So you're about to make an animation? Fantabulous!
Here are some things you should keep in mind:

Your subject: These cards are for anyone who wants to use them. Any subject can be made into a movie. Biology, history even math! Think about what you are trying to teach your students. Have your end-goal in mind, even if you decide to change it along the way!

Your materials: What materials do you want to use? You can use almost anything to make a stop-motion picture. Think about what you might want to use and have it ready for your students to grab. Keep an open mind, maybe your students will think of materials you would never think of using!

How to use these cards:

These cards will guide you through the process of making an animation. Before you begin, quickly read through the cards and make sure you (pretty much) understand them.

These cards are meant to guide and help you, they are NOT your boss – **You're the boss!** If you get an inspiration to step into new territory, please, by all means, go right ahead.

These are the cards in order:

A. Maintaining a creative flow
B. Materials

1. Getting an idea
2. The Story
3. Storyboards
4. Characters
5. Background/Foreground
6. Animation
7. Cinematography
8. Sound

MAINTAINIG

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Creative

Flow.

> Maintaining a creative and light atmosphere in the classroom while making movies is important.
>
> You want your students to know what they are supposed to be doing and also feel relaxed and happy. You want them to feel as if they have the artistic freedom to do what they want (within reason).

The contract (between students and teacher)

It's a good idea to make an agreement with your students. This agreement is meant to help you focus on what's important and keep the creative juices flowing. It's separated into three parts; beginning, middle and end.

(Let's assume you are going to make movies about the circulation of water.)

1. Beginning - The teacher's space

In the beginning you will explain to your students what is expected of them in the making of the movie. E.g. some minimum requirements, like "you need to mention plants, clouds, and animals" or "you are not allowed to have anything offensive in your movie". Tell the students as clearly as possible what they have to do before moving on to the next step. In the next step you interference should be minimal.

2. Middle - The student's space

Now it's time to enter the "special world". This is the student's creative space. In the special world there should be no rules other than those laid out in the first step. That is, you should not keep adding rules as you enter the special world. You made the rules in step one – now you step back and see what your students come up with.

If they start doing things differently from what you want, but conform with the guidelines you laid out in step 1, let them go with it (what's the worst that could happen?). Instead of interrupting the flow, make a note of your objections or questions and save them for step 3.

3. End - Common space

This is where you go over the day's work, how all of you feel about it and so forth. You can look at the final productions and evaluate. It's good for the students to practice making arguments for their opinions. This would be a good time to bring up any problems that you might have with how they implemented the previous step. Ask your students specific questions about the result – not just "did you like it?" but "what did you think of the animation's tempo, the backgrounds" etc. and ask the class if they know how any problems could be fixed.

MATERIALS.

There are many ways to make a stop-motion movie and there are countless materials you can use. Each one has some benefits and down-sides to them. Let's look at a few, shall we?

Material	+	-
Drawing	It provides a lot of freedom	You have to draw every single frame
Clay	You can make 3D characters that fit well in a 3D environment	You have to battle with gravity, your characters may fall over
Construction paper	It is the easiest way to animate on a flat surface	It can be a fiddly business to cut out the characters. You have to make it flat
Recyclables	It fosters your creativity, giving new life to some "trash" It's easy to find and it's free	It can be difficult to make an easily animatable figure out of random materials
Legos	It's quick and easy	Their movements are limited It's less creative than making your own characters

getting an
iDEA.

An idea is what you want your story to be about.
Not the story itself, but the subject of the story.

For instance the idea for Spiderman might be something like "what if you were to combine the DNA of a spider and a human boy?" and the idea for Toy Story would be something like "What if toys came to life when we weren't looking at them?".

Having an idea that you are excited about can keep the creative juices flowing throughout the whole production.

Coming up with an idea with your students can be fun and rewarding, but of course it can be a bit daunting. It's not always easy to get ideas out of the blue!

Luckily there are some methods you and your students can use to help get you going.

• **Your students are idea-factories!** A first step might simply be to ask them what they would want their movie to be about (you can narrow their choices depending on the subject you're studying). You can also write a few examples of subject matters on the board to get them going.

