Explore the Secrets of

2D Animation...

Basics of 2D Animation:

We are bringing you this e-book that will help you learn all the basic skills of making animation and animating characters.

Through this e-book, you are going to learn all the basics through the contents given below :-

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The basics of how the Animation works, starting from 2D

Animation is a way to express your feelings, thoughts, and ideas. If you have the ambition to become an animator, begin by learning the basics of 2D.

2D Animation   **3D Animation**

What is 2D Animation?

2D animation consists of a series of sketches shot one after another. After completion, all the shots are played simultaneously to give the viewer an illusion of movement.

You can play this or any other animation in several ways.

Some of the ways to play animation are given below:-

Flipbook

You cn play the animation in the form of a flipbok. A flip book refers to a pile of drawings in sequence. When the stack is bound together, you can flip it with your thumb to make the animation work and give the viewer the illusion of movement and action.

Movie Camera Enabled Animation:

You can shoot animation drawings on a film. One is drawing at a time with the help of a movie camera. Once all the pictures are completed, you can playback all of them with the support of a cinema projector.

Movie Camera Enabled Animation:

- You can use your video camera to take animation shots.

- You can attach a videocamera to your computer and play it on the same computer using your animation program.
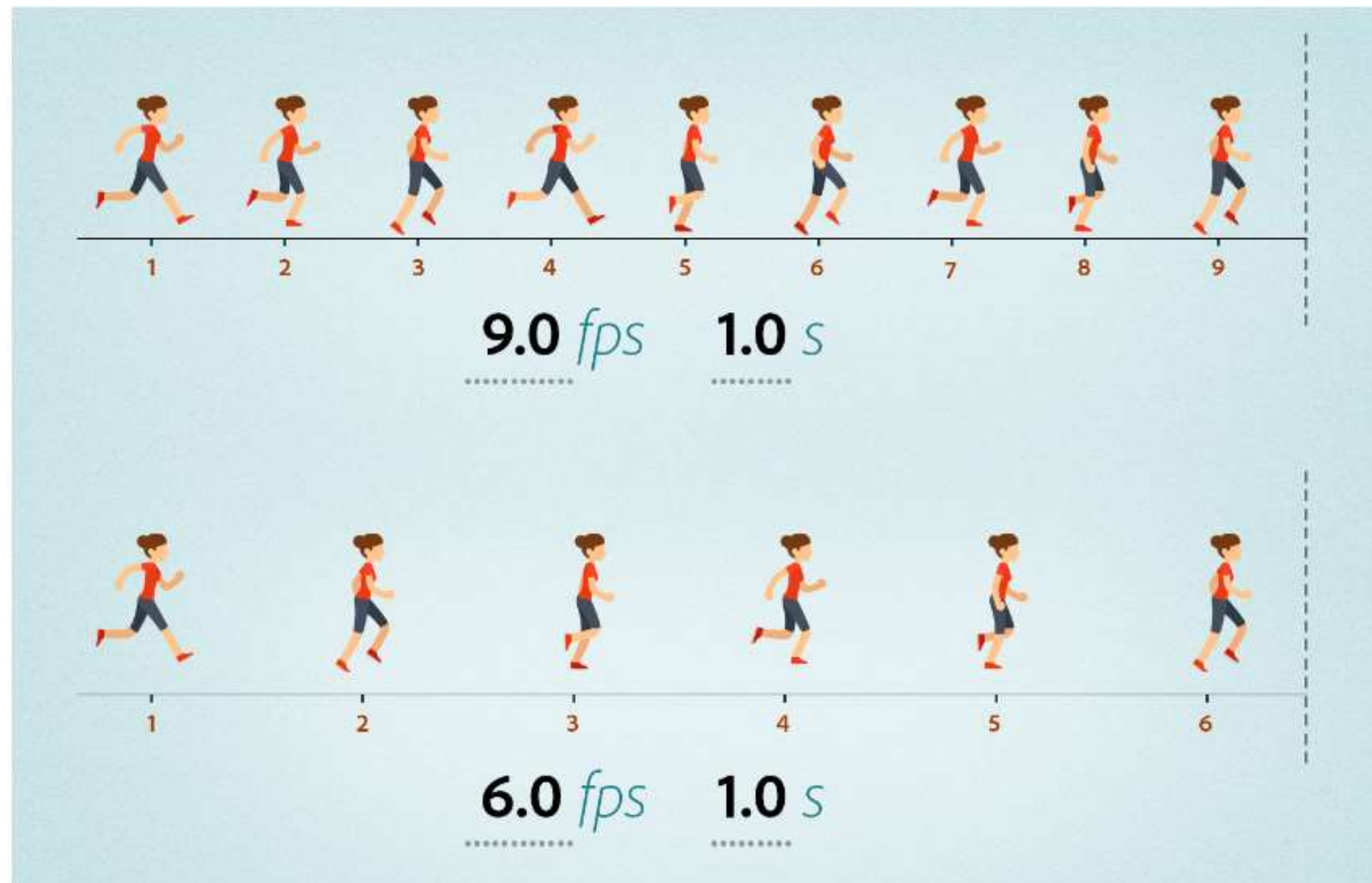
Knowledge About Frames Per Second:

What do you know about frames per second?

❖ Your animation shots on film and projected are played at 24 frames per second. In some continents like Europe, Australia, and Africa, animation for television is played at 25 frames per second.

9.0 *fps*   1.0 *s*

6.0 *fps*   1.0 *s*

❖ If you are playing an animated film sequence at 24 frames per second, you will see a black bar rolling up the screen.

