



TRY THIS OUT!



Cardboard Game Console

Time: 30 Minutes
Difficulty Level: Hard

Play a video game while staying off the screen...by building your own cardboard game console! Design a game level and character, then fabricate and install the moving mechanism.

WHAT YOU NEED

Tools

- Scissors
- Utility knife (X-ACTO) (optional, but useful)
- Hot glue gun (optional)
- Ruler
- Hole-punching tools (a cardboard punch, an awl, a screwdriver, a knitting needle, a sharpened pencil, or a large embroidery needle)
- Work surface (a cutting mat, an unfolded cardboard box, or an old placemat)

Building Materials

- Cardboard (enough to glue the frame template onto)
- Printed frame and background templates (or paper to draw them)
- 35 cm of transparent fishing line, or adhesive tape folded on itself
- Colouring pencils
- Pencil and eraser
- Two plastic bottle caps
- Two toothpicks, cotton swabs, small golf pencils, or small round sticks (about 5 cm long)
- Three round sticks: 15 cm, 12 cm, and 4 cm long (wood skewers, wood dowel, or pencils)
- Adhesive tape
- Hot glue sticks, or strong, extra-sticky adhesive tape such as duct tape / Gorilla tape

MAKE IT

Below are the step-by-step instructions to build your console.

EXPLAIN IT

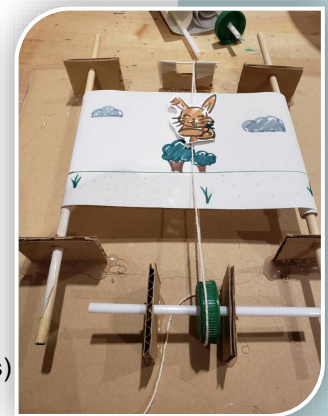
The console mechanism consists of wheels and axles. Working together, they roll and unroll the background panel, giving the game an illusion of character movement.

GO FURTHER

For future projects, try changing the dimensions to make a bigger or smaller console. Try using a box with a lid as your construction base, or design a custom background. Make this template a springboard for your imagination...and have fun!



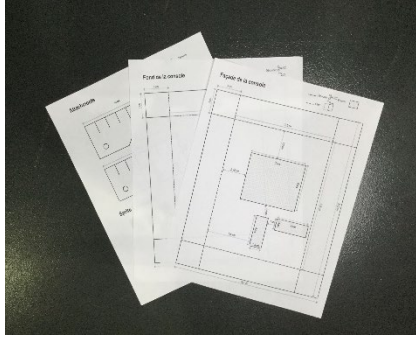
Be very careful using tools! Ask an adult for help.



INSTRUCTIONS

Step 1: Print the console templates

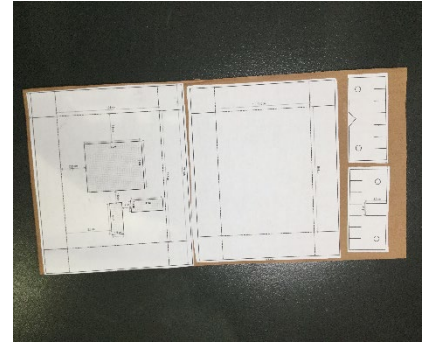
Print out the templates on letter-sized paper, including your selected character.



Step 2: Use the templates

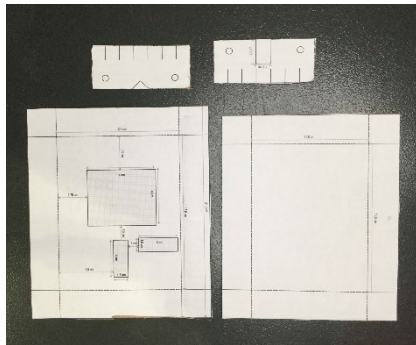
Cut out the templates, following the black line.

Glue the cut-out templates on your cardboard.