• **Use your environment!** Looking around you can easily give you an idea of subject matter. Tell your students to look around, pick one thing and combine it with another thing they can see. Chances are, you already have the beginnings of a story to work with!

• **Just keep moving!** If you have trouble finding an idea, don't worry! Just keep moving forward. For instance, have your students start making something, cutting some characters out of construction paper.

• **Don't panic!** If you think your idea isn't good enough, don't worry! Any idea will change and evolve. You will get new ideas as you move along. Nothing is perfect!
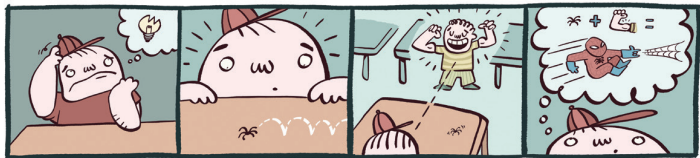
the STORY

Next we want to come up with a story-line. The best thing to do is to lay it out in about 4 steps. Beginning, middle and end (with two steps in the middle).

Example: The three little pigs.

1. Three pig brothers need to move away from home for the first time.

2. They build their new homes out of different materials and then get attacked by a wolf.

3. The two lazier brothers have their houses destroyed and run to the third brother's very strong house.

4. The wolf tries to attack the much stronger house, but the brothers are ready for him this time and defeat the wolf.

You can think about it as if you only had a minute to tell someone what will happen in your new story. What would you say? What are the highlights? What needs to be explained for the story to make sense?

Now that you have an outline or *synopsis* of your story-line, write it down or draw it. Make 4 panels and draw a very simple picture in each one. This can be your guide throughout the rest of the production.

A few good tips:

• Start by practicing how to make an outline using stories/fairytales/ movies the kids know already, so they understand it.
• Help the students break the story down into a single sentence.
• Write the story in 4 parts or draw it as if it was a comic.
• Let the kids present their synopses to each other.

Story-Boarding

A story-board is a rough outline of what will happen in the story in picture form. It looks sort of like a comic-strip. The storyboard guides you and informs you of what needs to happen next.

Take the synopsis drawings you completed in the previous step and start filling in the gaps. What happens in between story-beat 1 and 2, between 2 and 3 and so forth. Don't make the drawings too big or too complex, the point is for it to be quick and simple and easy to understand.


A few good tips:

• Start the storyboard where it is most comfortable for you. Once you get going it will get easier.

• Use separate pieces of paper (e.g. Post-it notes). Then you can move them around at will – sometimes the order of the scenes needs to be changed.

• Keep it looking simple. Stick figures can be replaced by more detailed drawings later, it's best to keep moving forward.

• You can start thinking about camera angles, close-ups, wide-shots etc. which can be used to emphasize particular story points. These will tell you what you need to do to prepare for that particular scene.

• Test the readability of the storyboards by passing them around and have others retell the story only from the storyboards.
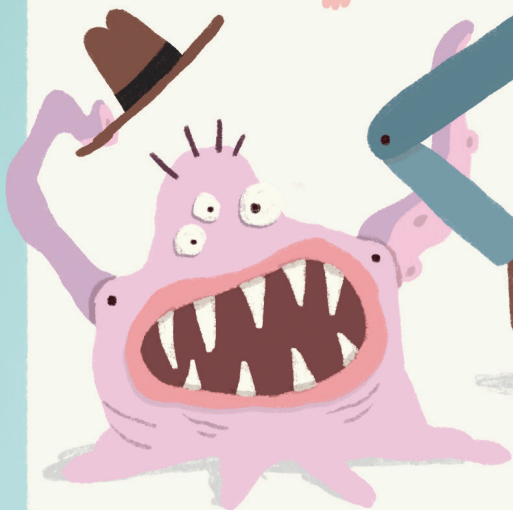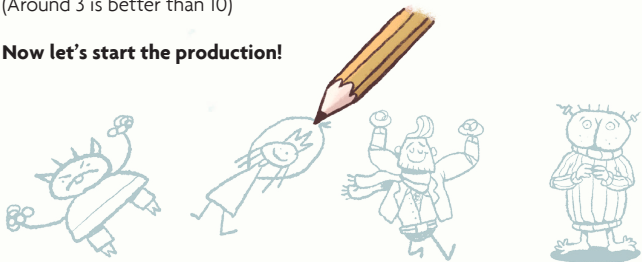
Characters

Now that you have your whole movie storyboarded it's time to design and build your characters. Here are some questions you might want to ask yourself:

• How many characters do you have?
• What materials do you have available to make them?
• Do you have too many characters? Can you manage with fewer?
(Around 3 is better than 10)

Now let's start the production!

