Dr. SNS RAJALAKSHMI COLLEGE OF ARTS & SCIENCE (Autonomous)
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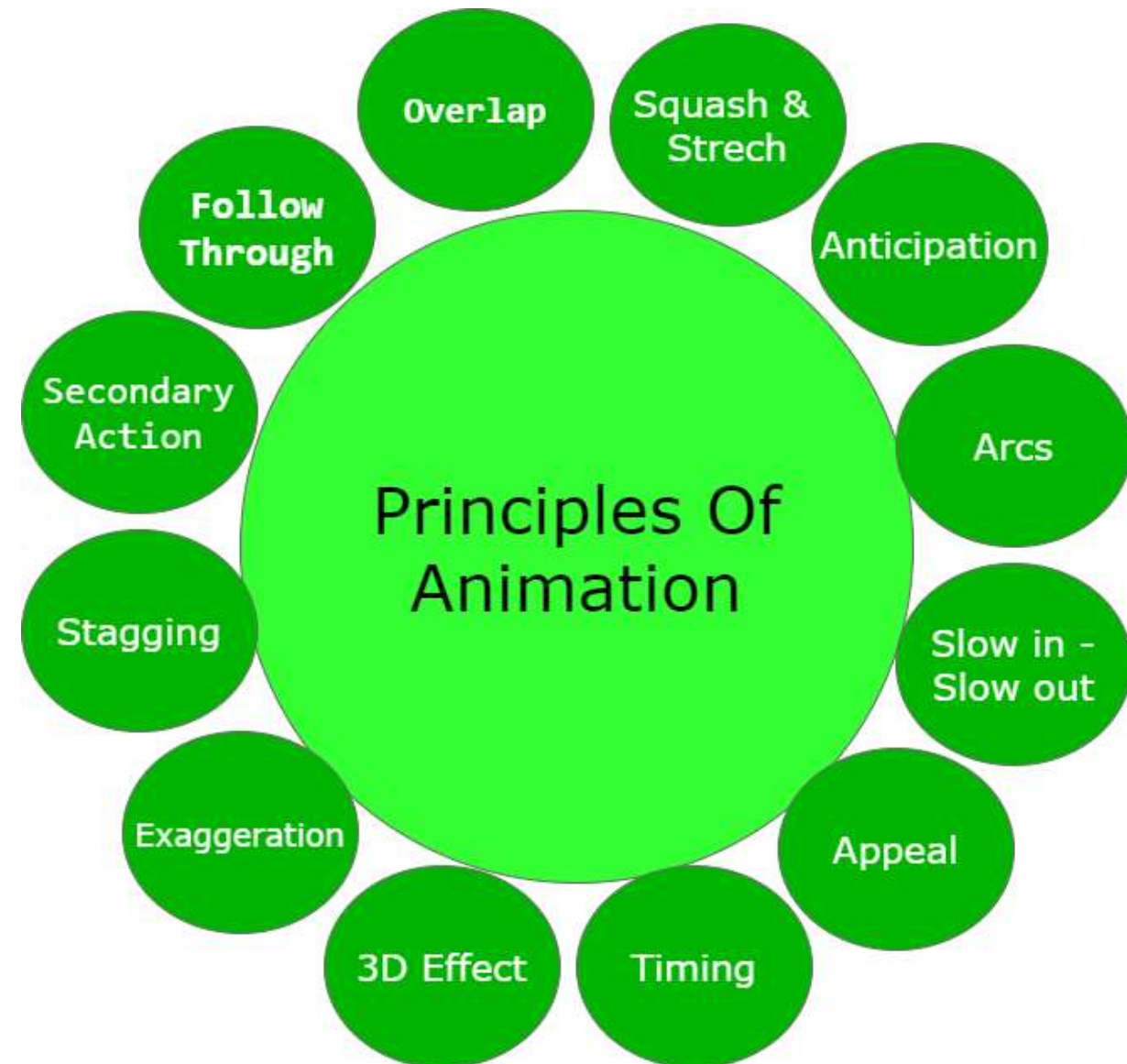
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The 12 Principles of Animation

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1.Squash and Stretch

Normal   Squashed   Stretched

1.Squash and Stretch

Give your characters flexibility and liveliness by exaggerating their movements, transforming them into a more dynamic and expressive form.

Impact

A punch delivers a satisfying visual effect when the character's body compresses and expands upon impact.