❖ Most of the animated filmmakers from south & north American countries, including the countries from the west indies and the pacific rim, use NTSC.

❖ The specialty of NTSC enables any animated filmmaker to play at 60 frames per second. You will be animating at 30 frames per second (60 divisible by 30).

❖ As a filmmaker, you can also use a digital converter to transfer one speed of your video to another rate of your film.
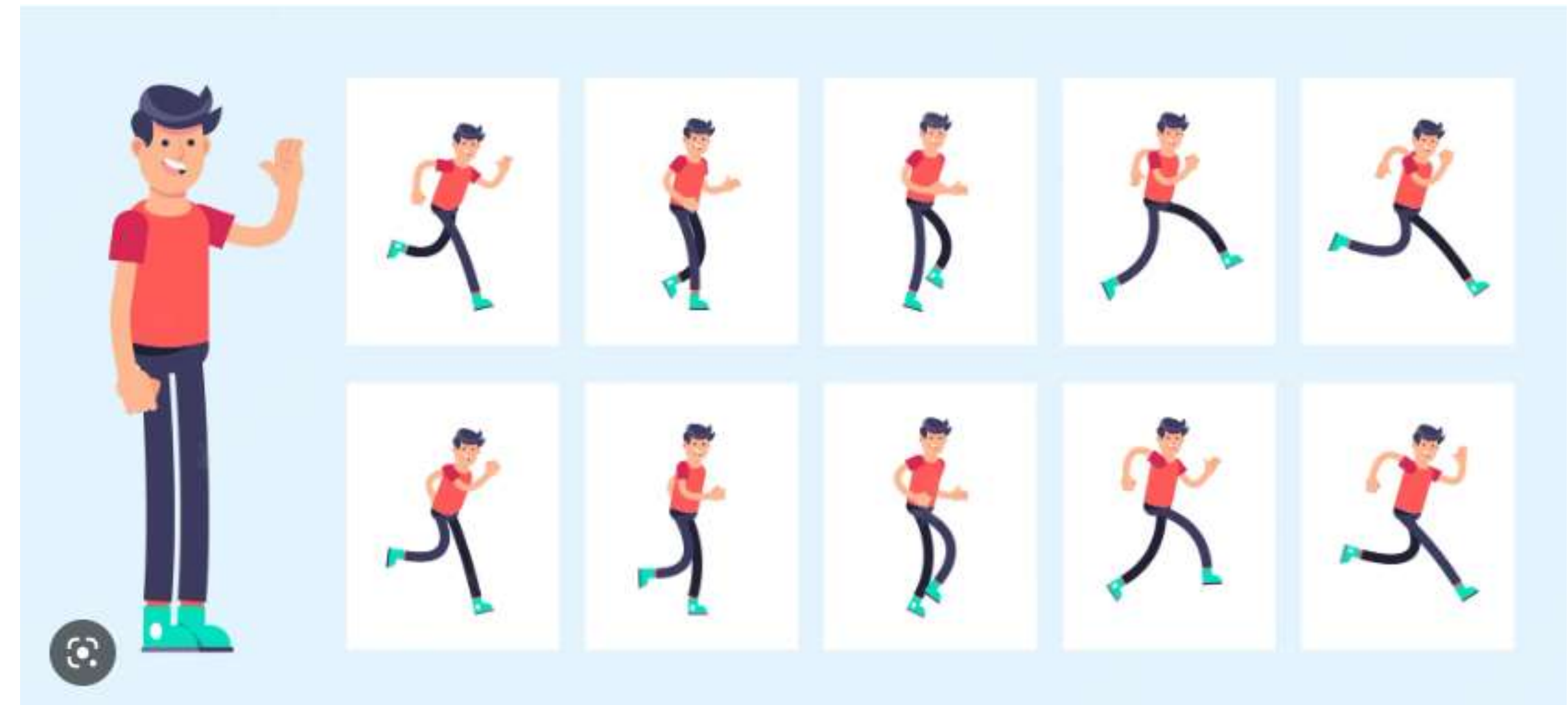
❖ This process allows 24 seconds of the film to be shown on 60 fields per second on an NTSC camera or TV. It is a necessary procedure to overcome the incompatibility of the two systems.

❖ The process of frames per second is a good way of learning about animation. It is a critical thing that you need to take care of.

