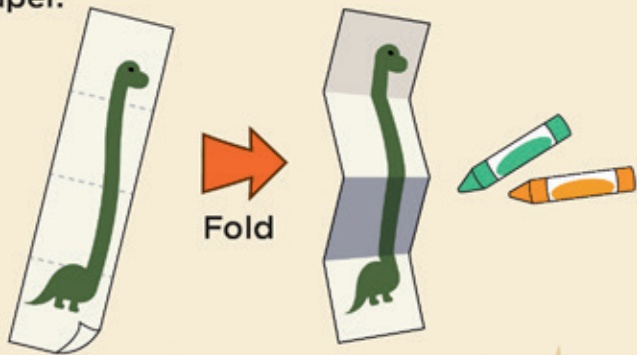
Plan and Design



Make messages on a few different sizes of paper to test. You may try with different kinds of paper too.



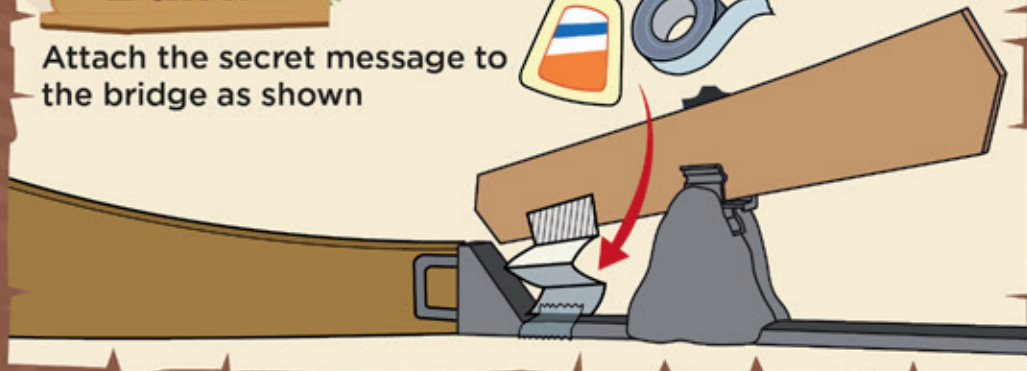
Write and decorate a short message or graphic on a piece of paper.



3

Build

Attach the secret message to the bridge as shown

**4**

Test

Run the vehicle on the track to test the secret message.



Remember to test all your designs.

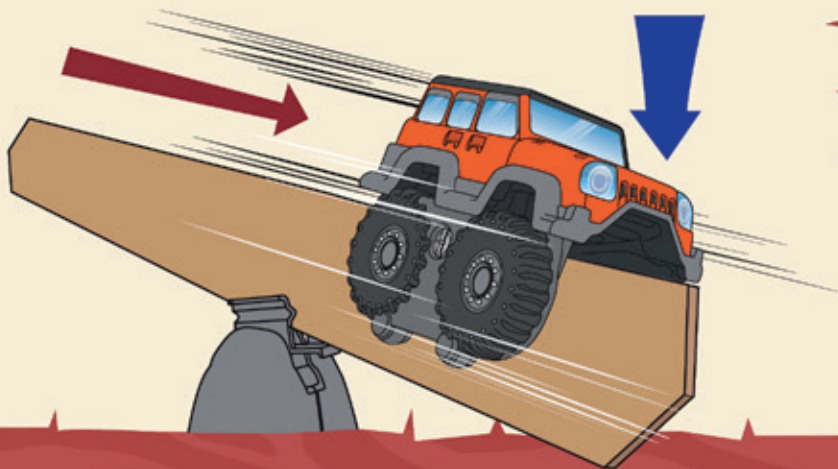
5

Reflect

- ? What was the right size for the secret message?
- ? Did you try any strips of paper that didn't work? Why do you think the teeter totter couldn't work when they were attached?

Knowledge Pit Stop 3

When the car drives onto the teeter totter, it relies on its **own weight** to push the other side of the teeter totter **down** so it can cross over.



Engineering Challenge



1 Start with a question



“ What happens if we add weight to the teeter totter? ”

”

2

Plan and Design

Predict what you think will happen when you add a clip.
Draw your prediction.

**3**

Build

Clip your first clip to the down side of the teeter totter.



4**Test**

Fill out the chart with your results!

Number of clips

Successful in crossing
the teeter totter?

Number of clips	Successful in crossing the teeter totter?

5**Reflect**

? What is the maximum number of clips could you add to the teeter totter and still successfully cross the teeter totter?



? What happens if you add the same number of clips to the other side?

Jr. Engineer

CERTIFICATE

Awarded to:



Date

Awarded by



Collect Them All!

(Sold separately)



Rally Track Set



Stunt Flight Track Set

Build A Mega Track!



DISCOVER MORE SETS

For USA



[www.vtechkids.com/
turboedgeriders](http://www.vtechkids.com/turboedgeriders)

For Canada



[www.vtechkids.ca/en/
turboedgeriders](http://www.vtechkids.ca/en/turboedgeriders)