



Odisha State Open University



Commonwealth of Learning

# 2D ANIMATION

*Introduction to 2D Animation*



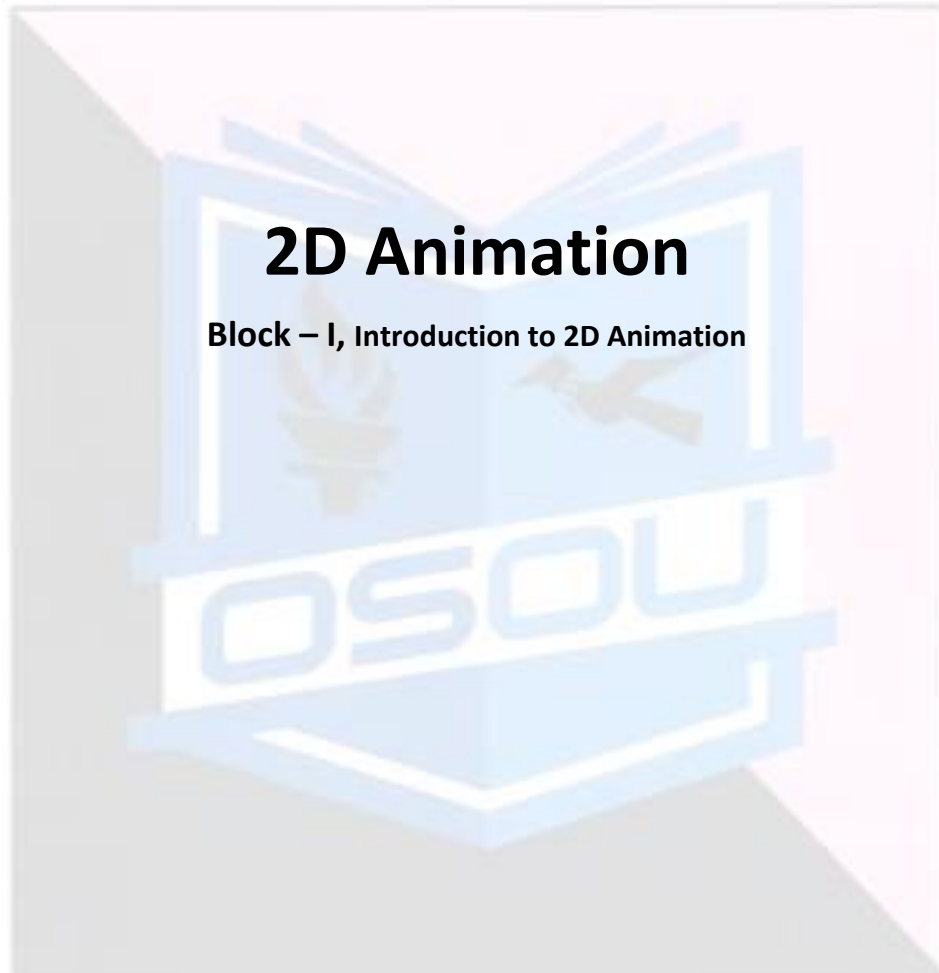
Diploma in  
Multimedia and Animation (DMA)

DMA-03  
BLOCK-1



# 2D Animation

Block – I, Introduction to 2D Animation



ଓଡ଼ିଶା ରାଜ୍ୟ ମୁକ୍ତ ବିଶ୍ୱବିଦ୍ୟାଳୟ, ସମ୍ବଲପୁର  
ODISHA STATE OPEN UNIVERSITY, SAMBALPUR

## 2 D Animation

This course has been developed with the support of the Commonwealth of Learning (COL). COL is an intergovernmental organisation created by Commonwealth Heads of Government to promote the development and sharing of open learning and distance education knowledge, resources and technologies.

Odisha State Open University, Sambalpur (OSOU) is the first Open and Distance learning institution in the State of Odisha, where students can pursue their studies through Open and Distance Learning (ODL) methodologies. Degrees, Diplomas, or Certificates awarded by OSOU are treated as equivalent to the degrees, diplomas, or certificates awarded by other national universities in India by the University Grants Commission.



© 2018 by the Commonwealth of Learning and Odisha State Open University. Except where otherwise noted, *2D Animation* is made available under Creative Commons Attribution-ShareAlike 4.0 International (CC BY-SA 4.0) License: <https://creativecommons.org/licenses/by-sa/4.0/legalcode>

For the avoidance of doubt, by applying this license the Commonwealth of Learning does not waive any privileges or immunities from claims that it may be entitled to assert, nor does the Commonwealth of Learning submit itself to the jurisdiction, courts, legal processes or laws of any jurisdiction. The ideas and opinions expressed in this publication are those of the author/s; they are not necessarily those of Commonwealth of Learning and do not commit the organisation



**Odisha State Open University**  
G.M. University Campus  
Sambalpur  
Odisha  
India  
Fax: +91-0663-252 17 00  
E-mail: [info@osou.ac.in](mailto:info@osou.ac.in)  
Website: [www.osou.ac.in](http://www.osou.ac.in)



**Commonwealth of Learning**  
4710 Kingsway, Suite 2500,  
Burnaby, V5H 4M2, British  
Columbia  
Canada  
Fax: +1 604 775 8210  
Email: [info@col.org](mailto:info@col.org)  
Website: [www.col.org](http://www.col.org)

# Acknowledgements

The Odisha State Open University and wish to thank following Resource Persons for their contribution to this DMA-03:

## Concept / Advisor

Dr. Srikant Mohapatra  
Vice- Chancellor  
Odisha State Open University, Sambalpur

## Course Writer

Bhagbat Kar  
Animation Director, News 7, Bhubaneswar

## Course Editor

Sanghamitra Padhy  
Lecturer in English, JKBK College, Cuttack

Prateek Das  
Centre Head, Om Animations and Graphics Institute, Cuttack

Olive AshishMunda  
Teaches 3D Animation, Om Animations and Graphics Institute, Cuttack

## Video Production

R. Mohana Sundaram  
Creative Director, Jai Ram Institute of Visual Academy, Khurda, Odisha  
Guest Faculty, National Institute of Fashion Technology (NIFT), Bhubaneswar

Biranchi Prasad Sahoo  
Freelance Graphic Designer

## Published by :

Dr. Jayanta Kar Sharma  
Registrar on behalf of Odisha State Open University, Sambalpur

## Contribution of following staff members of Odisha State Open University is acknowledged:

- Jyoti Prakash Mohapatra
- Sambit Mishra
- Debidatta Behera
- Prashansa Das
- Radhakanta Suna
- Abhinandan Tripathy

OSOU and COL acknowledge the support extended by **Prof. Madhu Parhar**, STRIDE, IGNOU, New Delhi in conducting several workshops in the process of preparation of course material for DMA.

# Contents

<b>Course Overview</b>	<b>3</b>
Welcome to introduction to 2D Animation .....	3
Concepts of 2D Animation .....	3
Drawing Concept.....	3
Color theory & basics.....	4
Incorporating sound into 2D Animation .....	4
Course outcomes .....	5
Timeframe.....	5
Study skills.....	5
Need help?.....	6
Assignments.....	6
Assessments.....	6
Video Resources .....	7
<b>Getting around this course material</b>	<b>8</b>
Margin icons.....	8
<b>Unit-1</b>	<b>9</b>
Concept of 2D Animation.....	9
Introduction.....	9
Outcomes .....	9
Terminology.....	10
Summary.....	24
Assignments.....	24
Resources.....	24

---

<b>Unit 2</b> .....	<b>25</b>
Drawing Concept.....	25
Introduction.....	25
Outcomes .....	25
Terminology.....	26
Drawing Concept .....	27
Unit Summary.....	44
Assessment .....	44
Resources.....	45
<b>Unit 3</b> .....	<b>46</b>
Basics of Color Theory.....	46
Introduction.....	46
Outcomes .....	46
Terminology.....	46
Unit Summary .....	65
Assessment .....	65
Resources.....	66
<b>Unit 4</b> .....	<b>67</b>
Incorporating Sound into 2D Animation.....	67
Introduction.....	67
Outcomes .....	67
Terminology.....	68
Unit summary .....	82
Assignment .....	82
Resources.....	82



## Course Overview

---

### Welcome to introduction to 2D Animation

This block will introduce students to the fundamental principles and practices of 2D animation. Students will study and explore the application of these principles used in a range of 2D animation methods such as paper, computer and stop-motion. Upon completion, the students will be able to articulate and demonstrate how the principles of animation are used to craft believable movement and a systematic approach to the planning and production of an animation outcome.

