

# Animate anything with Stop Motion

VOL.1



**pixi**makey  
education

# Welcome



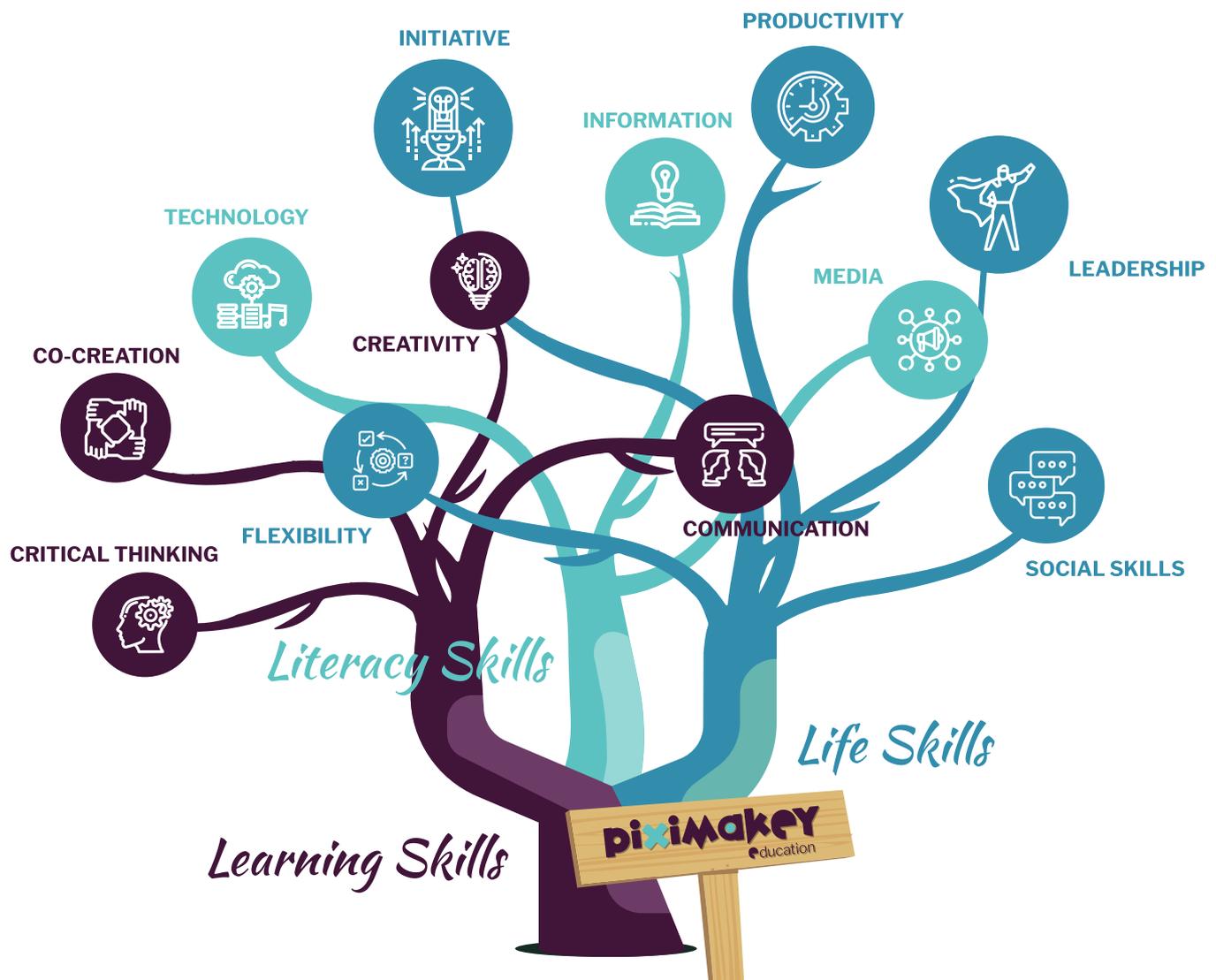
**Nice to meet you!** We created this guide to get you started with stop motion animation in the classroom. Stop motion is great way of using technology creatively and an exciting way of telling stories.

You probably already have the equipment to get started: A smartphone or tablet and some things to move around. Other than that, you need an idea and time - and some teammates for your film crew.

The projects in this guide use different props, but the basic technique is the same: **Take a picture, move things a bit, take another picture, and repeat.** Before you know, you'll have a movie. We can't wait to see it!

Best of luck,  
**Amanda and Magdi from Piximakey**





## The tree of 21st Century Skills

**When we work with stop motion and with 21st century competencies, we see it as a tree with three main branches: Literacy Skills, Learning Skills, and Life Skills.**

**Literacy Skills** include the ability to use, decode, and manage technology, information, and media. When students make stop motion films, they have to combine technical and artistic skills and merge message, image, and sound. Traditional language literacies are also included in overall storytelling, writing dialogue and voice-acting.

**Learning Skills** includes the four C's: Critical Thinking, Collaboration, Communication and Creativity. When students make films together, they go through a creative collaborative process of compromising and problem solving. Working with stop motion also develops children's ability to critically decode video, as they experience how easy it is to deceive the viewer with the help of animation, background music, and editing.

**Life Skills** includes personal skills such as initiative, productivity, leadership, and social skills. When children make a stop motion film, there is typically a theme or a time limit, but the children themselves must define tasks, go from talk to action, prioritise, cut from, and complete a product. Stop motion provides many opportunities to change direction along the way, so the above competencies are trained from start to finish.