❖ While animating your film, you must figure out how fast the animation is played back. All the energies taught here, including the frames per second, will help you in the future.
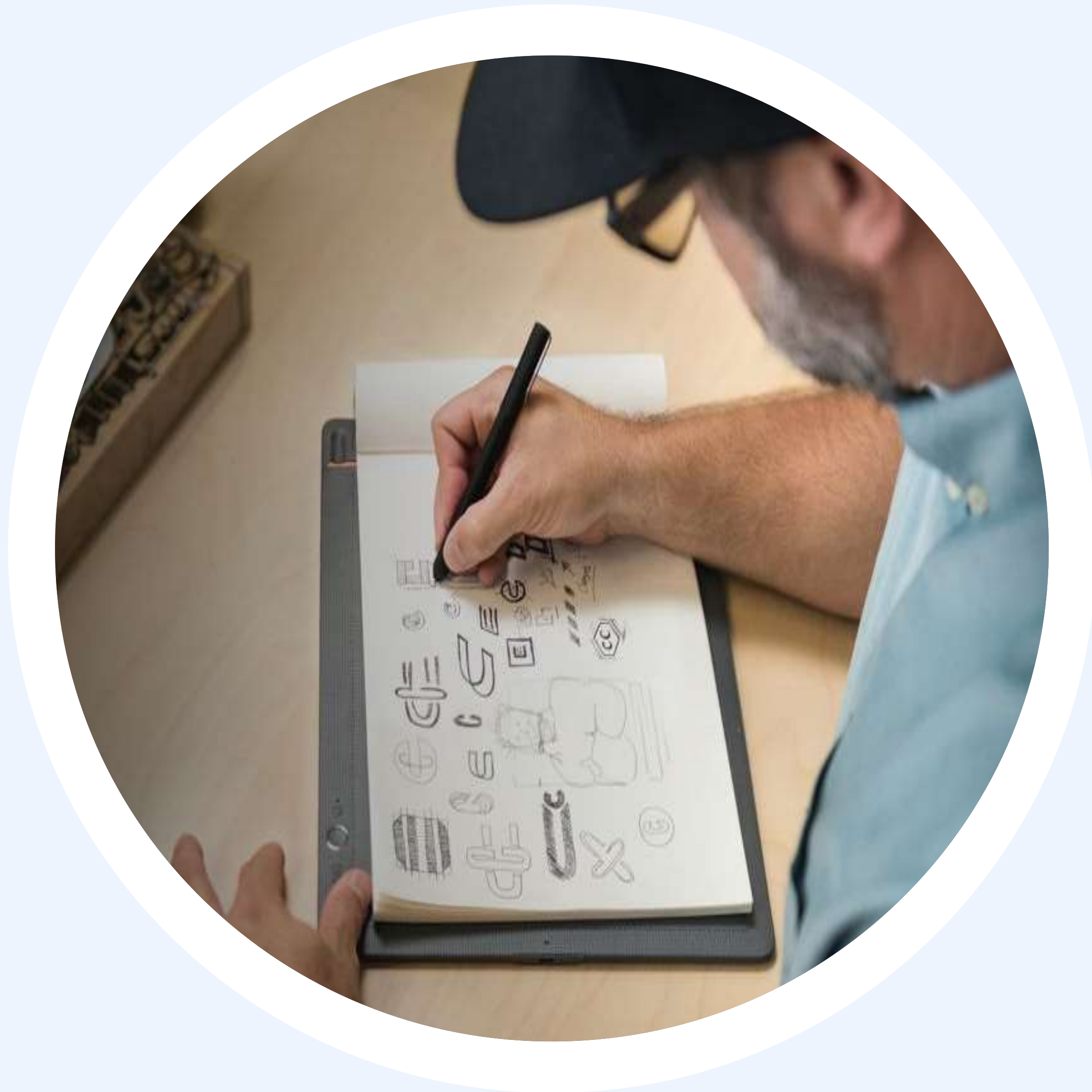
Resources required in the studio for Animation

Making a 2D animated cartoon or film is not a piece of cake for any animator. To make your animation work, you will need a list of things in your studio. **The list is given below:-**

| Animation paper	Peg Bar	Light Box	X-sheets	Line tester	Pencils
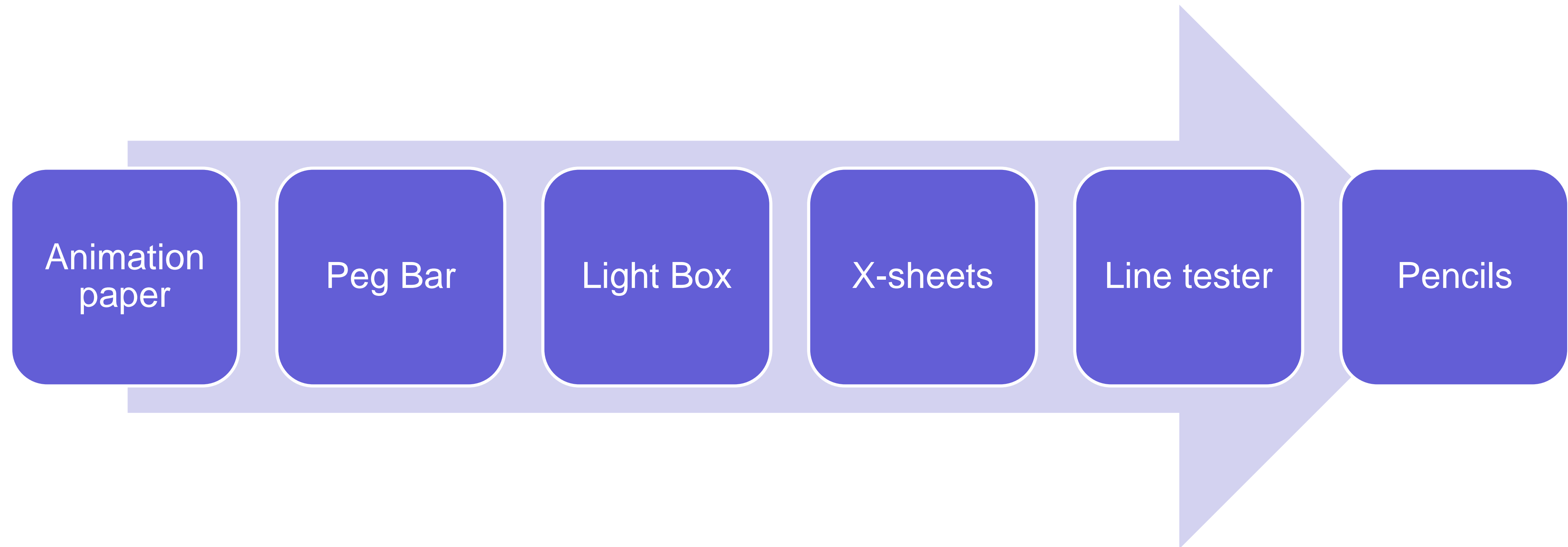
Animation Paper

- You know that clarity is required to view all your drawings. It is why you always work with four or more layers of paper while making your animation.