### Concepts of 2D Animation

This course is intended for people who show interest in the field of animation. You will learn about various methodologies used to create animation. The concepts and rules are to manipulate an object and showcase thoughts, creating realistic animations.

### Drawing Concept

This course will help interested people know about various visual art forms of drawing and different types of instruments used to draw. Besides, you will acquire knowledge on how to draw an image with basic concepts and techniques. It is essential for an animator to be sharp at observing human anatomy and good at art skills to convey their creativity onto any subject.





## Color theory & basics

This course offers a brief knowledge about color concepts and its uses. Colors can be used to create an impression or to change the mood and atmosphere of a scene. Red color gives a sense of strain and danger while blue reflects calmness. The ability to utilise colors deliberately and effectively can help in producing fabulous outcomes.

## Incorporating sound into 2D Animation

This course is for individuals who wish to make a career in sound editing. The course will explain the theory and working behind sound for picture. It will give a diagram of the frameworks and generate ways to enable you to make your soundtrack. Sound is a vital part in animation that gives a sense to the things happening in front of you. A rainy scene without a thundering sound will make no sense.

This video will provide a brief overview of this course.

Topic	YouTube link	QR Code
Video 1 – THEME CONCEPTUALISING	<a href="https://youtu.be/mRUwmy7xWYs">https://youtu.be/mRUwmy7xWYs</a>	

---

## Course outcomes



### Outcomes

Upon completion of preproduction you will be able to:

- *Learn* about various types of animation.
- *Learn* the concepts of drawing.
- *Learn* about color theory and how to use color at your advantage.
- *Learn* the steps involved in making sound for any animation movie.

---

## Timeframe



### How long?

This course will be completed within “4” classes.

This course is of “1” credit.

8 hours of study time is required for this unit.

---

## Study skills



This is a combination of theory and practical.

Hence, you should have access to a personal computer or personal laptop for better understanding of this unit.

Each and every option is explained step by step in the course material.

Apart from this course material, the learner needs to adopt the tendency of learning from multiple sources i.e.;

Internet tutorials

Video tutorials on YouTube

Collaboration with people working in the industry etc.

Only classroom study will not make you a professional. You have

to be active to grab the opportunity of learning wherever you get a chance.

---

## Need help?



Help

In case you need any help, you can browse the internet sites such as youtube.com for video tutorials about the subject.

---

## Assignments



Assignments

There will be some assignments at the end of each unit.

These assignments are mostly practical based and should be submitted in CDs or DVDs. Theoretical assignments are to be submitted written on A4-size sheets.

All assignments will be submitted to respective study centres of the Odisha State Open University or as directed by the co-ordinator.

All assignments should be unit wise on separate CD/DVDs clearly mentioning course title and unit on the top. Theoretical assignment will be neatly filed or spiral bind with cover mentioning necessary information of course, student detail on top.

---

## Assessments



Assessments

There will be "1" assessment for each unit.

All practical assessments will be submitted to the OSOU.

Assessment will take place once at the end of each unit.

Learner will be allowed to complete the assessment within stipulated time frame given by the university.

---

## Video Resources



This study material comes with additional online resources in the form of videos. As videos puts in human element to e-learning at the same time demonstrating the concepts visually also improves the overall learning experience.

















You can download any QR code reader from Google Play to view the videos embedded in the course or type the URL on a web browser.

# Getting around this course material

## Margin icons

While working through this course material, you will notice the frequent use of margin icons. These icons serve to “signpost” a particular piece of text, a new task or change in activity; they have been included to help you find your way around this course material.

A complete icon set is shown below. We suggest that you familiarize yourself with the icons and their meaning before starting your study.

			
<b>Activity</b>	<b>Assessment</b>	<b>Assignment</b>	<b>Case study</b>
			
<b>Discussion</b>	<b>Group activity</b>	<b>Help</b>	<b>Note it!</b>
			
<b>Outcomes</b>	<b>Reading</b>	<b>Reflection</b>	<b>Study skills</b>
			
<b>Summary</b>	<b>Terminology</b>	<b>Time</b>	<b>Tip</b>

# Unit-1

---

## Concept of 2D Animation

### Introduction

The process of making an illusion of motion is known as animation. The illusion or apparition is created by the change in rapid series of sequential images that actually differ from each other. Let us discuss about the different types of animations. Generally, there are 2D animation, 3D animation, stop motion, computer animation, sand animation, etc.

The 2D animation follows the traditional animation method and it has been in existence since late 1800s. Today, most of the 2D animations are created by computer software and every frame is slightly different from each other based on its colour, its preceded frame.

This unit is about exploring the 2D animation. You will learn the definition of animation, its history and different kinds. The unit covers 12 core principles and concepts of animation. You will learn how to apply the principles of animation to a character in order to create it.

### Outcomes



#### Outcomes

#### Upon completion of this unit you will be able to:

- Explain about the concepts of animation
- Elucidate about the history of animation
- Categorize the various types of animation
- Explain how animation works
- Apply the 2D animation principle



## Terminology



### Terminology

<b>FPS:</b>	A film projected at 24 frames for every second and video projected at 25 frames per second.
<b>Cel and Cel setup:</b>	A picture is drawn on a unique piece of plastic. This plastic is called as Cel. If at least one Cel overlays on a base it is known as Cel setup.
<b>Model sheet:</b>	It is the drawing of a character, in an assortment of states of mind and expressions, made as a source of perspective guide for an artist.
<b>Character models:</b>	Animator prepares a model sheet of the character. The model sheet contains the character in an assortment of outward appearance and stances.
<b>Maquette:</b>	It is a sculpted preliminary model or sketch in view of the real/final character in the Model Sheet.
<b>Time out:</b>	This is a liveliness key. It includes matching all the on-screen activity to its correct beats, including music and sound impact.
<b>Lead artist:</b>	This artist is in charge of making and animating one specific character in the film.

## Meaning of animation

We all have an idea of what animation is. We think of Disney's classic animated films but have you ever thought about what actually makes animation film. The term animation has originated from Greek word 'Any moss' and Roman 'enema'. This basically means "bring to life", so there is a sense of evolution over time that is what we capture through animation. Conventional animation has been there for a long time and the primary concern of animation techniques has been to create the illusion of movement. It basically has the aspect of movement, which could be just an illusion, without simulating the motion in its physical



sense. It involves creating a series of photographs as frames and run those sequentially over time. This aspect of illusion of life has been used by various commercial setups.