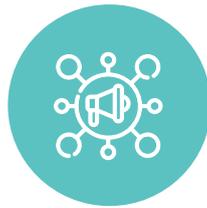
# The Skills Explained

## Literacy Skills



### INFORMATION

The ability to find, evaluate, organize, use, and communicate information effectively. This includes search strategies, the ability to evaluate credibility and validity of sources, and give proper credit.



### MEDIA

Being able to access, critically evaluate, and create or manipulate media. Media literacy is not restricted to one medium, but spans everything from video ads to memes, video games and social media messages.



### TECHNOLOGY

The ability to use a variety of digital devices (smartphones, tablets, computers) and interfaces (internet, e-mail, SoMe, cloud) to communicate, gather information, and solve problems effectively and responsibly.



### CO-CREATION

The process of developing new ideas, concepts, solutions, products or services in a collaborative way. Co-creation is a form of collaborative innovation, where ideas are shared openly and improved together.



### COMMUNICATION

Articulating thoughts and ideas effectively using oral, written, and nonverbal language, as well as listening and interpreting effectively. Communicating to inform, instruct, motivate and persuade.



### CRITICAL THINKING

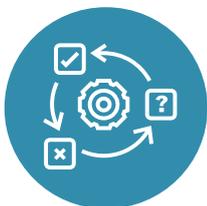
Approaching ideas with curiosity, logic and scepticism. Being able to evaluate the legitimacy of information, seek alternative explanations, and solve problems with logic, imagination and resourcefulness.



### CREATIVITY

Trying new approaches to get things done; inventing and innovating. Creativity is often characterised as thinking outside the box; the willingness to combine disciplines and ideas in unexpected ways.

## Learning Skills



### FLEXIBILITY

The willingness to adapt in order to reach a group's common goal. For instance, dealing with criticism and setbacks, incorporating feedback effectively and accepting when a project changes its direction.



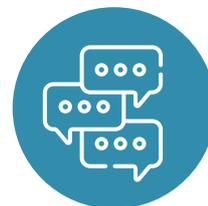
### INITIATIVE

The ability to initiate a project, break it into smaller tasks and get started. Being able to self-direct and stay motivated, without external praise or guidance. Knowing when to ask for help to get unstuck.



### LEADERSHIP

Being able to step forward, inspire and motivate people to grow and contribute to a common goal. Having the courage to make tough decisions and take responsibility for them. Being a leader is not "bossing people around".



### SOCIAL SKILLS

The ability to meet people and form better relations by expressing your wants, needs and boundaries clearly and respectfully. Being able to navigate tricky social situations, relate to others with empathy, and resolve conflicts.

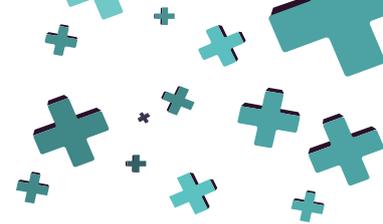


### PRODUCTIVITY

The ability to set goals and meet them by deciding, planning, prioritising, and executing tasks. Productivity and accountability are interconnected, as each person has a role to fill and a responsibility to take.

## Life Skills

# Getting started with stop motion



## What is stop motion?

Stop motion is an animation technique. Stop motion animations are made from photographs played quickly after each other. Our eyes perceive this sequence of pictures as movement.

## How is it different from cartoons?

Stop motion animations made with paper figures can look a lot like cartoons. The difference is that classic cartoons are made from individual drawings, while stop motion is made by taking a picture, moving a cut-out paper character, taking another picture, moving it again, and so on.

## Which films use stop motion?

Some great examples of stop motion are seen in the films *The Nightmare Before Christmas*, *Coraline*, and ***Chicken Run***. Other stop motion classics are *Postman Pat* and *Pingu*.

## Which materials can be used?

Pretty much anything! The **cut-out motion** technique uses cut-out figures made from paper and other flat materials.

The **clay animation** technique uses figures made of plasticine; a pliable clay that resembles play-dough. The clay included in the Piximakey Stop Motion Studios is **plasticine**.

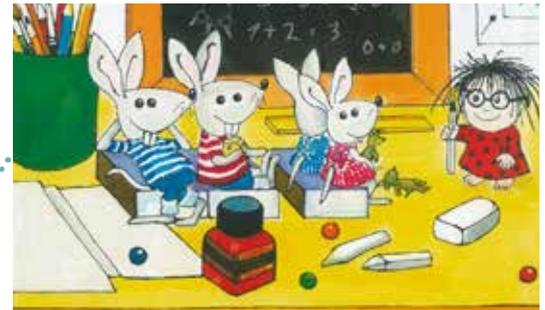
A **puppet** for stop motion needs **movable joints**. Often, this is accomplished by using a metal skeleton called an **armature**. A simple armature can be made from aluminium bonzai wire.

Everyday objects and toys can be animated too. This technique is called **object animation**. You can even animate food!

Instead of animating puppets, you can animate real people. This technique is called **pixilation**. Pixilation can be combined with object motion for some really fun and surreal effects.



Chicken Run, Aardman Animations



Cirkeline, Fiasco Film



Kinetic Armatures



Bianka Peeva

# Tips and tricks for stop motion

## The illusion of movement

Stop motion is made by taking still pictures and playing them quickly after each other. Our eyes perceive this sequence of pictures as movement. When you animate, you are really creating an optical illusion.