Step 3: Prepare your cardboard

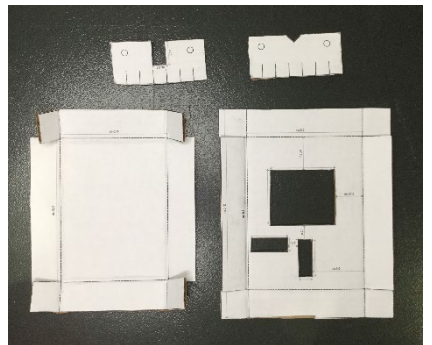
Cut out each piece of the template from your cardboard.



Step 4: Remove cut-outs, fold cardboard

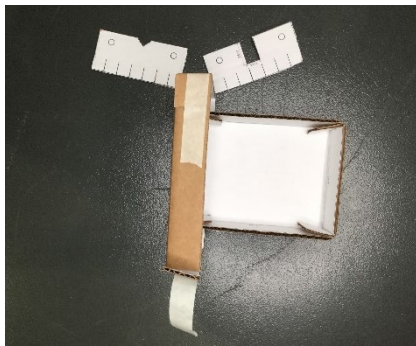
Cut out the large hole (screen) and two slits (this is where your buttons will be). Ensure that the horizontal slit of the front piece is on the left.

Fold along the dotted lines to create a box.



Step 5: Make it a box

Tape or hot glue the folded edges to create a box shape.

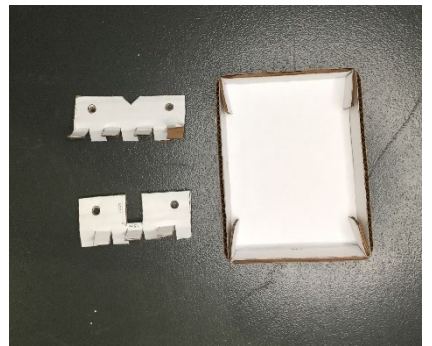


Step 6: Prepare the attachments

Cut and fold the flaps of the attachments in alternating directions, so it can stand on its own.

Punch the holes.

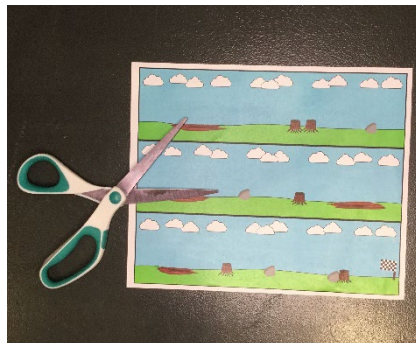
Repeat with the second attachment.



Step 7: Print out your background template

Print out the templates on standard letter-sized paper.

Colour in, if desired.



Step 8: Prepare the background

Cut the background into three strips.

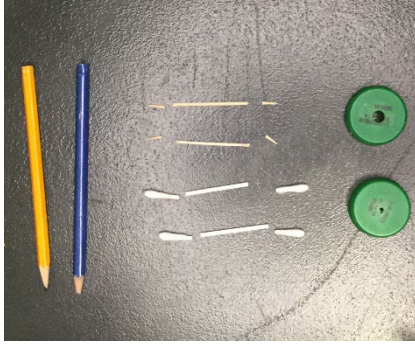
Tape the pieces together to create one long strip.



Step 9: Prepare the accessories

Carefully punch holes in the bottle caps: one for a toothpick or cotton swab, and one for a pencil.

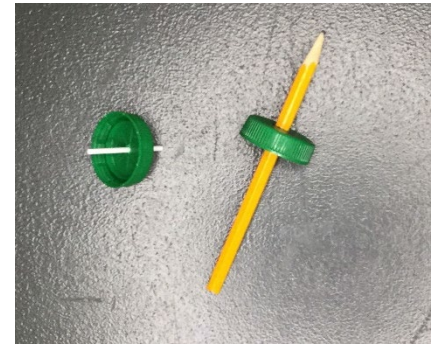
Cut the ends off the toothpicks or cotton swabs.



Step 10: Create a wheel and axle

Insert a pencil in its bottle cap hole.