## History of animation

The animation is the way towards making the deception of action and the illusion of progress by methods for the quick progression of consecutive images that negligibly vary from each other. The animation is possible because of the persistence of vision discovered by Peter Rajat in 1820. The persistence of vision causes images to look like they are there longer than they actually are causing the drawings of animation to blur together. Animations started with the phenakistoscope, created in 1872. The phenakistoscope is an optical illusion toy with rotating disks to make it look like a moving picture. In the year of 1898, stop-motion animation was invented. Stopmotion animation is the method of taking many pictures and putting them together to create an animation. Humpty Dumpty was the first animated feature film to use stop-motion animation in 1914. It is when Gertie the train dinosaur was created. It was one of the first cel-animated films. A Cel (celluloid) is a transparent sheet of paper used for traditional hand drawn animation. Cel animation is when the background is drawn separately from the characters, the background is put in a clear box and the characters are placed on top of it, in their own separate box and then photographed. This saves a lot of time of the animator because they do not have to redraw the background every time. In 1915, Max Fleischer patented the route a scoping process. Tracing a live footage is called Rotoscoping. In 1923, Walt and Roy formed Disney Brothers cartoon studio. In 1928, Steamboat Willie, the first animation with sound, was created by the Disney Brothers. In 1930, Warner Bros cartoons were created, and the first CGI animation was made by Charles Sri and James Schaffer in 1967. CGI stands for computer-generated imagery. CGI is normally associated with 3D computer effects but CGI is any picture that is generated by a computer and not drawn by a human. There are many movies such as Star Wars, Tron Legacy, Alien Series and The Matrix that have seen use of CGI animation for certain effects. The first feature-length animation





that used CGI was Toy Story. Today, many cartoons on TV still use traditional animation but computers have become a big part of the animation process.

## Types of animation

### 1. Traditional animation

Cel animation is generally recognized as traditional animation. This is the grownup forms of animation. In traditional animation, every frame is hand drawn for creating an animation image sequence. It consists of large numbers of hand drawings called “Frames”. In the past, the drawing occurred on a big light table. It was a drafting table with a big light section in the central point of it. The animator drew the image sequence on it, and the light allowed the animator to see his earlier drawings all the way through the paper to get a better look of his animation. This is called Onion Skinning. Even now, traditional animations are mostly done on PC with a Pentab alike the Wacom Pentab. The 2D or traditional animation is generally animated at 12 frames per second with more frequent and rapid animated actions at 24 frames per second.

### 2. 2D Animation

Vector-based animation is referring to 2D animation. This is all around preferred configuration from most recent couple of years with the expanding clients. 2D animation software is easy to use as it is for entry level and has a user-friendly interface.

Illustration: Flash animation products are the modest and simple to utilize vector-based animation program. An artist has an alternative option of making rigs for the character at the joints for the moving body parts and movement can be provided separately as per the requirement of the character in the drawing. The character having more than one eventual outcome can be achieved as it permits complex rigs for animations or by utilizing the manikin apparatus to drag and move the body parts around. These types of adaptabilities give more choices. While moving ahead in the process of animation, particularly, if the drawing is

not solid, it would not match at all for which drawing abilities are mandatory like traditional animation.



**Title :** Animated Horse

**Attribution :** [Janke](#)

**Link :** <https://commons.wikimedia.org/wiki/File:Animhorse.gif>

### 3. Computer Animation

Computer animation is also known as 3D animation or just animation. It is the common form of animation. 3D animation works in a totally extraordinary manner from traditional animation, all the animators are considered to be associated with a standard organization and has certain level of creative development, yet there are some specialized experts in particular fields of work who are different from each other. In 3D animation, the artist moves the character in a 3D program by manipulating controllers, which are associated with each body part, for example, hands, elbows, lips and etc. Like 2D animation, an animator in 3D program doesn't have draw to move every frame. Animators set the key frame on the timeline when the models are ready to animate. Proceed to move forward in timeline and move all those controllers again to create another key frame in the 3D program. Then the program calculates and animates the frames between those two key frames. Animators take maximum time to clean the curves for a detailed and smooth animation, which helps for the development of various body parts later on. Another huge distinction with 3D animation is that it's not at all like traditional animation. The body parts are constantly present and contemplate. In 2D animation, the character draws for each edge.

At the point when the character is seen from the side portion of its body is not appearing and in this manner not drawn.

The significant distinction with 3D animation is the edge rate like traditional artists. Generally, a shot is taken at twos, which implies they draw another drawing each having two edges and in this manner making them draw less for two edges. 3D animation's movement is constantly smooth with the exception of adapted pieces, which deliberately attempt to appear as unique. Having a character stop totally resembles a mix-up in 3D. Notwithstanding when the character is stopping, there ought to dependably be a few indications of life. This is something which 2D animation can escape with a great deal by more effectiveness than 3D.

#### 4. Motion Graphics

Motion graphics is considered as a type of graphics animation. Motion graphics is somewhat not quite the same as alternate part of animation. Unlike any animation, it is not character- or story-driven. It is the craft of imagination of moving realistic components or content which is mainly used for business or promotional purposes, enlivened logos, introduction recordings, TV promos or even film opening titles. The abilities for motion graphics do not vitally means alternate sorts of animation since, they don't require information of body mechanics or acting. However, they do have a few characteristics in similar manner. For example: Presenting great arrangement and extremely imperative camera motion.



**Title :** Motion Graphic

**Attribution :**

Source : Little Visuals

Link : <https://www.pexels.com/photo/lights-abstract-curves-long-exposure-1944/>

## 5. Stop Motion

A standout amongst the most well-known structures is clay animation. Working with mud or play-doh characters can undoubtedly be controlled for animation. The animation process is similar to 2D animation, creating poses of movements and moving it little step by step while taking pictures of each movement. Then the pictures are used to play sequentially, which creates illusion of motion. Propelled clay animation as found in the Neverhood or Armikrog utilizes metal skeletons on which the dirt is shaped for more durable rigs. A few illustrators would utilize normal manikins rather than dirt ones, generally likewise based upon some kind of skeleton rig. The characteristics of the characters can be supplanted in light of the articulations or be controlled inside the rig.

Another mainstream type of stop-motion is cut-out. Utilizing development paper or cardboard characters and putting them on paper, while shooting the animation from above. That is the means by which South Park was originally made before they exchanged the PCs. Like cut-out animation, outline animation utilizes cardboard or some sort of level material, yet the items are for the most dim parts and the shot is portrayed with outlines as it were. This is one of the most established types of stop-motion and is once in a while utilized today.



**Title :** Stop Motion

**Attribution :** Cogdogblog

**Source :** <https://www.flickr.com/photos/cogdog/5560633224/>

**Link :** [https://en.wikipedia.org/wiki/File:Stop\\_the\\_Motion\\_\(5560633224\).jpg](https://en.wikipedia.org/wiki/File:Stop_the_Motion_(5560633224).jpg)



Pixilation, is a type of stop-motion that utilizes genuine individuals and genuine conditions to make unbelievable recordings. It utilizes the stop-motion technique for taking a still photograph, moving things around and taking another photograph. However, the topic is normally used for genuine individuals rather than manikins.

## 12 principles of animation

Walt Disney Studio's animators developed the twelve principles of animation in 1930. Frank Thomas and Ollie Johnston distributed them in their book "The Illusion of Life" Disney Animation, in 1981. Those standards came due to their goals to make sensible animations, through the development and articulation of the character. The standards taken after the essential laws of material science additionally manage more issues which are conceptual. These principles were utilized as rules to make toons and are still used today in numerous animation studios. The book "The Illusion of Life" has been considered by some as the "Bible of animation". Principles are:

### 1. Squash and stretch

This is the rule that defines speed, energy, weight and mass of any animated subject. This is the most important principle of animation. Squash and stretch also use too exaggerated facial expressions and when you are animating dialogue you can apply it in any simple objects. For example, bouncing balls and very difficult creations like characters face muscles. It is the principal strategy for artists.