Bouncing Ball

When a ball hits the ground, it stretches and squashes to create realistic physics and weight.

Stretching Characters

Stretching characters can add humor and comedic effect while maintaining believable proportions.
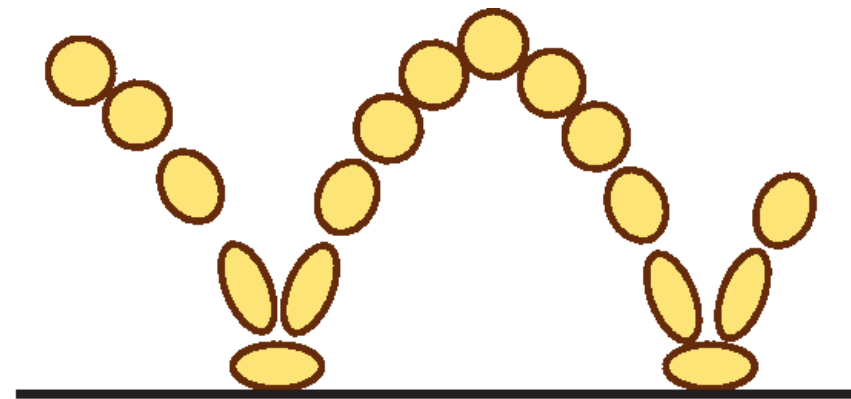
Anticipation is the small action that happens before the main action.
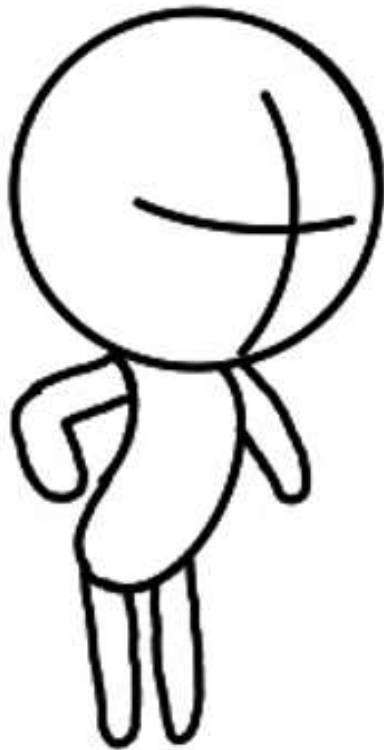
3.Straight Ahead vs. Pose to Pose?

Step 1. Get 3 pieces of rectangular papers and label them with KF1, KF2, and KF3.

These will be our keyframes

Step 2. On each of the papers, draw a reference line at the bottom.

Step 3. Let's draw our cartoon and the 3 key poses.
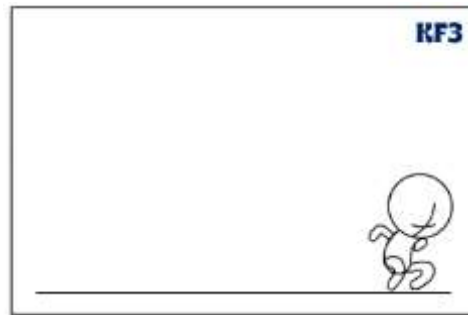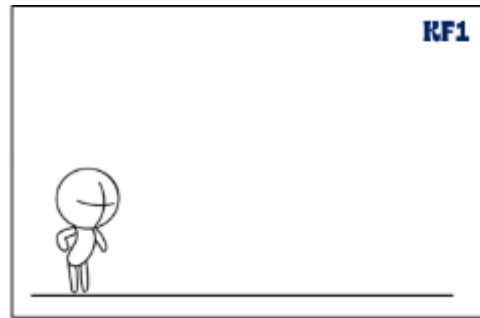
Key pose 1. Standing   Key pose 2. Max jump   Key pose 3. Landing

Step 4. Get another piece of rectangular paper and draw the "Anticipation" pose.
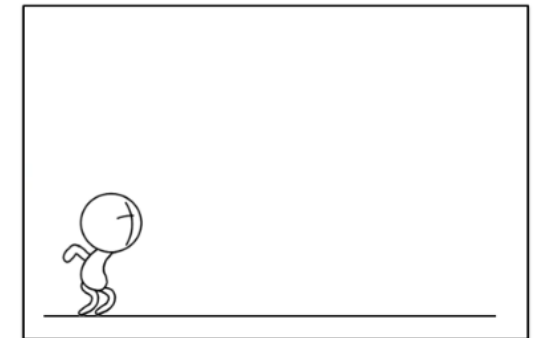
Anticipation