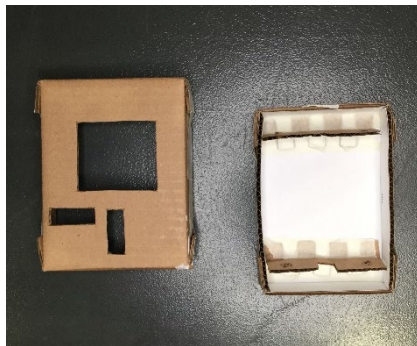
Insert a toothpick or cotton swab in the other bottle cap hole.



Step 11: Secure the attachment

Tape or hot glue the two attachments inside the back piece.

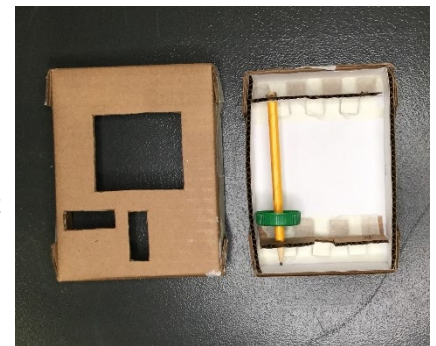
Note: The attachment with a slit goes at the bottom of the back piece.



Step 12: Test the wheel and axle

Insert the pencil between the left holes of both attachments.

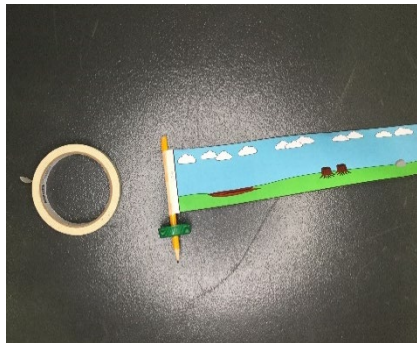
Use your thumb to test turning the "wheel" (bottlecap).



Step 13: Prepare the background strip

Take the pencil out of the console.

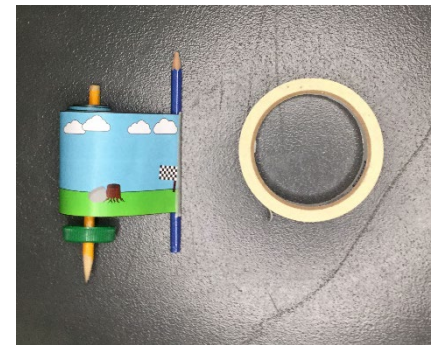
Tape the background strip to the pencil.



Step 14: Secure the background strip

Roll the background strip around the pencil and tape the other side of the strip to the second pencil.

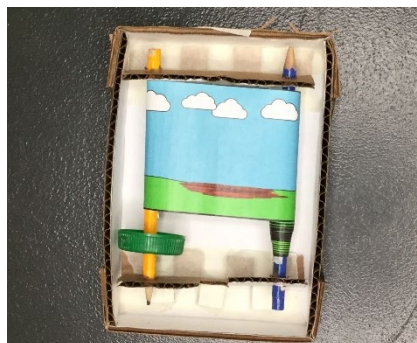
Make sure it unrolls like a parchment.



Step 15: Create the background mechanism

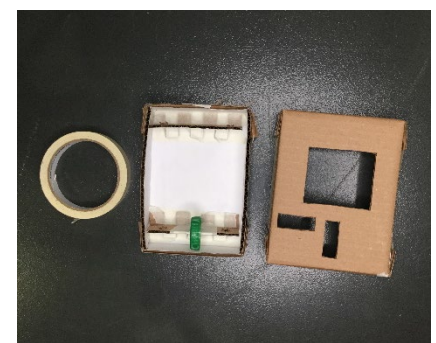
Place both pencils holding the background strip into their respective attachment holes.

Test it out, then carefully remove and set aside.



Step 16: Prepare the character mechanism

Fix the second bottle cap (with the toothpick or cotton swab) between the attachments with a slit.

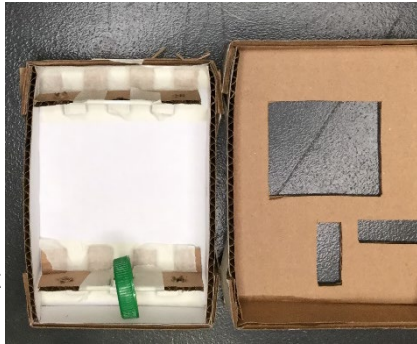


Step 17: Prepare the character holder

Fix a second toothpick or cotton swab at the top attachment with tape.