### 2. Anticipation

This is the point when a character gets ready for action guiding audience what is going to happen next. It makes the activity seem more sensible. When a character is going to hop, before jumping into the air he needs to get ready for the activity by hunching down. To fabricate the vitality, it is resembled with a spring that loops up before discharging. A character's hopping with no anticipation is extremely unreasonable, in light of the fact that the vitality to bounce appears unexpectedly. You will see this in many toons, before running a character will pull back and takes a



running pose holding for a second before taking off. Anticipation also utilizes rather than quickly extending up the face squashes initially to anticipate the extent and give it more power anticipation imparts activities to the group of onlookers by setting them up for the following activity. This can occur from numerous points of views. In the event that a character is going to remove something from their pocket, they arrange the position of their hand exceptionally obvious and not yet decided before going into the pocket. Something else, the gathering of people may miss it and think about how they got that protest in any case. The most important thing is that the viewer notices the hand and the pocket so the character cannot perform any competing actions.

### 3. Staging

Staging is the introduction of guiding the gathering of people's thoughtfulness regarding what is essential in the scene. The extreme expansive guidelines are totally unmistakable as they cover a large number of zones of animation. It can apply to acting, timing, camera edge position and setting. During animation, you need to be in full control of where people are looking at. You are basically saying to take a gander at this, the control is accomplished through staging, the majority of the components of the scene cooperate to move the watcher's eyes around the scene.

For instance of awful staging, an animation of Tom chasing Jerry inside a house there are props like sofa, TV, carpets, vases and many more. A character often gets obstructed by props used and a watcher does not know which one to take a gander at. The camera has a great deal to do with this. It's critical to know when to shut everything down or when to go, which is useful for an enormous scale of activity like showing a nuke blasting. The primary activity of the scene ought to be clear and basic. It can't be upstaged by various things that are going on which removes consideration from the principle point. It has to be a legitimate planning by allowing one activity to get completed before the other individual begins their activity, thereby avoiding overlapping. Now and then, you have to embed delays if there is something on the screen that is necessary to be handled by the watcher before proceeding onward.



#### **4. Straight ahead and pose to pose animation**

This rule portrays two strategies used to animate drawings. The main technique is drawing the principal drawing and then moving on to the second drawing and so on. Then, sequentially arrange them by outlining from the beginning. The second technique is 'pose to pose' in which you draw the starting and end of every principle pose and later on fill in the drawings at the middle called in-between poses. There are advantages to these two strategies but 'pose to pose' is by far better for most activities since it gives the maximum control to what the activity will resemble. Utilizing straight ahead animation can prompt the character evolving size, or being on an alternate level from start to finish whereas pose to pose technique spares a considerable measure of work. On the off chance, animate an entire grouping straight ahead and then understand that one pose is off. You would need to change few drawings to settle that one pose. In pose to pose technique, you would do the fundamental poses to check whether it feels right and if you can get issues at an opportune time straight ahead animation. It is also useful for animation, which is flighty. A few cases of this incorporates fire, water, particles, dust and storms blasts explain the motivation behind straight ahead functions, which admirably is on the grounds that there are laws of material science that work at a steady rate and it is difficult to foresee them. Another method is animate using pose to pose, then going through, and adding the years using straight ahead. This is good because you can focus on the figures' movements without the distraction of having to do it and you can focus on the physics of the particular movement without the distraction of his body's movement.

#### **5. Follow through and overlapping action**

This is the strategy of having body parts and different parts behind, whatever remains of the body and keeps on moving, a few sections of the body lead the action, and others follow the development. Drag is another mainstream method where the following parts of the body take a couple of more casings to get the primary lead parts. At the point when the body stops follow



through, an overlapping action is regularly connected with another method called follow through. Follow-through alludes to the route parts of the body and keeps on moving after the body stops. Overlapping action depicts the counterbalance between the planning of the primary body and its different parts. Each of the three of these is depicting distinctive parts of a similar thing. Follow through is an overlapping action that includes a lot of authenticity to a character. Overlapping action when the fundamental body moves the tip of the limb ought to be the last to make up for lost time and when the body stops the tip ought to follow through the furthestmost before settling back this is valid for extremities as well as the entire body too. When grinding to a halt regularly the body will follow through and then returned just, as a character needs to anticipate.

## 6. Slow in and slow out

This rule alludes to the way practically all development begins gradually, constructs speed and completes gradually. This stands out amongst the most imperative procedure of accomplishing life like a motion without moderate in and moderate out feel mechanical. It is in light of the fact that robots are one of the main things that really move their parts at a consistent speed to utilize.

This principle in 2D animation is your extraordinary poses that attract a solitary between and then just in the middle of the drawings nearest to the extremes until the point that you're happy with the measure of moderate in and moderate out. With 3D animation and motion graphics having moderate in and moderate out issue, can be solved by changing the motion bends from straight to spline, modifying the Bezier handles to create a smooth curve in graph as time advances, the protest begins moderate gets quick.

## 7. Arcs

Every action follows an arc, either you swing arm, throw a ball or chew a food. Curves make the animation feel normal and realistic. Arc in motion helps to define momentum too. Any object not following its natural arc will not look fluidic but erratic for example





you cannot make sharp turn in a speeding vehicle rather than a slow moving vehicle.

## 8. Secondary Action

It implies something altogether, different secondary action portraying helps the fundamental action to add more measurement to the character animation. The secondary action commands the essential action. Secondary action helps in characterisation or expressing emotion like a tensed man is walking left and right with hands in his pocket, joyful person walking with swinging hands and whistling, a horse is running so its tail is waving fast following the movement of body. The principle of staging is also very vital in secondary action.

## 9. Timing

This principle expresses that the identity and nature of an animation is incredibly influenced by the quantity of casings embedded between every primary action. Timing means the speed of action which gives the quantity of in-betweens i.e. between two keys. It includes picking the quantity of edges that will be used to animate a scene. The quantity of edges demonstrates the speed of the action on the film. The less casings and action the animation has, the speedier and crisper it will get. On the off chance that an action has many edges, it will be moderate and smooth. Timing adds surface and enthusiasm to the development of your characters. A decent approach to rehearse this method would be considering the acting and development of on-screen characters and entertainers in front of an audience and utilize it as reference while animating.

## 10. Exaggeration

Each action poses and articulations are taken to the following level to build the measure of effect on the watcher. The early artists at Disney would get confounded on the grounds that Walt would instruct them to, which includes more authenticity yet when they



transformed it. He would ensure the outcome since it was not overstated enough.

More sensible did not mean you would make the material science and extents more steady with reality but instead make the thought or embodiment of the action more evident. Exaggeration a decent manage to follow is to push the exaggeration level until the point that it really turns out to be excessive. Along these lines, you see the entire range beforehand as opposed to shooting oblivious right. Illustrators need to utilize determination and information and shield it from winding up plainly excessively showy animated.

## 11. Solid drawing

This principle is tied with ensuring that structures feel like they are in three-dimensional space with volume and weight. Adjusting one thing that makes animating simpler is having the capacity to draw a figure from all points. This requires learning of three-dimensional drawing. For instance, when drawing a line on a circle, it must follow the shape of the circle's surface. A straight line right away makes the circle look levelled when drawing blocks abstain from making parallel lines. Lines are ought to be twisted towards the vanishing point, otherwise it will resemble a level. Illustrators need to take craftsmanship class and genuinely draw is vital.

## 12. Appeal

The last principle of animation is appeal. Characters that you animate ought to be some degree satisfying to take a look at. They should have some sort of magnetic angle about them to be liked. A character's appeal doesn't generally mean attractiveness, it may be based on its look or characteristics such as a scalawag ought to resemble to have an intriguing look. Everybody has an alternate standard for what is appealing; however, recently giving your character a dynamic plan can enormously support its appeal. Here are three stages for doing in order to start with: utilizing an assortment of shapes as opposed to, utilizing a similar shape for each character and experiment with various shapes on the



grounds. There is no restriction to the range of insane arrangements that characters can have. Secondly, play with the extents. Visual artists regularly amplify the things, discover intriguing and contract the things. For instance, they may broaden the head and eyes, shrivel the body and make the hands bigger. Finding that part of a character, that characterizes his/her identity. Third, one is to keep it straight forward as a lot of data can over muddle the character and make it harder to control animation.