The same principle is used in cartoons, where a series of drawings are played as a sequence. Animated classics typically consist of 24 pictures

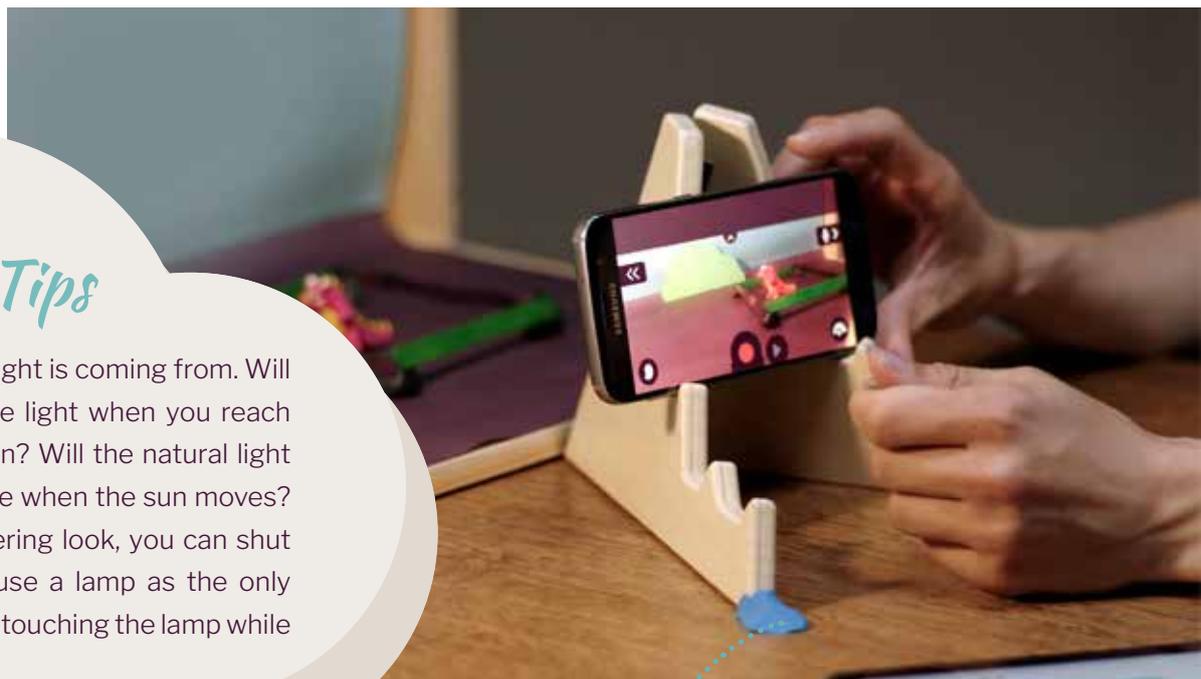
for every second of film. Imagine how long it takes to draw all these images, even for a big team - and coloring each frame, adding music, voices and all the rest.

A high framerate makes animations look smoother and more realistic, but around 5-10 pictures per second of film will do just fine for your stop motion projects.



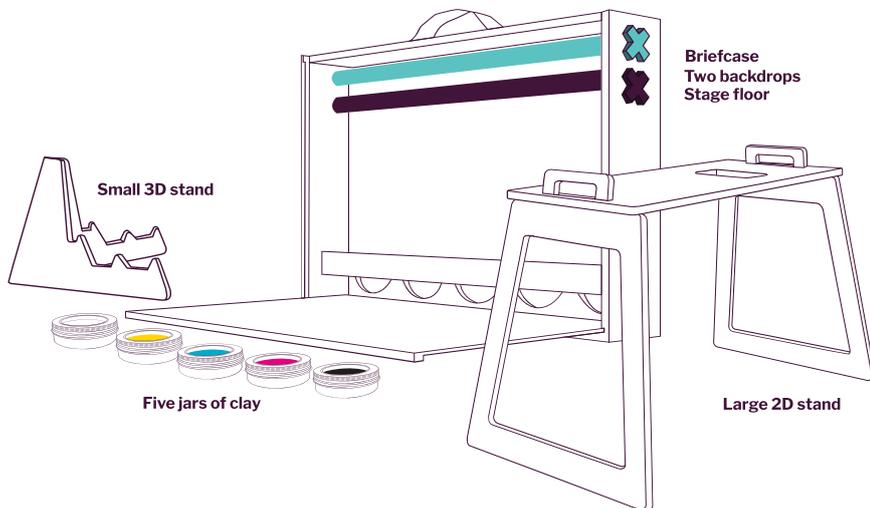
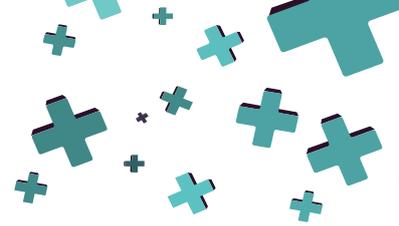
## Lighting Tips

Check where the light is coming from. Will your arm block the light when you reach towards the screen? Will the natural light in the room change when the sun moves? To prevent a flickering look, you can shut the curtains and use a lamp as the only light source. Avoid touching the lamp while animating.