Tie your string around the top toothpick or cotton swab, and pull it down to the wheel at the bottom.

Ensure the string is taut.



Step 18: Attach the character

Tape or hot glue the string on the bottom wheel.

Attach the character on the string with tape.



Step 19: Install both mechanisms

Re-insert the background strip, carefully placing it behind the character mechanism.

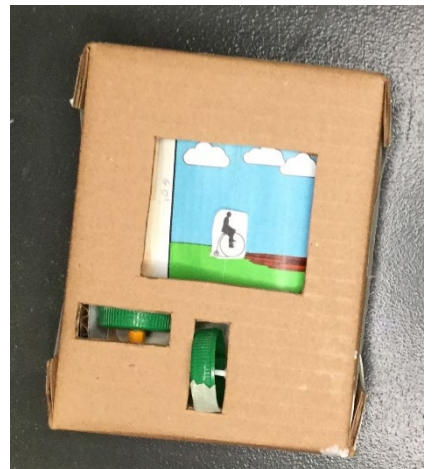


Step 20: Close your console and play

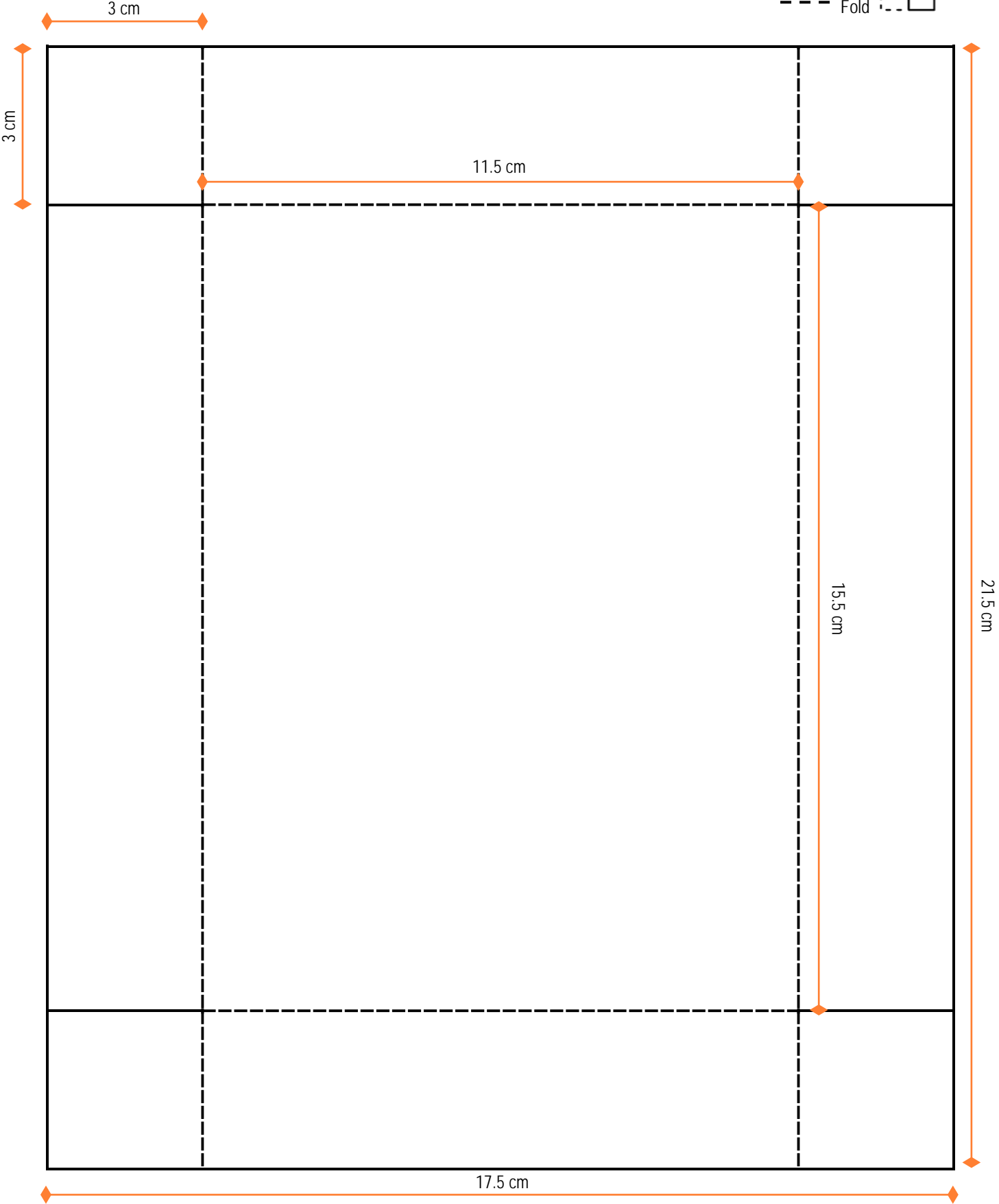
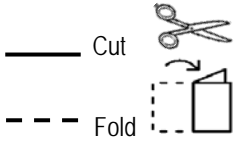
Position the cover over your console.