Step 5. Let's try to flip it!
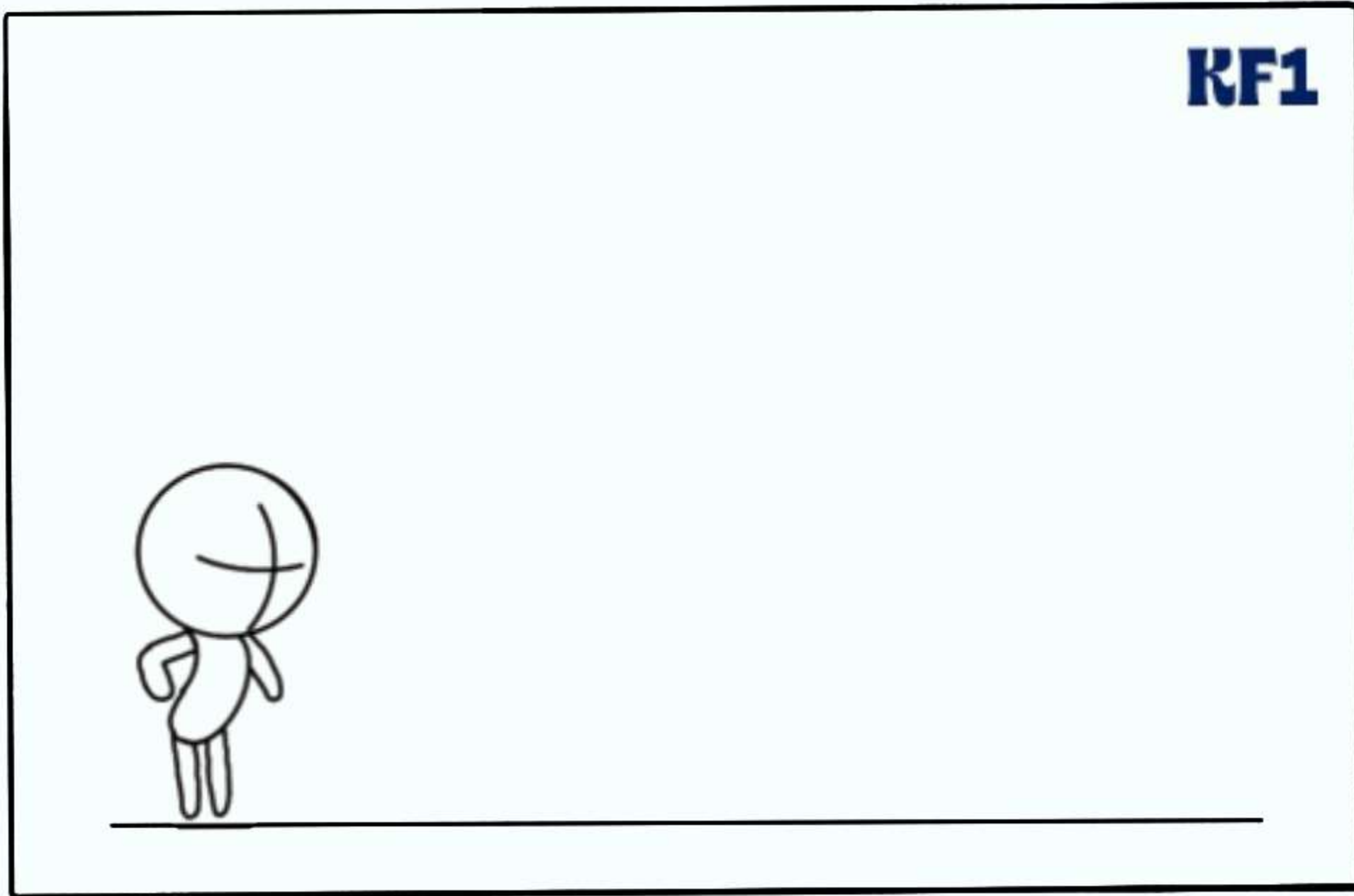
Straight Ahead vs. Pose to Pose?
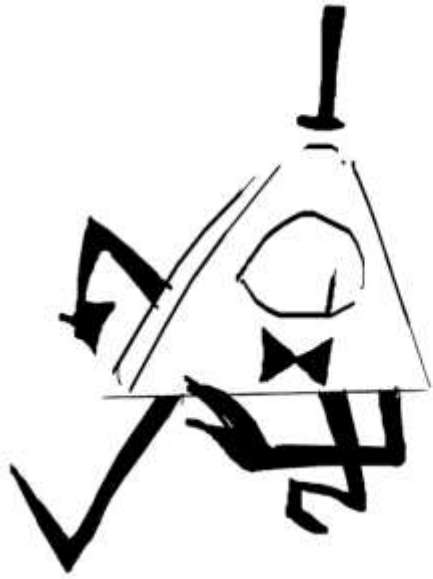
awesomesaurous.tumblr.com