### **Stages of creating an animation movie**

The stages for creating an animation film, it has to go through phase's like:

- Pre- production
- Production
- Post-production

These stages are sub-divided into parts and the animators execute their work as decided.

#### **Pre-production:**

Pre-Production is the period of time during which work is done on a show prior to the first rehearsal. During pre-production, you make decisions that dictate how the rest of the production comes together. During pre-production, following things are finalized so that all the obstacles are removed to get a smooth production.

- Writing the story
- Production plan
- Character development
- Story board
- Creating premises
- Scene planning
- Sound track
- X-sheet

#### **Production:**

This is the most challenging stage of creating an animation film. At the stage, you get to see the actual result of the treatment given



to the story and the visual achievement of the director's imagination.

- Recording the dialogue
- Layout designing
- Background designing
- Animating

### **Post Production:**

Post Production is the process of compositing and editing both the pictures into an organized matter.

- Compositing
- Digital compositing
- Computer effects
- Sound
- Editing
- Mixing audio-video
- Final mixing



---

## Summary



### Summary

In this unit, you have learned about animation. It would introduce and expand the knowledge, understanding and skills for a diverse range of different types of animation by exploring relevant techniques and processes. Also, it explains the history of animation. You should be able to apply the 12 principles of animation and production processes to create an animation film.

---

## Assignments



### Assignments

- Explain what is animation
- Examine the basic types of animation
- List various steps for creating a 2D animation
- Explain basic techniques used in 2D animations
- Describe animation process
- List principles of animation
- Explain stop motion animation
- What is layout design
- List the types of colour use in inking and colouring

---

## Resources



### Reading

- <http://resumbrae.com>
- <https://upload.wikimedia.org>
- <https://cdn.pixabay.com>
- <https://google.com>

## Unit 2

---

### Drawing Concept

#### Introduction

Drawing is a form of visual art in which a person uses various drawing instruments to mark paper or another two-dimensional medium. Instruments include graphite pencils, pen and ink, inked brushes, wax color pencils, crayons, charcoal, chalk, pastels, various kinds of erasers, markers, various metals and electronic drawing.

In this unit, we learn how to draw an image with basic concepts and techniques. To shade with different pencils, you will start out by using pencil to do a light touch on the paper and then push down harder to create a darker shade. Use different pencils to get long and wider lines from the shading. 4B and 6B pencil will have lines that look the same, but they are different in the way they apply graphite to the paper. Practice using all of your pencils to get an idea of how they write, then you can choose which will be the best for your drawing with an educated decision.

#### Outcomes



##### Outcomes

#### Upon completion of this unit you will be able to:

- Introduction to drawing
- History of drawing
- Understand the different types of art forms
- Basics drawing categories
- Drawing methods
- Types of drawing



## Terminology



### Terminology

<b>Background:</b>	The most distant zone of space in a drawing which creates a three-dimensional illusion. It is helpful to give a sense of depth and balance of perspective in a drawing.
<b>Chalk:</b>	A wide variety of easily crumbled drawing materials produced in either round or square sticks ranging from coarse to fine, hard to soft, or dry to greasy. It is originally obtained from natural coloured limestone.
<b>Charcoal:</b>	Carbonized wood; willow (or sallow, a species of willow) twigs heated with a state of carbon in sealed chambers excluding oxygen in order that the wood doesn't burn and gets reduced to ashes.
<b>Conte Crayon:</b>	Semi-hard chalks of fine texture and various sizes containing a sufficient oil in the binder to adhere more or less permanently to smooth paper—available in black, white, brown, and sanguine (Venetian red), and three degrees of hardness.
<b>Floor Plane:</b>	The interior horizontal plane that the viewer stands on which extends to the horizon.
<b>Gesture:</b>	The essential line or depicted state of movement of a live or still form.
<b>Ground Plane:</b>	A smooth plane on which the viewer stands, it extends to the horizon marks.
<b>Life Drawing:</b>	Drawing from live forms in order to gain visual understanding of the movements, gestures, and physical capabilities of live bodies as aesthetically pleasing art forms.
<b>Sketch:</b>	A quick rough drawing with minimum outlines to understand the basic objects.



**Vine Charcoal:** The highest quality stick charcoal—named for plant vines from which it is extracted through heating and carbonization.

## Drawing Concept

Drawing as a verb describes the act of pulling, pushing or dragging a marking tool across a 2D surface. The line remarks that remain serve as a document of the action. These marks can vary depending on the type of marking tool used or the method of applying the image that results from this marking process is then referred to as a drawing.

Drawings are basically broken down into two categories:

1. Receptive
2. Projective

Receptive drawing is when an artist attempts to capture the appearance of something observed from our physical world, for this reason and he was about representational drawing observed from life is also an example of receptive drawing. Spanish artist Pablo Picasso serves as a good example of receptive drawing. Picasso was enrolled in the Royal Academy of San Fernando in Madrid as with most academies of the time Picasso was taught the strict mimetic tradition of drawing from live models and plaster casts, the idea was that drafting is a skill that any artist could master by following a series of strict rules as his career progressed. Picasso began abandoning the receptive drawing practice entirely, instead of drawing from the world around him.

Picasso began drawing from his imagination; this type of drawing is referred to as projective drawing compared to a receptive drawing. The projective drawings usually have to make generalizations about the subject being depicted, even if Picasso had drawn images of hundreds of bowls from life. The moment he drew one from memory it could only be an approximation of what a bowl looks like. Due to this limitation projective drawings are often drawn in exaggerated or distorted ways to acknowledge the limitations of this method. For this reason, abstract drawings are





often projective in nature and of course non-objective drawings are also projective because, they come straight from the artists imagination with no reference to the observable world.

### **Documentation**

First, a drawing can be a form of documentation. In this way, a drawing concerned is a notation sketch for record. This notation can be about something that an artist observes, remembers or imagines. Visual artists often want to record their thoughts and they do this by keeping sketchbooks.

### **Sketchbooks**

Sketchbooks are generally kept from the artist's reference and serve a similar role to that of a writer's journal. Italian Renaissance artist Leonardo DaVinci was renowned for the large number of sketchbooks he kept. Leonardo took a great interest in the study of human proportions as illustrated in his sketch the Vitruvian man. To learn more about human anatomy, he would also take part in medical dissections as illustrated in these sketches from observations of the human heart. He also sketched images of Great machines from his imagination even though the technology did not exist at the time Leonardo is credited for coming up with the concepts of modern machinery such as the tank and the helicopter.

### **Preparations**

Drawings can also function as studies or preparations for a larger or more complex work. One very traditional form of this preparation is sketched for Paintings Michelangelo needed to create many studies first painted fresco on the ceiling of the Sistine Chapel because Buon fresco is such a fast drying process. Michelangelo did not have the leisure to work through the final orientations of his figures and arranged as he painted them, the more preparation you could do, the more successful the outcome and the less frustration would result for his powerful black and white painting entitled Guernica. Pablo Picasso made at least 45 preliminary studies, each drawing serves a sketch for the next drawing until the artist felt he was better prepared to depict the



tragic events of 1937. The subject of this painting was the Nazi bombing of the Spanish town Guernica that killed hundreds of unarmed civilians in the case of the contemporary installation team.

## Sketch

The drawings also serve as sketches for architecture because buildings cost so much to erect, investors want to see finished plans before any ground is broken. Architectural drawings are usually drawn in perspective, including things like trees, cars and people to display the building scale. Even architectural renderings need to start somewhere. Believe it or not, this is a loose sketch served as the inspiration for Frank Gehry's Guggenheim Museum in Bilbao spinning after going through many other renderings and modelled.