- Professional animation paper or working paper comes in different sizes. Most of the animators work with 12 fields and 15 fields. For your information, 15 area is 15 inches wide.

- In the same way, 12 fields are 12 inches wide animation paper. Most professional animation papers come with three punctured holes that animators work on.

Peg Bar

The PegBar Chart
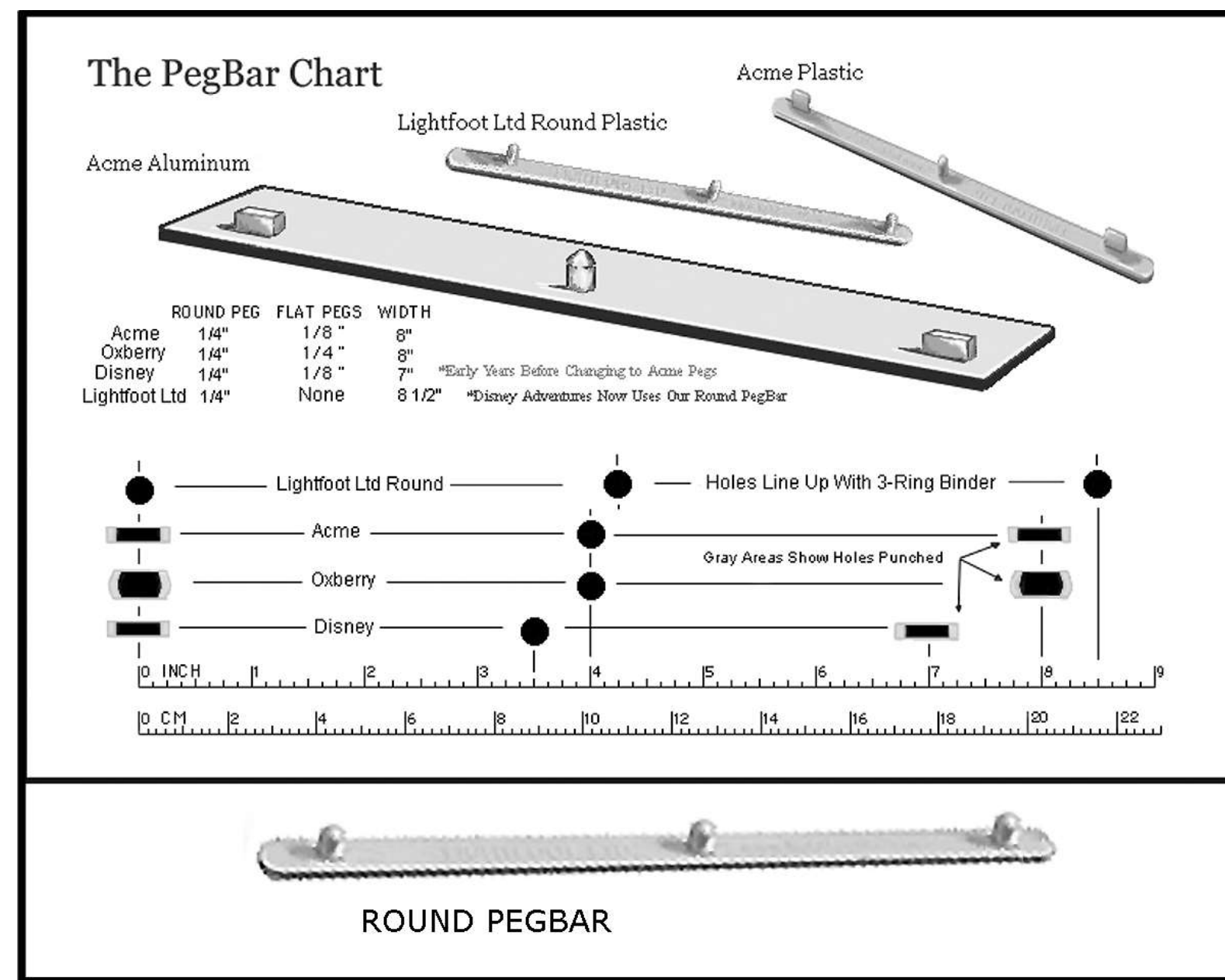
- Peg bars or professional peg bars are strips of steel or plastic with three pins.   These peg bars are made up of industry standards. They are used with professional animation papers.

- The peg bars register every single piece of animation paper against the next. For any ambitious animator, it is practical to buy two-pin peg bars. Two-pin peg bars are often called junior peg bars.

- Moreover, you can make your peg bar using a strip of wood with two pieces of dowel corresponding to the holes in your paper.

Light Box

- The light box is the enormous resource you require in your animation studio. A lightbox is a flat sheet of opal perspex over a light.

- The rotating disc of the lightbox allows an animator to change the angle of the drawing surface. Hence, making it easy for the animator to draw both on the wrist and the back.

- You can go for a simple light box that is relatively unequivocal to make or create. Instruct the carpenter to use a wooden storage box with the top part cut off.

- While cutting the top part off at an angle with a neon bulb mounted inside it, a piece of 6mm opal Perspex is fastened to the top with screws.