*With a bit of plasticine, you can “glue” the device to the stand or the table – this prevents shaking.*

# Using the Piximakey Stop Motion Studio



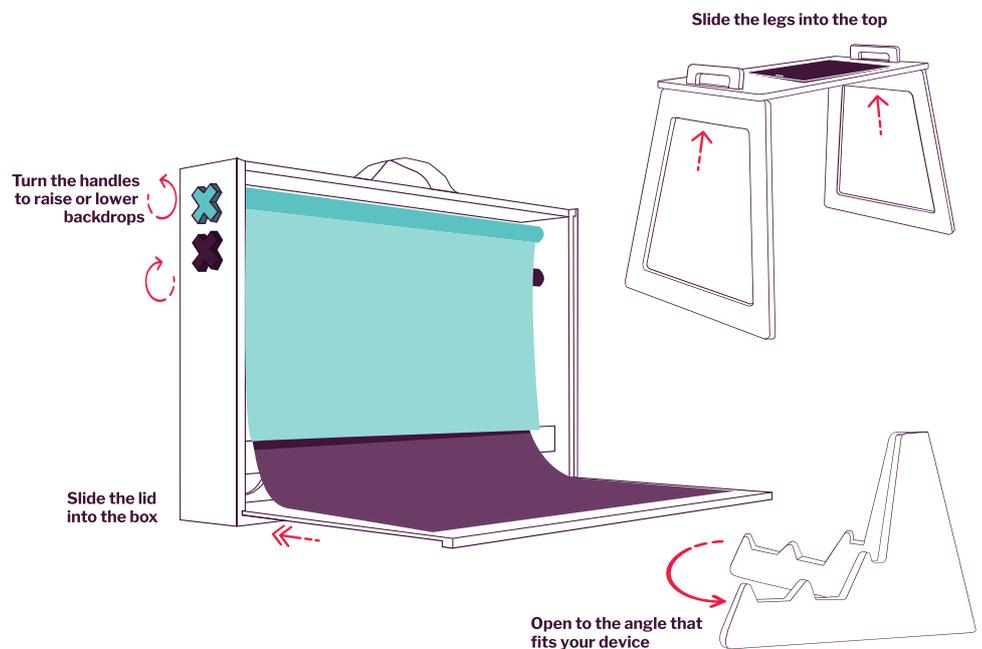
## Contents

- Small stand for 3D scenes
- Large stand for 2D scenes
- Five jars of plasticine clay
- Briefcase stage
- Two backdrops

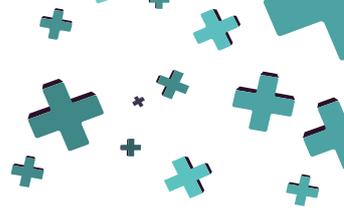
## Assembly

Slide the “legs” of the large stand into the holes in the top part. Both sides are the same, so you cannot assemble the large stand incorrectly.

To assemble the briefcase stage, slide the lid into the grooves in the box. Roll out the backdrops, and now you have a nice background for your film.



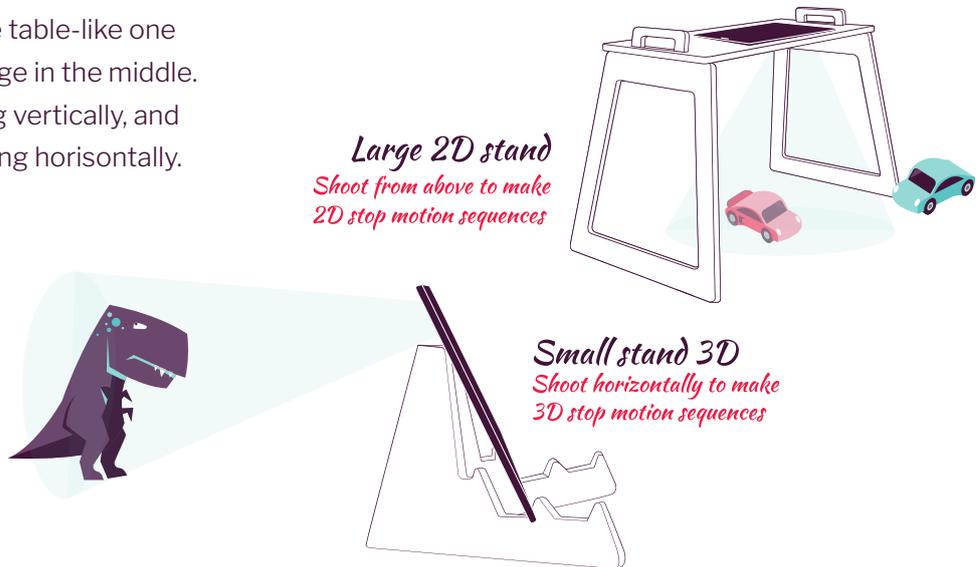
# Using the Piximakey Stop Motion Studio



## Camera angles

The Piximakey Stop Motion Studio includes two different stands, a large table-like one and a smaller one with a hinge in the middle. The large stand is for filming vertically, and the smaller stand is for filming horizontally.

Pictures taken with the large stand have a flat look, while the pictures taken with the small stand have more depth.