Straight ahead means making your animation frames in sequence from start to finish.
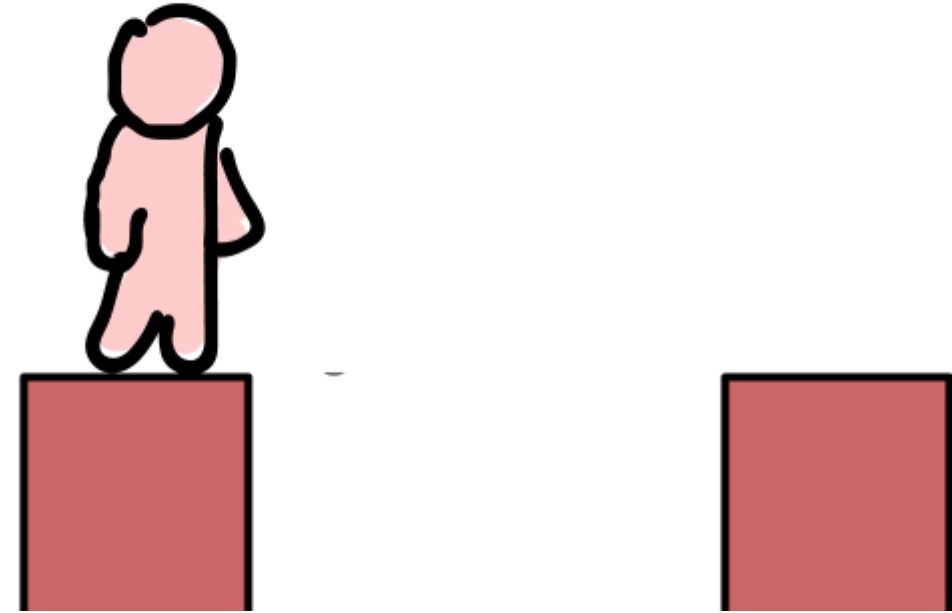
Pose-to-pose means planning out your keyframes first before adding the in-between poses or frames.

Straight Ahead Action and Pose to Pose

Create movement by either animating frame by frame from beginning to end (straight ahead) or by carefully planning key poses (pose to pose).

1 — **Straight Ahead Action**

Animating without a clear plan can result in natural, spontaneous, and unexpected movements.

Pose to Pose — **2**

By creating distinct key poses, you can ensure precise control over the timing and movement of your character.

3 — **Combining Approaches**

Using a mix of both techniques allows flexibility for different parts of the animation and enhances the overall quality.

4. Follow Through and Overlapping Action

Add **realism to your animation** by incorporating follow through and overlapping action, reflecting how objects behave in the real world.

Follow Through

When a character stops moving abruptly, certain parts, like their hair or tail, continue to move due to momentum.

- Hair swaying after a sudden turn
- A tail wagging after a quick stop
- Clothes flapping after a sudden jump

Overlapping Action

Objects can have multiple parts that move independently, creating depth and adding complexity to the animation.

- A character's body moving differently from their head while walking
- An animal's front and back legs coordinating but moving at different times
- Leaves on a tree swaying individually in the wind

5. Slow In and Slow Out

By gradually accelerating or decelerating the motion of an object, you can add a sense of weight and realism to the animation.

1 **Starting Slowly**

When a character starts moving, they often begin slowly before gaining momentum.

2 **Stopping Gradually**

When a character stops, they tend to slow down gradually instead of coming to an abrupt halt.

3 **Imparting Weight**

Varying the speed of an object helps the audience perceive its mass and the force it's generating.

6. ARC

Create fluid motions by following the natural curves and arcs that objects follow when in motion.