X-sheets

- For animators, X-sheets are also referred to as dope sheets. They are also known as exposure sheets. The animators use these sheets to record all the required information.

- This required information that an animator record relates to how the animation will be shot. A regular x-sheet consists of several columns running from top to bottom.

- The X-sheet also consists of 100 rows that run from left to right. Furthermore, each row represents only one frame of animation. If you play it back at 25 frames per second, 100 frames will equal just 4 seconds of animation.

- Moreover, the animation x-sheet is divided into numerous columns. These columns are the sound column, action column, frame numbers column, levels column, and camera column.

Line Tester

- A line tester is an animator's device that captures your drawings and plays them back. It is a quick and easy way to observe whether the roughly drawn sequence works.

- You have several ways to set up a line tester. You could use a film camera and a video recorder to record a single frame.

- You can even use a line testing software program via a computer as an animator. The most simple and effective way of settling a line-tester is using a webcam.

- Yes, you can use a webcam with a computer and the line-testing software. You can even set it to point down on the table.

839 × 973

Pencils

- It's always best for an animator to work in rough with Col-Erase blue pencil while drawing your animation. You can also erase your drawing using a graphite pencil.

- These specialized pencils for animation can help you define the correct lines of your character. It will also allow you to add details using graphite pencils on the top of the rough Col-Erase lines.

- Furthermore, when you line to test your animation, the graphite line will show up more clearly than the blue lines underneath.
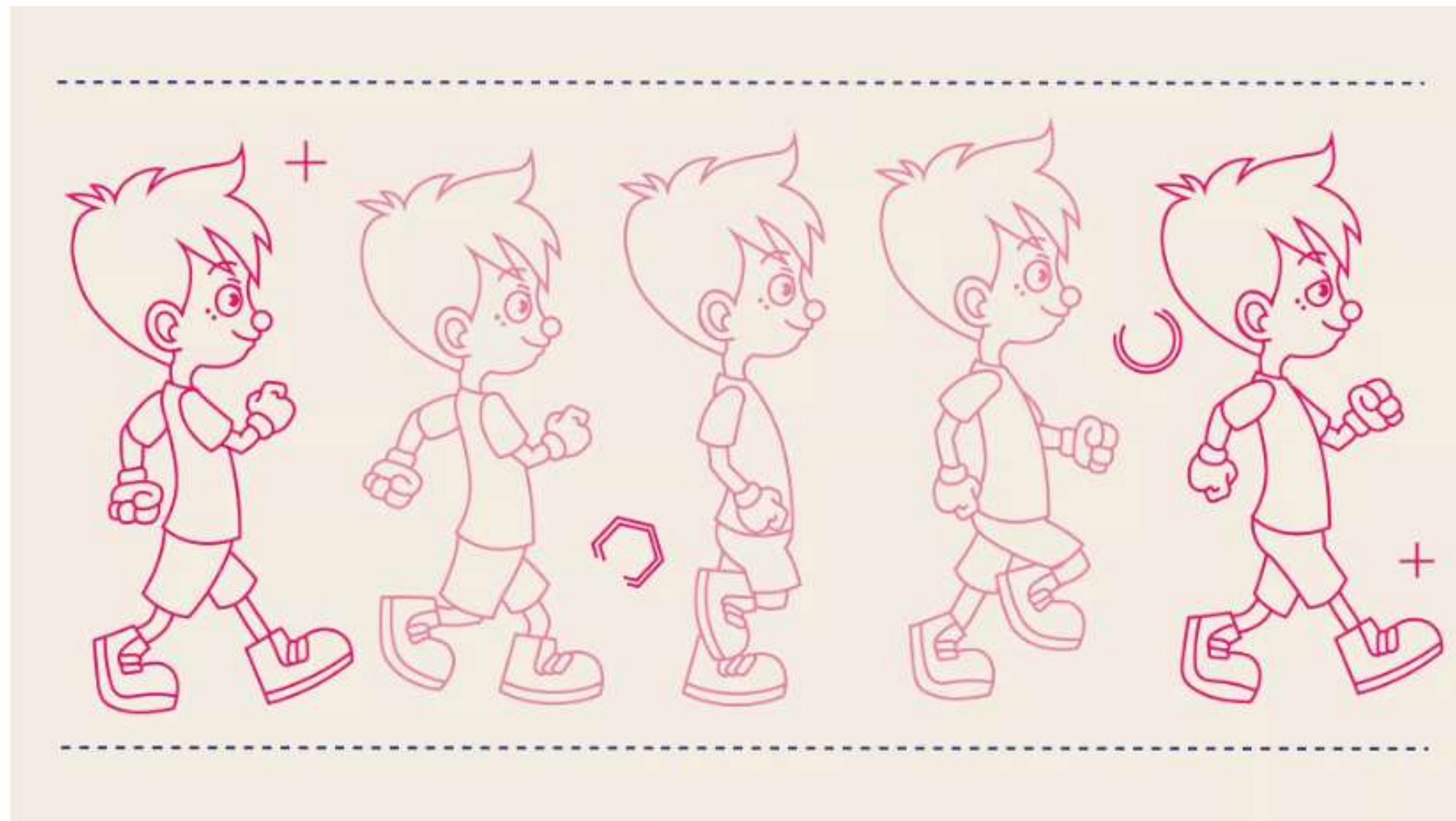
Types of 2D Animation

You have two ways to animate a sequence with the help of traditional 2D animation. The first way of animation is key to the key. Some animators also call it pose & straight ahead.

- **Key to key animation**

- **Straight-Head Animation**

1.Key to key animation

- Key animations or drawings are also referred to as keys. These keys are essential drawings that sum up the essence of the action during a scene.