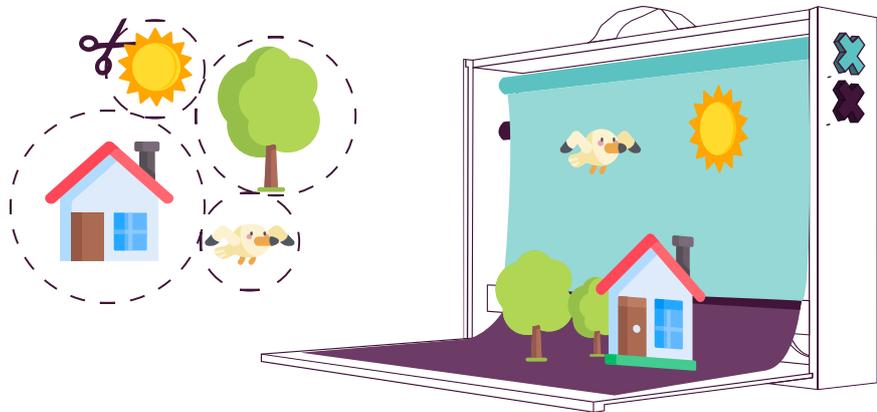


**Large 2D stand**  
*Shoot from above to make 2D stop motion sequences*

**Small stand 3D**  
*Shoot horizontally to make 3D stop motion sequences*

## Make your film set

Use the Piximakey briefcase as a stage by rolling out the backdrops using the X-shaped handles. You can decorate the backdrops with cardboard figures and drawings. Just attach them with double-sided tape or sticky tack.



## Start your film project

Download the Piximakey app and install it. Click the “New Film” button to get started.



## Tips & Tricks

If your camera moves often, the film will get a screen shake effect. By using a bit of sticky tack or play-dough, you can “glue” the device to the stand or the table. Your film will look nicer and you do not have to worry about things tumbling.

# Piximatey App for stop motion



for Android

for iOS

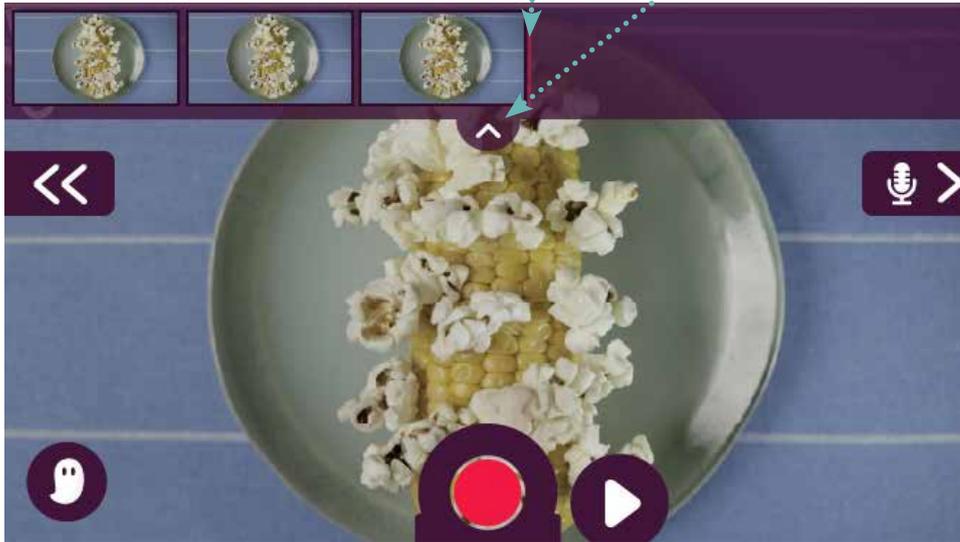
## Stage 1: Animation

Animation timeline  
(pictures go here)

Position marker  
(next picture  
goes here)

Hide timeline  
and buttons

Go back to  
start menu



Add sound

Turn ghost mode  
off/on

Take a  
picture

Play film

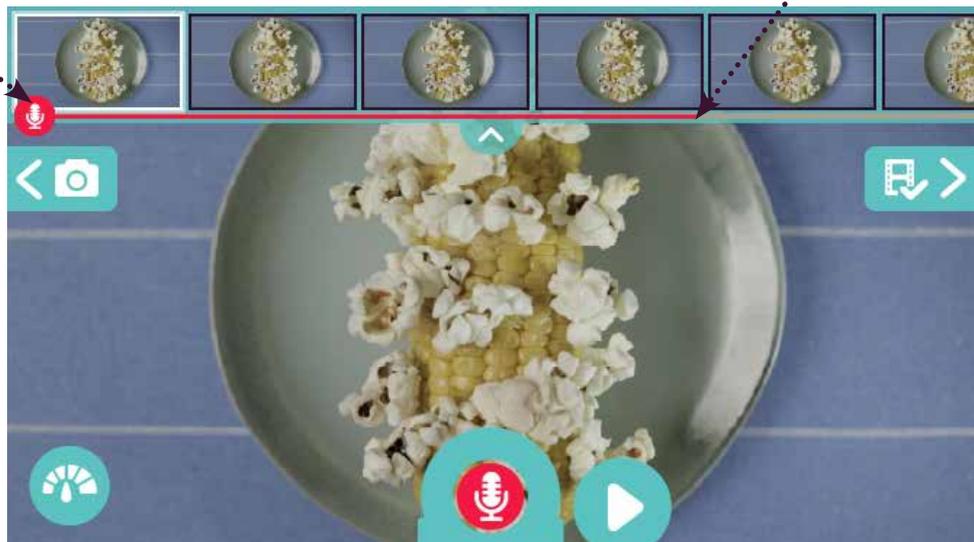
## Stage 2: Sound

Sound starts here

Sound ends here

Sound timeline

Go back to  
taking pictures

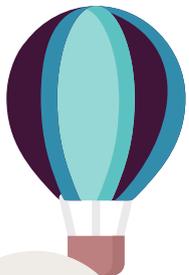


Finish and  
share film

Adjust framerate  
(pictures per second)

Hold to  
record  
sound

Play film



# Piximakey App for stop motion



for Android



for iOS

## Moving and deleting frames



## F.A.Q.

### Q: Is my film project saved automatically?

A: Yes, you can find it in My Projects.