It was transformed into the complex 3D structure that stands today filmmakers often use drawings called storyboards to plan out the seeds of their films like building fills take a lot of money and labour to complete. Scenes having planned for pre-production prevent any unnecessary confusion or wasted funds although most directors hire artists to draw their storyboards for them.

## The Basics of Other Artforms

Most of the drawings have given inspirations to different kinds of art. Drawing is, as a general rule, the premise of every single visual art. For instance, a structural drawing helps in building development, and markings on a stone piece give foundation for the sculpture that rises. Most paintings are in the first place a sketch and as the works continue, they are merged into coloured surfaces. Moreover, researches show that drawings shape the premise of the wall painting, board, book paintings, statues, and numerous other types of art.

### Drawing Media:

Drawings are produced using instruments such as pen and ink, graphite point, chalks, pastels, charcoal, silverpoint, coloured crayons, metalpoint, graver, burin or etching needle for incised



types of drawing. Other alternatives include graphite sticks, wax or conte crayons, markers and various types of inked pens. Paper gives the most usual support but other options are card, board, cardboard, canvas, papyrus, leather, vellum (calfskin), textiles. Also, even plastic or metal will help, and mixed-media drawings are executed using a combination of these materials.

## History

The history of the oldest art we know of is about 40,000 years old. The art was found on cave walls or sculpted from rocks, which comprises people who killed animals or each other. But there is an exception: the famous woman from Willendorf, an abstract sculpture of a faceless obese lady who wears just a shower cap. Later, people began to note down things, and then starts a proper history with civilizations developing in Egypt, Persia, Mesopotamia, Greece, Rome, India and China. This historic time in art gave the world pots earthenware, crumbling temples and more. Then arrived warriors, warriors on pots, gods on pots, among other things. In the middle ages, the West was dominated by the church that disputed the validity of all the old gods to claim there was in fact only one god. Art could not feature unrealistic things such as dances of an elephant having more than one limbs or a man with winged beard but had to be about things that happened in the Bible. This more realistic, down-to-earth approach gave us morose men in yellow hats, morose men in pink shawls and lots of glowing babies. Then came the Renaissance and the material world real life places were rendered in three dimensions. Convincing use of perspective became widespread and the human body was shown as it really is in many images. However, some remain religious in nature, which also featured a flying wing man with laser beam eyes and has been done realistically too. Eastern art continued to develop in its own way -- showing scenes from nature or the everyday world like mountain people kissing or men dressing gowns, getting angry at others. Then came the modern art and the dawn of the 'isms' such as impressionism, expressionism, cubism, dadaism and surrealism. The experiences of global war, the march of technological progress and the popularization of theories about the universe and the human mind as espoused by the likes of Einstein and Freud left their indelible mark on our species. The artistic gloves

were off and it was time to experiment shapes, splats, blocks of colour, ghosts pokes, weeping women, fluorescent lights, urinals and unmade beds. All could be considered art in this brave new world people argued the point saying some modern art was shit and some of it really was watered art. Art today is part of the human condition and desire, which is as old as our species and quite probably embedded in our DNA as innate to us as eating, fighting and laughing at other people's misfortune. But it's also big business you're likely to see the famous artwork on a mug, a T-shirt or in a boardroom as in a gallery. The rise of cinema, television and the Internet has led to a dissemination of a common visual culture into every corner of the globe. While the Gideon pace of Technology and ceaseless progress has democratized the entire means of artistic production.

### Categories of Drawing:

Drawing consists of three basic categories:

- **Casual drawing (portraying, doodling):** This indicates incomplete and generally basic creations. These drawings don't have the continuous capacity.
- **Preparatory drawing:** This indicates the production of a particular image or arrangement of images, shaping the entire thing or part of a creation the artist wants to finish by including colour (paints, coloured inks and so on).
- **Finished drawing:** This indicates a finished remain of a solitary, independent work, for example, an illustration, a cartoon or visual art.

### Drawing Methods

Tools and equipments can be utilized to draw, including slate pencils, metal style, charcoal and chinks, and in addition, traditional pens, pencils, and brushes, wellspring pens, ball-point pens, and felt pencils; even etches and jewels are utilized for drawing.

- Line drawing
- Stippling



- Shading

The surrealist technique for entopic graphomania (in which dots are made at the destinations of contaminations in a clear sheet of paper, and lines are then made between the dots), and tracing (drawing on a translucent paper, for example, tracing paper, around the blueprint of previous shapes that show through the paper).

A fast and untreated drawing might be known as a sketch.

In fields outside art, specialized drawings or arrangements of structures, hardware and different things are normally called "drawings" in spite of when they have been exchanged to another medium by printing.

## Charcoal

Charcoal is the result of heating or charring an organic substance such as wood at a very high temperature, and the dense and dark substance results are primarily composed of carbon. A drawing medium charcoal is generally available in two type's compressed charcoal and vine charcoal. Compressed charcoal is the heavier of the two types. It is found in stick or pencil form with a clay binder added. Compressed charcoal is a relatively unforgiving medium and it gets dark very quickly. Once it is applied to the paper, it tends to be very difficult to erase because this medium is so soft and dark. It's almost impossible to erase the white of the paper. A firm rubber eraser is best for erasing the thickest areas and an eatable eraser works better for erasing wider applications. Some artists even use an eatable eraser too soft and smudge the heavy medium around the surface of the paper. A German drafts person lost children and friends in the two world wars in Europe. Her later life self-portraits were psychologically charged studies of a woman nearing the end of a difficult life. These emotionally bare drawings are made all the more powerful by the darkness and moodiness of the medium. Tis drawing entitled the call of death serves as an allegory to the literal hand of death coming to claim the sole of the weary artist.

## Vine charcoal

Vine charcoal is both harder and physically lighter than compressed charcoal. For this reason, it is much lighter in value, if compressed charcoal can be applied to a 100-percent black, vine charcoal may only reach a sixty or seventy percent gray. Vine charcoal is much more forgiving than compressed charcoal because it can be easily erased by any of the aforementioned erasers, charcoal is also available in a fine powdered form and like vine charcoal. Charcoal powder goes on the support much lighter than compressed charcoal. For this reason, artists will often use vine or powdered charcoal as the under layer of a drawing with compressed charcoal on top white chalk can also be applied to the surface of a charcoal drawing to create areas of highlight.



Title : Charcoal Stic

Attribution : [Mrs Scarborough](#)

Source : Own work

Link : [https://commons.wikimedia.org/wiki/File:Charcoal\\_sticks\\_051907.jpg](https://commons.wikimedia.org/wiki/File:Charcoal_sticks_051907.jpg)

## Graphite

Graphite is apparently the most widely recognized drawing medium. It often comes as pencils, powder or filled sticks and is the thing that a large number of people essentially allude to as "pencil". Each one makes a scope of qualities relying upon the hardness or softness of the material. Hard graphite tones territory from light to dark gray, while softer graphite permits a range from light gray to almost dark black for that reason a considerable measure of graphite drawings is basically called pencil drawings.



Graphite drawing strategies are for all intents and purposes interminable. In any case that you apply graphite to a surface will deliver some kind of results. French sculptor Gaston Lachaise's *Standing Bare with hanging cloth* is a pencil drawing that fixes the vitality and feeling of development of the figure to the paper in only a couple strokes. Steven Talasnik's contemporary extensive scale drawings in graphite, with their whirling, natural structures and architectural structures are a demonstration of the energy of pencil on paper.

### Dry Media

Dry Media incorporates with charcoal, graphite, chalks and pastels. Each of these mediums gives the artist an extensive variety of stamp making capacities and impacts, from thin lines to huge areas of colour, shading and tone. The artist can control the application of material by applying required pressure to accomplish required impacts from multiple points of view, including similar individual weights on the medium against the drawing's surface, or by eradication, smearing or rubbing.