Test it out, ensure the wheels roll well, and that your character stays in place.

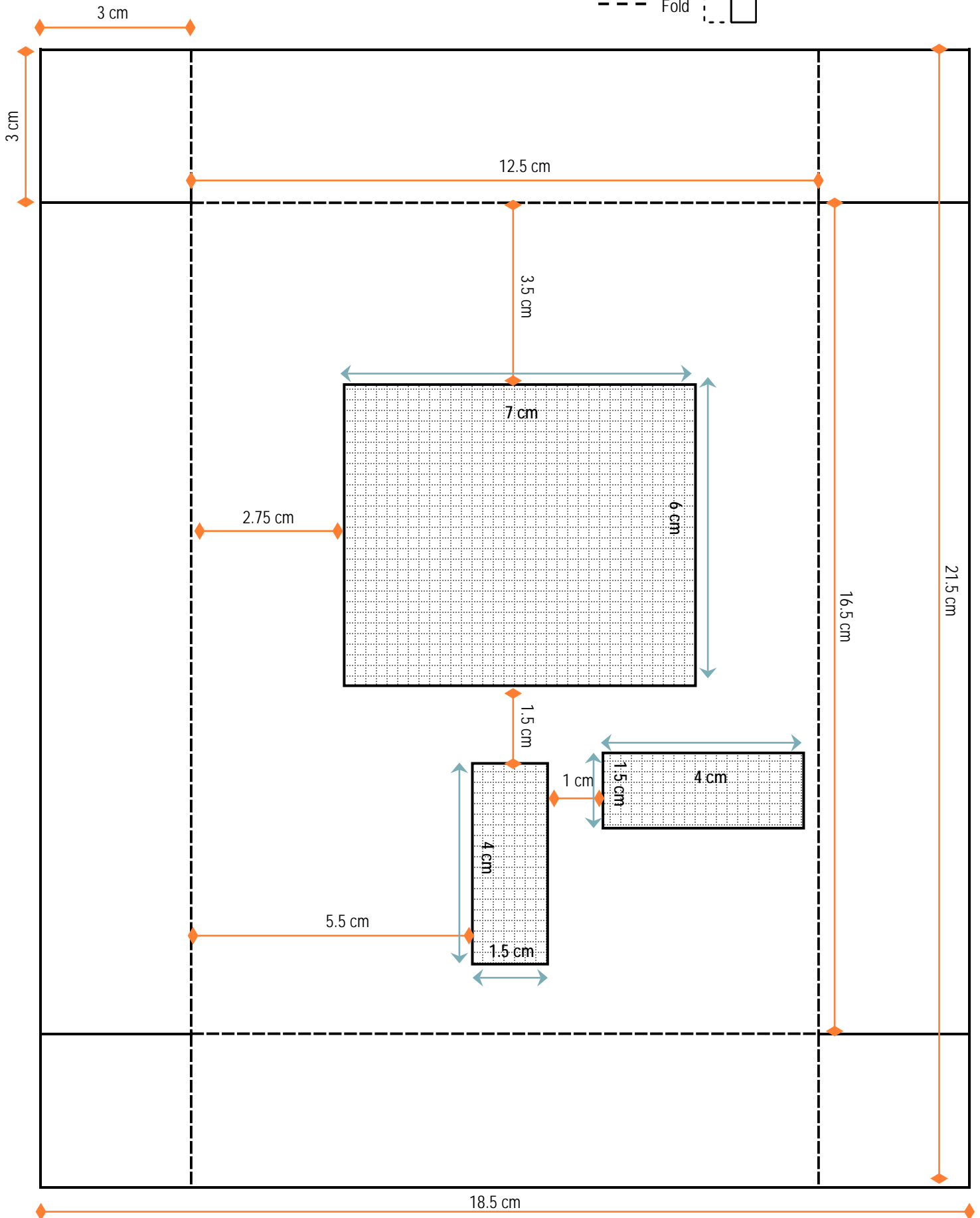
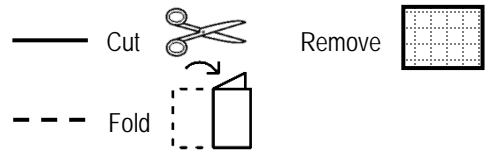
Play and have fun!