- Animation key to key is a process allowing significant control over your animation. It can prevent the character or the object from changing the size or distorting where the animator doesn't want it to.

- For a budding animator like you, it also means that you have control over the timing of your animation. Furthermore, it will be easy to predict the action, like when and what action will happen and where it will happen.

- Besides that, by line testing the animation keys, you can see the basic movements of the sequence before completing the entire animation.

- Observe some of the examples here that are key to crucial animation. A man sits beside a table with a glass of milk in it.
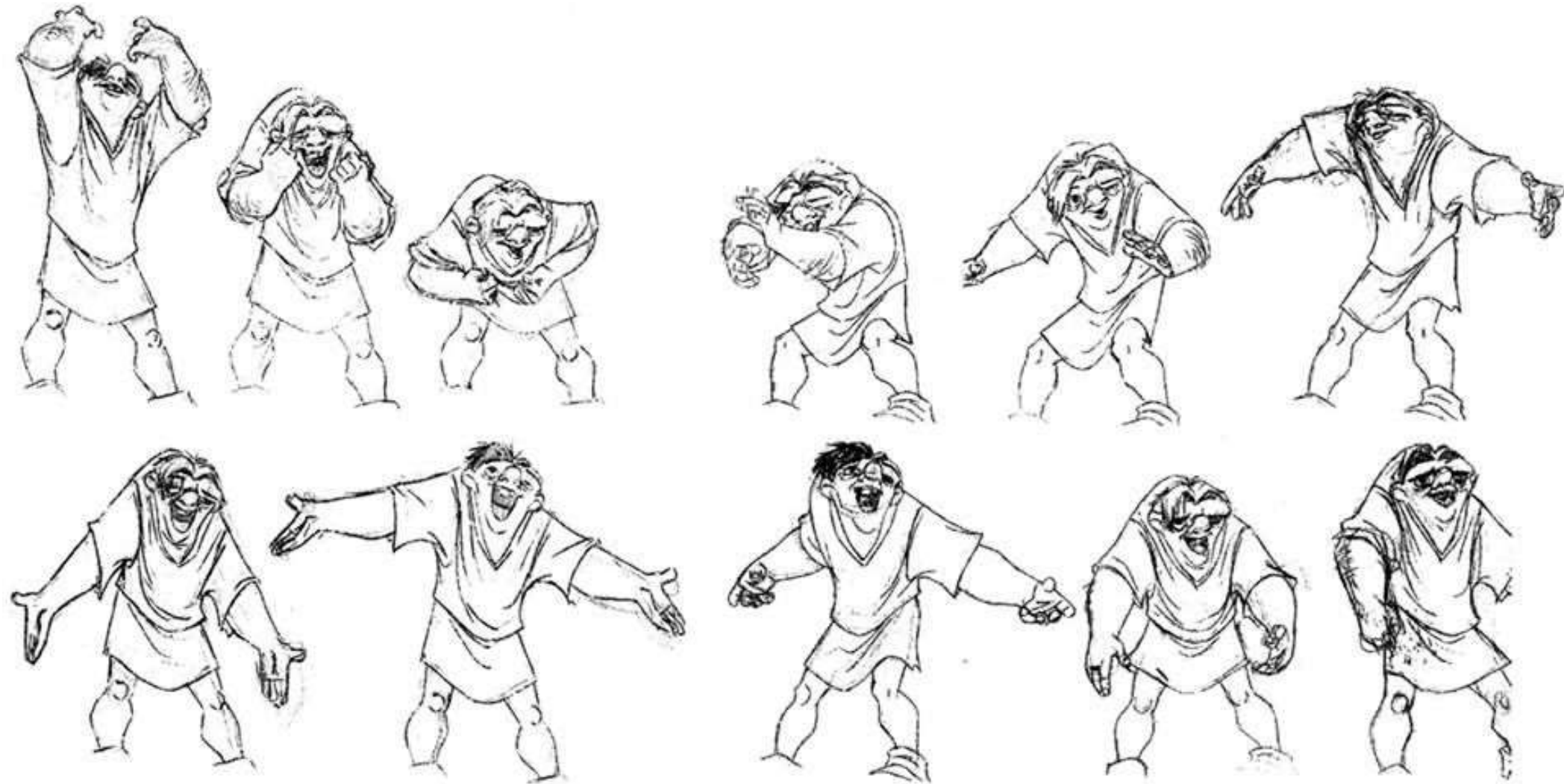
He picks up the glass and drinks from it.

- Key number 1-He looks at the bottle.

- Key number 2- He picks the bottle in his hand

- Key number 3- He raises the bottle to his lips.

- Key number 4-He swallow the contents of the bottle into his mouth.

2. Straight-Head Animation

- Animation straight-head or straight-head animation is a type of animation technique when images in the sequence are drawn directly after each other.

- In this way, it produces a more vibrant form of animation with more energy and enthusiasm. But this type of animation gives less control to the animator resulting in the distortion of the image, and changes in size are more likely.

- Besides that, it is also challenging to work out the timing because you can only check this type of animation with your line tester. Furthermore, you might have to check it when it is all done.