This procedure of drawing can immediately exchange the feeling of character to an image. From vigorous to normal, these behaviors are clear in the least not easy works: the quick and unalloyed strength of the artists thought. You can observe this in the self-portraits of two German artists; *Kathe Kollwitz* and *Ernst Ludwig Kirchner*. Injured in the middle of the main world war, his *Self-portraits under the influence of Morphine* from around 1916 presents us with a dreadful vision of him wrapped in the mist of sedative medications. His empty eyes and the realistic brokenness of his imprints confirm the energy of his drawing.



Title : Portrait of Carl Sternheim. Lithographie 1916

Attribution : Ernst Ludwig Kirchner

Source : <http://www.kunsthau-luebeck.de/sites/lagerkatalog-122/seiten/kirchner-el.html>

Link :

[https://commons.wikimedia.org/wiki/File:Ernst\\_Ludwig\\_Kirchner\\_Bildnis\\_Carl\\_Sternheim\\_1916.jpg](https://commons.wikimedia.org/wiki/File:Ernst_Ludwig_Kirchner_Bildnis_Carl_Sternheim_1916.jpg)

## Pastels

Significantly more prominent color refinement is conceivable with pastel colored pencils, produced using powdered shades blended with a base measure of non-oily cover. At the point colors are out on paper, they perpetually look new and bright, despite the fact that they should be safeguarded from scattering by being kept under glass. Pastel colors are connected in straight method with the pastels, or to a region of the paper specifically with the fingers. Pastels originated in the north of Italy amid the 16th century, and were utilized by Jacopo Bassano (1515-92) and Federico Barocci (1526-1612). Pastel drawings were known to the Accademia degli Incamminati no later than the 17th century, in spite of the fact that as a work of art it didn't achieve its pinnacle until the 18th century, eminently in France (with Jean Marc Nattier, Maurice Quentin de La Tour, Jean-Baptiste Perronneau and Jean Chardin) and in Venice (with Rosalba Carriera).





## Oil Pastels

Oil pastels are a relative of the wax crayons that you may remember from childhood. They are composed of pigment suspended in non-drawing oil and wax binder the oil and wax as binders make the colours of oil pastels much more vibrant than those of chalk pastels like oil paint. Oil pastels can be layered in a way that chalk pastels cannot, while powdery chalk pastels never get far from the surface of a drawing. Oil pastels apply much thicker and can create instances of actual texture for this reason. Though oil pastels are much more difficult to erase, your racers will often just smear the medium or smudge the pigment into the paper. Beverly Buchanan is a contemporary African-American artist who uses oil pastels to explore aspects of her southern rural tradition. Her work has a playfulness that embraces the inherent messiness of the media like Yoshimoto Nara. She adopts a children's art aesthetic that attempts to view the world through the fresh eyes of youth.

## Spray fixative

The use of aerosol spray fixative when applied in thin coats, it holds dry media from smudging, smearing or rubbing off of the surface like varnishes for paintings. Spray fixative also protects the media from moisture, sunlight and time, even after fixing their drawing, artists will often store their work sandwiched between clean sheets of acid-free paper. This helps to further ensure that the delicate work will not be damaged or altered in any way.

## Graphite Point

When 16th century was drawing to a close, another drawing medium showed up and quickly traded metal point for outlining and initial drawing. Due to its weak stability, it was utilized basically for beginning sketches, instead of independent drawings. The graphite point appropriately brought forth the lead pencil, after the revelation in 1790 by Nicolas-Jacques of an assembling procedure utilized as a part of the creation of artificial chalk. Cleaned and washed, graphite could from this time forward be fabricated in any level of hardness. The pencil focuses with their

solid, clear, thin strokes, and was especially suited to the reasons for Neoclassicist artists. Among the best types of pencil designers was the intellectual painter J-A-D Ingres, who utilized deliberate pencil drawings as the reason for his oil works of art.

## **Chalk**

Chalk generally uses inert chalk as a binder to powder pigments into a solid stick. Chalk pastel has a similar powdery softness to compressed charcoal. It can be erased more easily than compressed charcoal but not as easily as vine charcoal. The chalk and chalk pastel gives the pigment a slightly muted or matted appearance. This is why certain muted colors are referred to as being pastels. French impressionist Edgar Degas made many chalk pastel studies in the late 19th century. His intimate drawings were often related to subjects like ballerinas. The matted pastel colors help convey the softness of early morning light.

## **Liquid media/ Wet Media**

The term liquid media refers to any drawing medium that is wet during application rather than dry. India ink is a traditional liquid drawing medium that dates back to India in the 4th century BCE. It is composed of a carbon black pigment in water. India ink is usually applied with either a brush or with a nib pen. Ink and wash is a drawing technique used in traditional Japanese culture where India ink is applied with a brush and water. Thinning the ink with water, it is a way to create numerous and subtle values of gray. This process can be used to create very sumptuous and smooth gradients of tonality. There are many Western fine artists who borrow the Japanese tradition of ink and wash in their work. The study of a fountain by Vincent van Gogh serves as a good example, the quick sketch by Rembrandt Van Rijn displays all the delicacy on this application of hair, even the dress of his sleeping subject. The reason that ink and wash is considered drawing rather than painting is due to the fact that art uses tonality rather than colour. As we know before, drawings have been historically viewed as being inferior in some ways to paintings. Paintings are generally larger and more complex and concentrated on colour rather than



value because of this many Western fine artists have used ink and wash as a sketching medium. India ink also be applied precisely with a metal tipped nib pen, the tip or nib has a grooved channel that allows the ink to flow to the paper, the nib must be constantly dipped in the equal to ensure the desired flow of ink working with an ink pen more even lines than the ink and wash technique. The predecessor to the new pen was a sharpened bird feather called a quill. Today artists don't need to dip pens or quills into an inkwell unless they really want.

### **Ink Pens**

Now many different types of ink pens are available, with ink and a cartridge, built right into the shaft of the pen. Different types of ink pens will create different kinds of lines, fountain pens which resemble the shape of nib pens are known for the fluidity of their mark. Ballpoint pens have crisper more even lines and felt tip pens can be used to create broader types of marks. The American draftsman Andrew Gory used ink pens to create his twisted take on children's book illustrations even though his work looks like a style from a century ago. He was indeed living in the late 20th century these pieces may even seem innocuous unless you read their captions B is for Basel assaulted by bears. Graphic media like cartoons and comic books will often be drawn using ink pens graphic artists appreciate the clean crisp lines that these tools can create. Older cheaper forms of printing were also unable to print variations in value beyond black and white. This is why artists who use ink pens to imply a volume need to utilize a form of hatching or stifling.

### **Felt tip**

Felt tip pens are viewed as a type of wet media. The ink is immersed into felt strips inside the pen, at that point discharged onto the paper or other help through the tip. The ink rapidly dries, leaving a perpetual stamp. The colored marker drawings of Donnabelle Casis have a streaming natural character to them. The unique nature of the topic gathers body parts and viscera.

Different fluids can be added to drawing media to upgrade impacts – or make new ones. Craftsman Jim Dine has sprinkled pop onto charcoal drawings to make the surface rise with bubbling. The outcome is a visual surface not at all like anything he could make with charcoal alone, in spite of the fact that he is well known for his solid control and work. Dine’s drawings regularly utilize both dry and fluid media. His topic incorporates creatures, plants, figures and instruments, commonly swarmed together in thick, dimly sentimental pictures.