Arc Anim
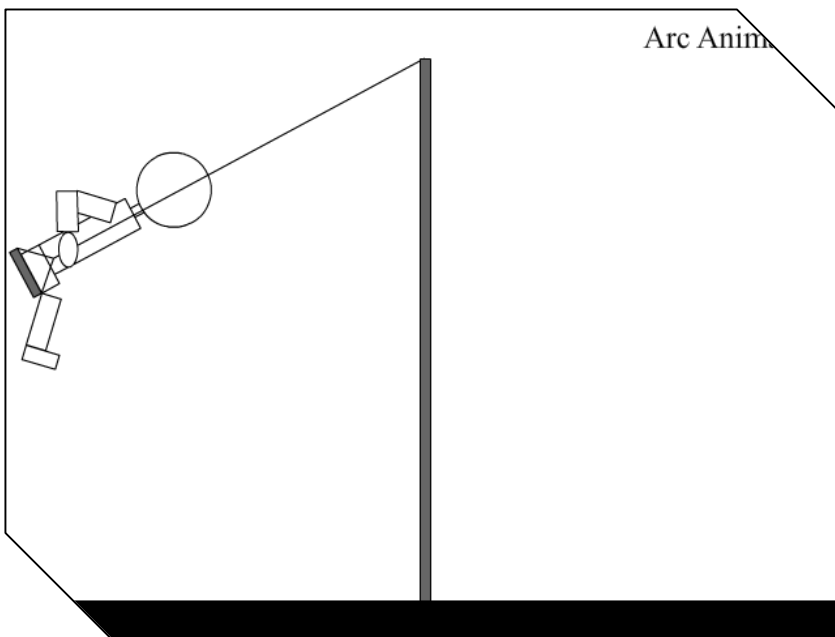
Pendulum Swing	**Jumping Athlete**	**Frisbee Throw**
A pendulum moves back and forth following a curved path known as an arc.	When an athlete jumps, their body follows a curved trajectory determined by the laws of physics.	When throwing a frisbee, the arm moves in a curved motion, giving it accuracy and distance.

7.Secondary Action

Synchronized Motions

Secondary actions complement and coincide with the main action, creating a more believable performance.

World Building

Incorporate secondary actions to bring the environment to life and provide immersive storytelling.

Add Depth

Secondary actions enhance the main action and provide additional context or character development.

8.Timing

Action

Decide the duration and speed of an action to evoke specific emotions or reactions.

Pause

Utilize pauses effectively to create tension, humor, or anticipation in a scene.

Rhythm

Establish a consistent rhythm or pace that sets the mood of the animation.

9.Exaggeration

1 Emphasize Key Actions

Exaggerate movements and facial expressions to communicate emotions effectively.

2 Visual Impact

Enhance the overall appeal and entertainment value of the animation.

3 Balancing Act

Strike a balance between realism and creative exaggeration for an engaging animation.

10.Solid Drawing

1   Fundamental Skills

Master the principles of traditional drawing to create believable three-dimensional characters and objects.
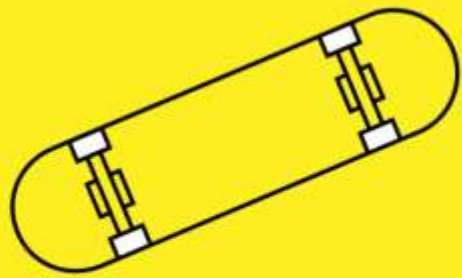
2   Form and Volume

Apply realistic shading, highlights, and textures to objects to give them depth and solidity.

3   Bring Characters to Life

Invest time in developing strong drawing skills to enhance your animations' visual quality.

11.Appeal

Character Design

Create visually interesting and unique character designs that captivate the audience.

Pose and Expression

Convey personality and emotion through well-crafted poses and facial expressions.

Engage the Audience

Design characters that resonate with the target audience and leave a lasting impression.

12.Staging

Direct the audience's attention by using clear composition, lighting, and positioning of elements within the frame.

1 **Point of Focus**

Use contrast or color to guide the viewer's eyes towards the most important element in the scene.

2 **Rule of Thirds**

Divide the frame into nine equal parts using two horizontal and two vertical lines to create visually balanced shots.

3 **Leading Lines**

Utilize lines in the environment or character poses to draw attention towards specific areas of the frame.

Thank you!