A few good tips:

• Don't make the characters too small, and avoid too many details, it will make everything else very difficult! Around 10 - 15 cm is a good size.

• Make the characters very distinct from one another. Different sizes, colors and materials can help.

• You might want to choose materials to match the personality of each character. A friendly character might be soft and round while an evil character might be more rough.

• Fasten eyes and mouths with adhesive-putty (such as Sticky Tack). This allows you to move them and the characters can wink and change expression.

• If you have close-up shots in your movie, you can make bigger versions of the parts of the characters that are to be in close-up (the face or hands for instance).

• Be very careful that the colors of the characters are not the same as that of the background, we want to be able to see them!

BACKGROUND-FOREGROUND

Each picture or movie consists of three main planes: the background, the middle-ground and the foreground.

Background: Make sure to make it big enough so that you can move the characters around in it without them dropping off the end. You might also want to consider that if you have any wide-shots (where the camera is far away) you need to make sure the background is big enough to cover that.

Middle-ground: Almost all of the action takes place in the middle-ground of the film. This is where your characters and moving objects will be. You can have your horizon on the middle-ground. Just be sure to place it behind the characters and objects, not below them.

Foreground: The foreground contains objects and characters that are very close to the camera. This could be branches in a forest or the shoulder of a character that is looking at the action on the middle-ground. The foreground is not necessary for your film and you should use it sparingly.

Background   Middle-ground   Foreground
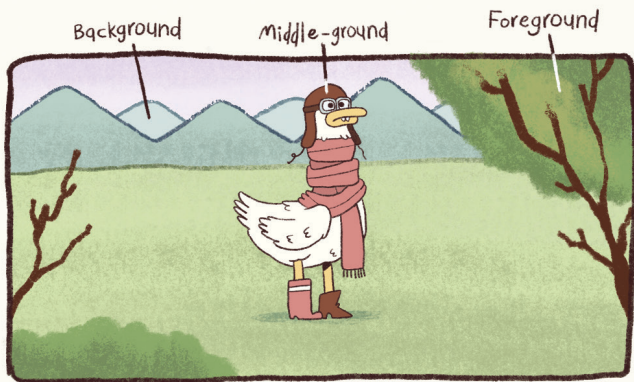
Background moods:

You can set the mood of any scene with the design of your background. Is it a scary place? Make it dark and with sharp corners! Is it a fun, safe place? Make it colorful and fluffy!

It's a good idea to add a few details in your background. It gives a feeling of depth and realism. A small house at the top and a bigger one nearer the bottom will tell the viewer that the first house is very far away.

SCARY   HAPPY   DETAILS (DEPTH)

A few good tips:

• Make sure your backgrounds are securely fastened to a flat surface before starting to animate, you don't want them moving around unintentionally.

• Avoid gluing everything in place before starting to film. You might decide to move something once you see it through the camera. Use Sticky Tack at the start.

• Use a large piece of paper as your background. A2 size could be ideal. If you avoid cutting it, it can be reused for another background later.

• Do not use the bottom of the paper as your "floor". That will give you no room to maneuver. Place the floor or horizon line near the middle or 1/3 of the way up from the bottom of the background paper.

• Make sure to give your characters room on the background. Don't put too much stuff around them. This makes sure the characters can move around the background with ease. If they have to get around a lot of stuff it will be harder for you to animate.

ANIMATION

To animate means to bring something to life – to make it move. Animated film can refer to moving pictures (drawings) or moving figures (stop-motion).

You create movement by taking a photo of an object or character, moving it, and then taking another one. Repeat this process and you should end up with a continuous moving picture. The speed of the movement depends on how much you move the object between each shot.