### Q: Where does my exported film go?

A: It is saved in Gallery or Photos.

### Q: How do I delete a sound recording?

A: Same as deleting a picture. Just choose the frame with a sound icon.

### Q: Do I have to record the soundtrack in one go?

A: No. The app can only play one track at a time, but you can put several sound recordings after each other. Tap a frame to select it and hold down the record button. This starts the recording at your selected frame.

## Tips & Tricks

Export your film regularly. Exporting will not affect your film project, but it gives you some backups in case anything goes wrong.

# Stop Motion Recipes



# Object motion

## Moving things around

Do you have things in your house? If yes, you are ready for object motion! This type of stop motion can be made with pretty much anything. You simply place your object, take a picture with your stop motion app, move it a little bit, take the next picture and continue.

It might require a bit of practice to move the object consistently. For instance, if you move your object approximately a centimeter for every picture, the movement will keep the same tempo all the way through. The less you move the object for each picture, the slower the motion will look in the film. To keep track of this, a lot of apps have a function called onion skin or ghost. By turning it on, you get to see a blend of your last picture and the one you are about to take.

### Important

Start out with a simple idea. If you start out with several objects, you need to keep track of all of them throughout the film. It is easier to start with an object or two and gradually add more.



1+



THINGS



30 MIN.



0\$

### Things you can use

*Toy animals*

*Dolls and action figures*

*Cutlery*

*Fruit and vegetables*

*The mess on your desk*

*Pieces from a boardgame*

*Origami figures*

### Directions

#### STEP 1

First, decide if your object should be visible in the first frame or if it should enter the scene from the outside. Then take the first picture.

#### STEP 2

Move your object 1-3 cm and take one more picture. Repeat a couple of times, press play, and see how it looks. Keep going like this.

#### STEP 3

Play your film from start to finish. If it is too fast, turn down the frame rate in the app. If it is too slow, turn up the frame rate instead.



# Cut-out motion

## Flat is fun

Cut-out motion is a type of stop motion where cut-out figures of paper are moved around. To get a good result, you need to raise your tablet or phone above the scene. The large stand in the Piximakey Stop Motion Studio was made for cut-out motion. Alternatively, you can use a table or a cardboard box to get started - just remember to secure your device with sticky tack or plasticine clay.

Often, a cut-out motion character consists of several parts: A head, a torso, arms and legs. You can even make different mouths and eyes for creating different facial expressions. If this sounds a bit too complicated, you can get a lot of fun out of one-piece characters.



1+



SCISSORS



45 MIN.



0\$

## Things you can use

Paper

Cardboard

Magazines

Pens & pencils

Colored pencils

Crayons

Glue stick

## Directions

### STEP 1

When your cut-out parts are ready, set your scene on a floor or a table. If you use paper as a background, secure it with tape.