- Here, the irony is that the recheck might lead you to conclude that the animated drawing has gone all wrong, and you might have to throw all the pictures and must have to redo it again.
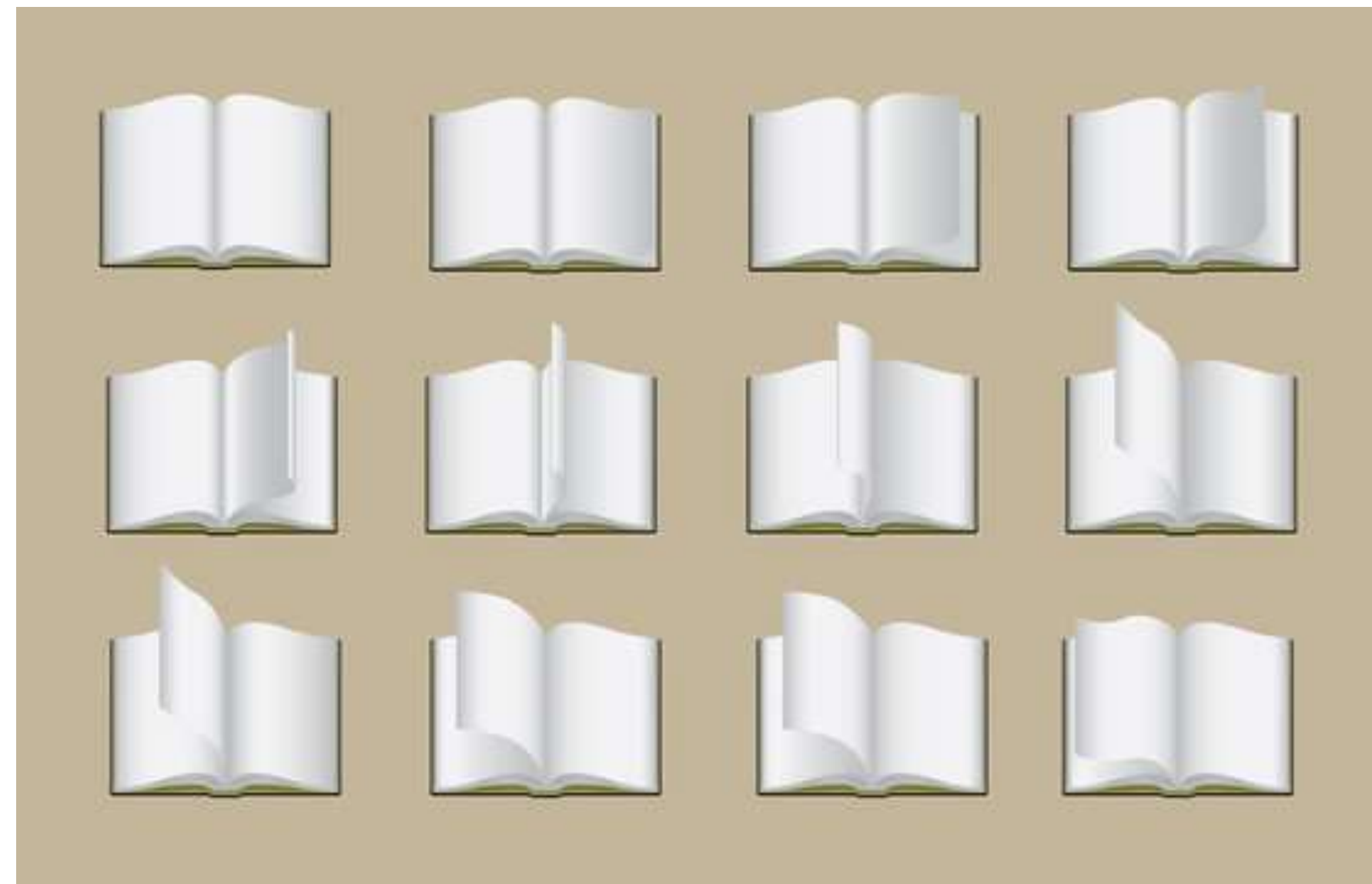
What is Flipping, Flicking, and Rolling?

Three skills are invaluable for animators while drawing or animating with pencils and paper. These three skills are flipping, flicking, and rolling.

So, let's move further and without wasting any time, let's know about the three skills of animation that are mentioned below:-

1) Flipping

- Flipping is an excellent way to see how the animation of an animator works when they are using animation paper. You have to arrange drawings with the first drawing of the sequence at the bottom of the pile & the last picture at the top.

- You can call this pile of your drawings the flipping order. It would help if you held up your pictures or art in your right hand above the stack and your left hand at the bottom.

- Now you can pull the drawings towards you and let all your graphics slide away from your left thumb one by one at a time. The animation moves before your eyes while all the pages fall flat.

2) Flicking

- Flicking is a unique technique for viewing your animation while sitting at your lightbox. After mastering this technique, you can see how your animation moves or acts.

- After the observation, you can re-adjust your animation accordingly after drawing it again. Always animate with the peg bar at the bottom of your paper.