Example: If a car moves across the screen in 5 shots it will appear to be moving much faster than if it happens in 10 shots.

5 shots

10 shots
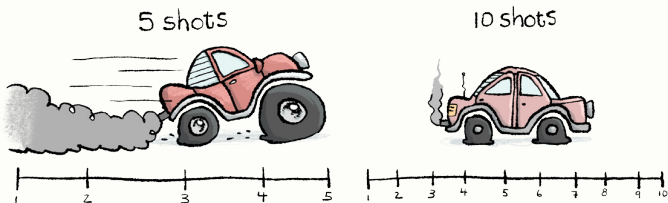
It is best not to have too many actions happening at the same time. The viewer might be confused trying to pay attention to two things at once.

Remember to watch what you have recorded so far, frequently, to check if everything is as it should be. Infact, you can hardly do it too often.

Pauses

The pauses are just as important as the movements. If a character or object doesn't pause it's going to look unnatural be very tiring to the viewer.

A pause is needed in between every two movements. When something is about to happen, pause (take a few pictures without moving anything). Do the same after the movement is over.

Don't forget to pause!

Cinematograpy

Cinematography refers to what you do with the camera; the camera angles, movements and transitions between shots and scenes.

There are two basic kinds of camera shots; the wide-shot and the close-up.

The wide shot is when the camera is placed far away from the characters and objects and shows everything that is relevant to that scene, all at the same time.

The close-up is when the camera is close up to the action or character. Cutting between wide-shots and close-ups is a regular part of any movie and there are a few tricks to it that would be good for you to learn.

Wide-shots are great for showing the viewer where we are, they put the action in a particular place. This is sometimes referred to as an *establishing-shot*.

Wide shots require a lot of animation because they show many things/ actions at once. They can also become boring if they are used too much. Therefore you will need to switch regularly to a close up.

Close-ups are used to focus our attention to something particular, like an important object or the emotion of a face. For example, if a man is about to slip on a banana-peel it would be good to show a close-up of the banana lying on the ground before the action takes place.

Close-ups also save you time and effort because you don't need to animate the things that aren't on camera. If you show the upper body of a character walking you don't need to animate the legs.

Transitioning between two close-ups is something you will be doing regularly and you need to follow a few principles. If, for example, you have an establishing-shot of two characters talking, you need to make sure that they look in the right direction. The one on the left must always look to the right and vice versa.

When you cut between camera positions or angles you should try to make it as seamless as possible, you don't want the action to stop just so you can change the camera position. It makes for a very uncomfortable viewing experience. Try to cut in the middle of a movement as much as possible. Make sure every cut lasts at least two seconds (which is about 50 camera shots), too much cutting is just as bad as too little.

Sound & Music

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Sound and music is a crucial part of any film. It adds an extra dimension of reality to our project and keeps the viewer's attention. Music is a great way to evoke emotion without any words, and it happens automatically in the viewer's brain.

The great thing about sound is that when we see a moving picture and hear something our brain automatically makes it fit together. So a coconut can be a horse, a rubber ball can be a car and cutlery on a plate can be a human scream. What the eye sees the brain believes!

Be creative and think outside the box, you will be amazed at how great the every day objects around you can make your movie sound!

Setting the scene with music

The kind of music you put with each scene will greatly impact the viewing experience. Imagine a scene where a man hands another man a drink. If the music is happy and cheerful we will assume the men are friends, if however, the music his ominous and dark, we would assume that something terrible is about to happen when he takes a sip.

There is plenty of free and copyright-free music you can find online. It's only a google search away!

A few good tips:

• Don't have your characters say what is happening with their dialogue. If a character is making a snowball he wouldn't say "now I'm making a snowball". Rather he might say something that points to what is going to happen next, like "this one is going for your head!".

• Although you can find sound effects on the internet, try using your environment and recording it yourself. It is a much more creative and rewarding experience for you and your students!

• Try not to make sounds start and stop at the exact same time as you cut between two shots. Making the sound start a bit earlier than the cut and last a bit longer helps the transition run smoothly and makes for a better viewing experience.

• There is no need to stop recording sound each time you make a mistake, just continue recording. You never know when you might be able to use a sound you thought was a mistake!