### STEP 2

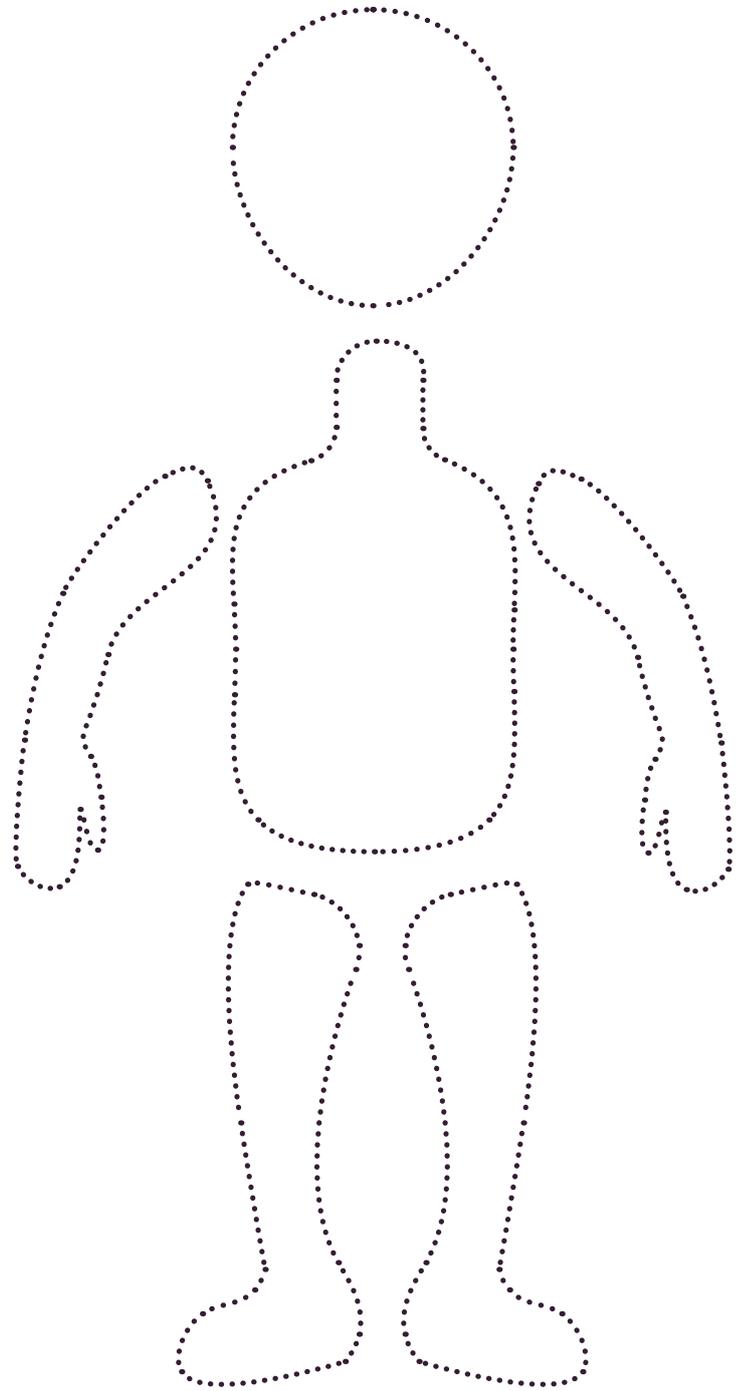
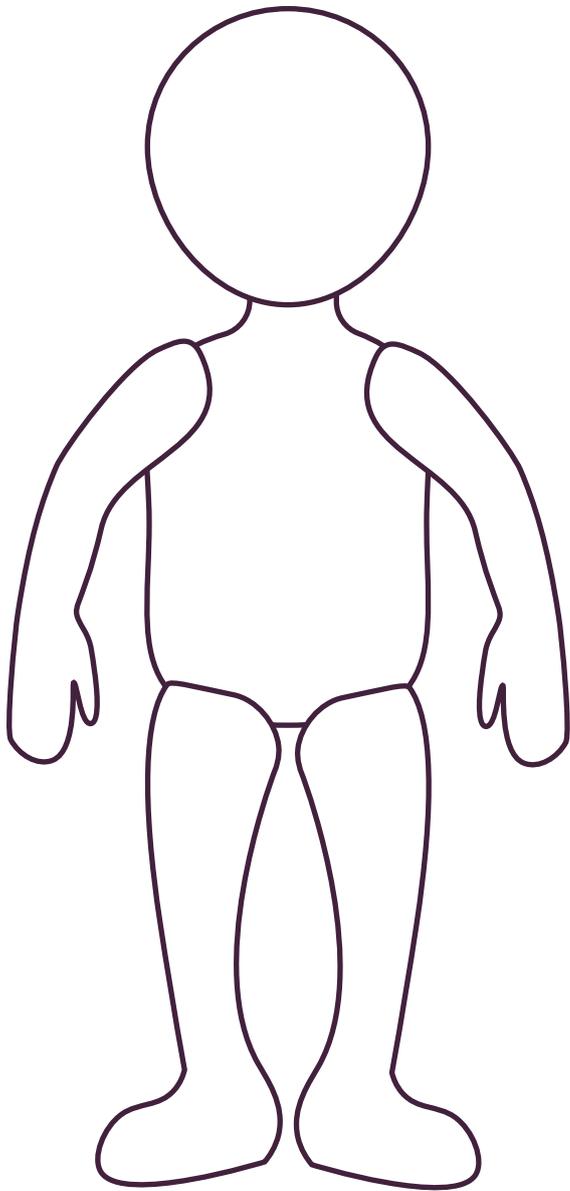
Place your device on the large Piximakey stand. Use plasticine, sticky tack or tape to secure the device, so it will not move accidentally.

### STEP 3

Open the Piximakey app and take a picture. Move the cut-out pieces and take another picture. Play the film often to discover any mistakes early on. Tap and hold a frame to move or delete it.