- You can also note that it is more challenging to flip and flick with the peg bar at the top. Using the sequence above for your flipping exercise, you can also animate a piece of the key to crucial animation.
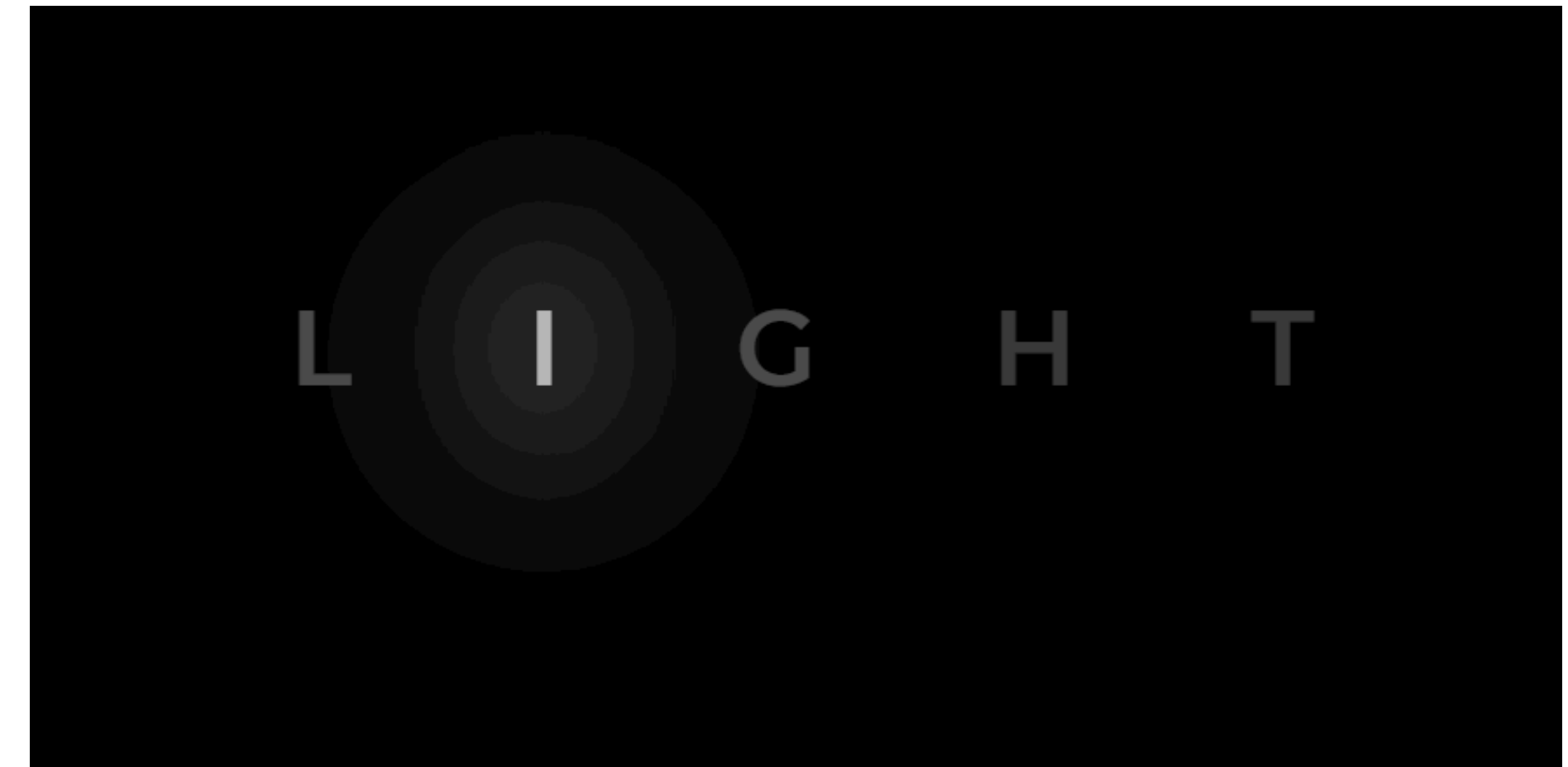
3) Rolling

Rolling is a unique technique for animation that an animator uses to flip between drawings by twisting the fingers between each picture & converting them in a sequence just like they were a flip-book.

How to use line tester to help your animation?

- Using a line tester lets you see how your animation timing is working. It will help any aspiring animator to learn timing skills rapidly.

- You need to animate and shoot the critical drawings on the line tester. Hence, the resulting movie is called a pose test or a crucial test.

- The number of frames that every vital drawing is played back and can be adjusted on the x-sheet part of the program. When your animation works correctly, all your pictures are marked onto a paper x-sheet.

- Now the timing for the in-between drawings is worked out. Now, you can work out on timing charts where the in-between will go.

- You can do the 'in-between' and, finally, shoot the entire sequence in the line tester.

How 2D animation helps and propels your career?

Every individual's future will brighten by making a career in 2D animation.
Any 2D animator is going to get the numerous benefits that are associated
with this particular profession as follows:-

1) Expressing Yourself

This profession provides every animator with perfect leverage to express themselves through work.

While they have to work within the limits of a script, the animators can still add some personal touch to their animation.

2)Creative Freedom

If you are animating your cartoon, you possess the creative freedom to do whatever you want. It is the only field where nobody else can do what you are capable of.

3)Business Opportunities

- There will be more business opportunities for highly skilled animators. The job opportunities for animators always last long. In some cases, it lasts long forever.

- Animators can work on big-budget projects in numerous ad agencies or game-developing companies. With updated skills, they will get bigger and better opportunities.

4)Flexibility

Animators get a lot of flexibility when working on a project. They can work as freelancers or choose their own working time that they are comfortable in.

5)Salary Hike

As the demand for animation is growing in India, numerous corporations and multinational companies are ready to pay fancy salaries to many skilled animators. You can be one of them.

Conclusion:

❖ Your future in 2D animation is unparalleled. Due to the massive demand for fresh content, including the advancement in technology, the requirement for 2D animators is growing.

❖ You can be a 2D animator today by signing up for courses in 2D animation at Top Skill. Top Skill is an online platform where you will get an interactive learning experience for the first time.

❖ Here, you can attend classes on 2D and 3D animation, web and app development, game development, and lessons on digital marketing. You can sign up if you want to get more in your career.

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