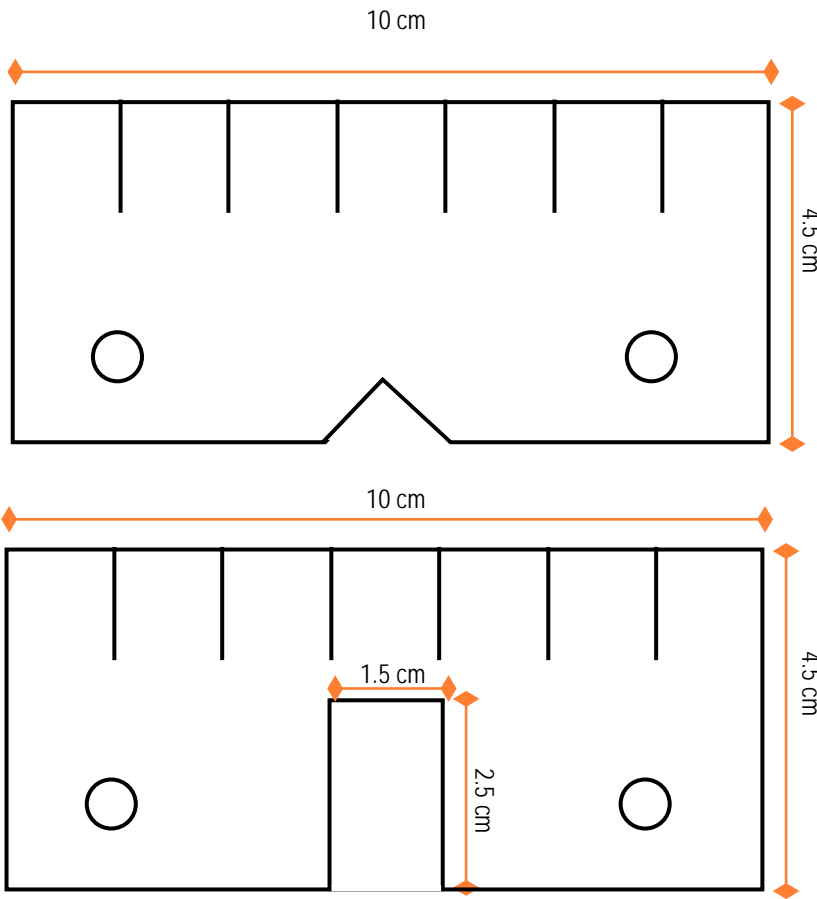
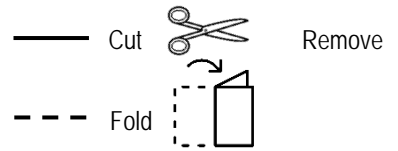
Bottom of the console



Front of the console



Attachments



Sprite (characters)