# Cut-out motion

Paper puppet template



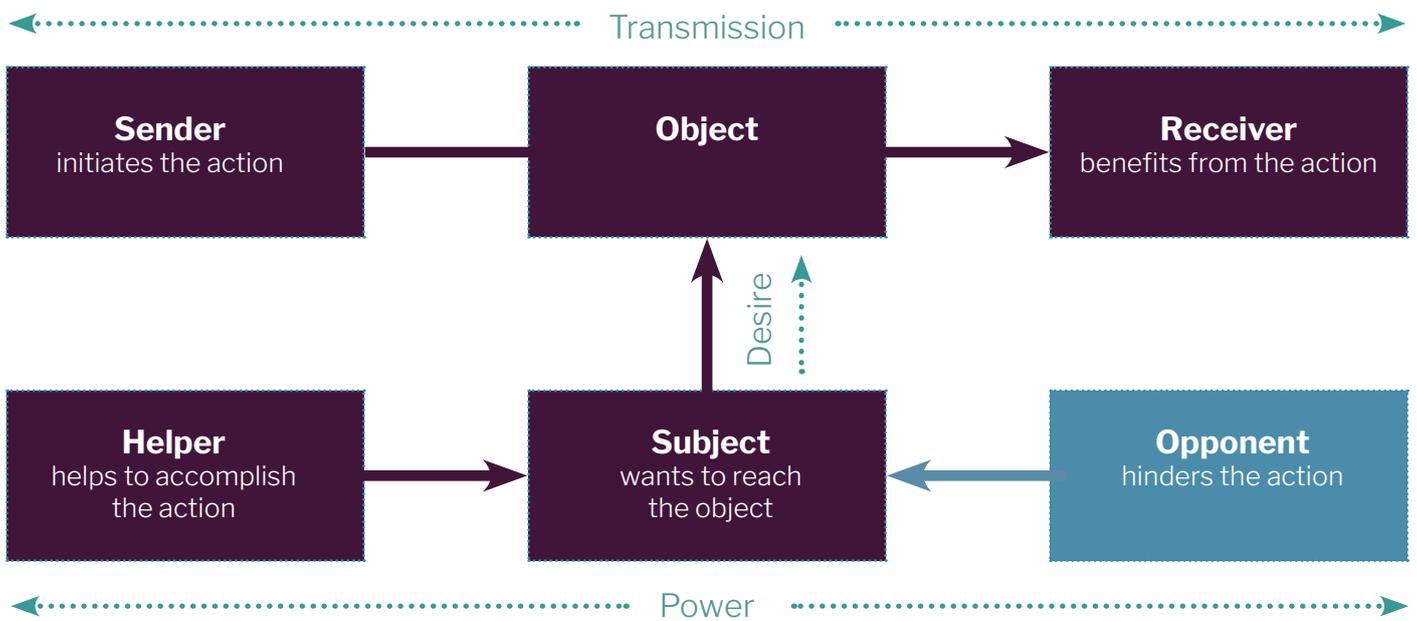
## Tips & Tricks

Cut-out figures are very light-weight, so make sure you are not sitting in a draft or close to a door that might open. If you want your figures a bit heavier and more sturdy, glue the paper to a piece of cardboard before cutting them out.

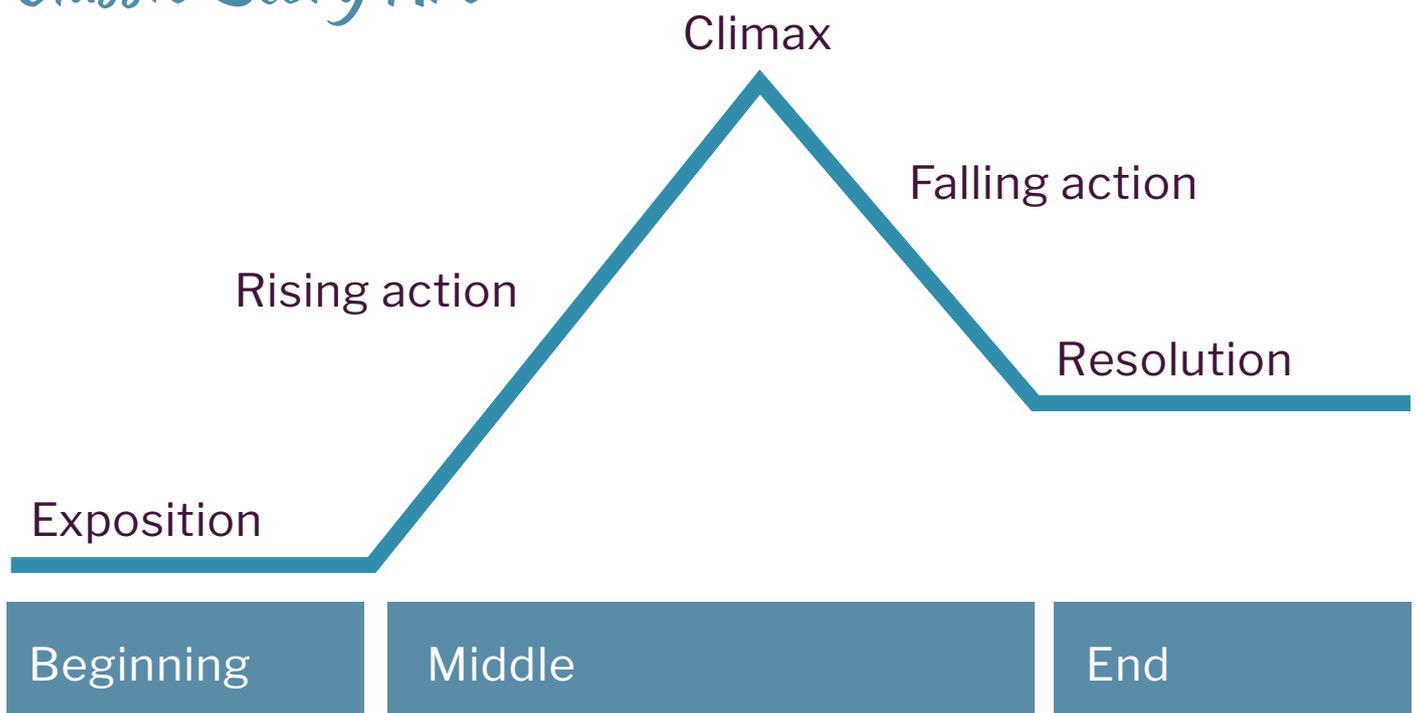
# Storytelling models

The art of telling tales

## The Actantial Model



## Classic Story Arc



# Story Generator

## Get the ideas going

Connect three tiles - one from each column - to make a story concept. Try different combinations out and brainstorm in your group. This sheet is only a starting point for building your own story.

A pirate

A walrus

A superhero

A mouse

A young girl

A young boy

An old woman

An old man

A mad scientist

A lost child

A rich entrepreneur

A poor artist

who is longing for

who is afraid of

fighting against

who collects

working hard for

keeping a secret about

failing at

struggling with

perfecting the recipe for

building a shelter for

hiding from

spending their money on

a holiday

darkness

their mother

seashells

independence

family

cooking

memories

pancakes

friends

critique

ancient treasures