## Types of Drawing:

### Portraits



Title : Portrait of Maximilian I Elector of Bavaria

Attribution : Joachim von Sandrart

Source : Extract of de:Bild:MaximilianI.jpg

Link : <https://commons.wikimedia.org/wiki/File:MaximilianI-Bayern.jpg>

Portrait drawings normally include the perfect profile and three-quarter profile. Cases incorporate 15th century portraits by Pisanello or Jan van Eyck, and in addition Durer's drawing of the superior Maximilian. Works of Jean and Francois Clouet in France and of Hans Holbein in Switzerland and later in Britain have given an exceptional self-rule on portrait drawing, particularly when finished in chalk of different colours. In the 18th century, Quentin



de La Visit, Francois Boucher, and Jean-Baptiste Chardin were noted types of chalk. Portraits were more attractive for the psychological parts of portrait art. Late 19th and 20th century portraitists supported the soft pastels that all the more rapidly mirrored their masterful skills.

## Landscapes

By the 15th century, landscape drawings had turned into a satisfactory subject for individual drawing too, as showed by Jacopo Bellini's 15th century sketchbooks. Still, not until the approach of Durer toward the finish of the century was landscape completely regarded as its very own subject without reference to similar works. Drawings of his two Italian adventures -- of the area of Nuremberg and his trip to the Netherlands -- reflect the first flawless landscape drawings. Hundreds of years were to go before such flawless landscape drawings happened once more. Landscape components additionally showed up in sixteenth century German and Dutch drawings and illustrations, eminently those by individuals from the Danube School like Albrecht Altdorfer and Wolf Huber. Netherlandish Renaissance painter Pieter Bruegel - The Senior drew geographical perspectives and free landscape structures too, in both the cases as an autonomous works. In the 17th century, the landscape drawings of the Accademia Degli Incamminati, blended classic and legendary topics with courageous landscapes. What's more, Rome-based French classicists Claude Lorrain and Nicolas Poussin additionally created romanticized Arcadian landscape drawings. In the 18th century Italy, the geographically correct landscape drawing accomplished a high point with the approach of the Vedutisti, the view painters like the Venetians Canaletto (1697-1768) and Bernardo Bellotto (1720-80), and the Roman Giambattista Piranesi (1720-78).landscape drawings achieved a moment blooming in Britain amid the mid-nineteenth century on account of works by JMW Turner and Alexander Cozens, while in France the convention was exemplified by Camille Corot and, later, Van Gogh.

## Figurative Genre Works

Of far less significance to independent drawing than portraiture and landscape, figure drawings are normally tightly associated with what was going on to painting as a rule. In this way, for

instance, drawings of kind scenes were moderately common amid the 17th century Dutch realism School, in 18th century France and Britain, and in 19th century France.

### **Still Life**

Still life drawings, outstandingly the portrayals of blooms, similar to those of the Amsterdam artist Jan van Huysum (1682-1749), have been well known as far back as the 17th century. In some of these works, the equality to painting is close; take for instance, the pastels of the nineteenth century French artist Odilon Redon (1840-1916), or the work of the twentieth century German Expressionist Emil Nolde (1867-1956), both of which cross the separating line amongst drawing and painting.

### **Fantasy Drawings**

Drawing portraying is unbelievable, extraordinary or visionary subjects, for example, the incredible compositions of Hieronymus Bosch, have for quite some time been prevalent. See similarly the grotteschi of Raphael in the 16th century, the symbolic manual worker scenes by Pieter Bruegel, and the festival etchings of the 17th century French artist Jacques Callot. Other specialists whose drawings fall outside scene and likeness include the eighteenth century Italian engraver Giambattista Piranesi, the English Swiss artist Henry Fuseli (1841-1925), the nineteenth century English illustrator artist Walter Crane (1845-1915), the compelling French Symbolist artist Gustave Moreau (1826-98) and the 20th century surrealists.

### **Illustrations**

The illustrative drawing does not possibly go past a basic pictorial clarification of a bit of content, yet even it might in any case fulfill the most elevated creative requests. Repeatedly, awesome artist have illustrated scriptural messages and in addition writing of numerous types. Popular cases, the 18th century German sculpture Daniel Nicholas Chodowiecki (1726-1801), the nineteenth century caricaturist Honore Daumier (1808-79), the nineteenth century visual artist Wilhelm Busch (1832-1908) best known for his rhyming picture stories (Max und Moritz), and the twentieth century Austrian Blaue Reiter painter and artist Alfred Kubin (1877-1959).



## Caricatures

Related with illustrative drawing is the art of personification/caricature, which, by misrepresenting the visual qualities of a man or circumstance, makes a capably suggestive picture. This kind of symbolic drawing is exemplified by such illuminating presences as Annibale Carracci (1560-1609) - who initially start the word caricatura - Leonardo daVinci, Durer, and the Extravagant artist Bernini, and by social reporters like the 18th century Italian artist Wharf Leone Ghezzi (1674-1755), the 18th century English artist William Hogarth (1697-1764), the English caricaturist Thomas Rowlandson (1756-1827) who worked fundamentally in ink and watercolor wash, the nineteenth century Frenchman Jean-Ignace-Isidore Gerard, known as Grandville (1803-47), and possibly the best caricaturist of all, Honore Daumier.

## Types of Ground

One can draw on practically anything that has a plane surface - level or not - including papyrus and material, fabric, skin, wood, metals, and glass. In any case, since the mid-fifteenth century, the paper has been the most well-known and most prevalent ground.

The technique for paper production remained intact for all intents and purposes, unaltered as far back as 2,000 years. A strong thick remainder of mulberry bark, bast, hemp, and linens pressed and dried in level molds. The presentation of wood mash in the mid-nineteenth century was not gone for art paper, since paper with a substantial wood content yellows rapidly and is in this manner ill-suited for drawing purposes. Initially, to give the paper an adequately smooth and even surface for composing or drawing, it was rubbed with a bone feast or gypsum chalk in a thin arrangement of paste and gum. Be that as it may, since the late 15th century, a similar impact has been accomplished by plunging the paper in a paste or alum shower. Shades and colors are as well added to the mash, with blue "Venetian papers" being particularly prominent. The 17th century supported half tints of blue - or gray, dark brown, and green assortments; the eighteenth favored warm colours like beige or ivory, alongside blue. Since the eighteenth century, drawing papers has been created in practically every



possible colour and shade, while quality has additionally incredibly expanded.

Granulated and softer drawing actualizes, for example, chalk, charcoal, and graphite are not as reliant on a specific sort of paper (as, watercolors, pastels or pen, and ink); yet, in light of their slight glueyness, they regularly require a more grounded bond with the establishment and also some sort of surface security.





---

## Unit Summary



### Summary

In this unit you were introduced to basic types of drawing. You must be able to identify and use these techniques correctly, neatly and accurately. You find and build up a remarkable association with a wide range of drawing mediums -- from primitive charcoal to contemporary computerized drawing. The aim of the lessons is to give major of drawing and to likewise move you past the crucial ideas, to enable you to investigate the unlimited potential outcomes of check making and to create both one of a kind ways to deal with materials and your stylish basic leadership. The fundamental point of this unit is simply the longing to venture outside and find new imaginative ways. These drawing units are intended for all levels of drawing knowledge, in any case you approach central drawing procedures.

---

## Assessment



### Assessment

1. Explain the concept and meaning of drawing
2. Explain what is art
3. Who are the best history painters
4. Classify different types of drawing media
5. When "modern art" begin
6. Describe contemporary art.
7. Who are the greatest portrait artists
8. What is fine art
9. Describe art Deco
10. What is figure drawing
11. Describe "fresco"
12. Define and apply the art vocabulary associated with pen and ink
13. State the benefits of using water colours
14. Describe the advantages of using oil paint
15. Define portrait

---

## Resources



### Reading

- <https://s-media-cache-ak0.pinimg.com>
- <http://mexicounexplained.com>
- <https://google.com>



## Unit 3

### Basics of Color Theory

#### Introduction

This unit is about the exploration of color theory. You will learn what color theory is, its history, different kinds of colors. However, essentially, the unit is concerned with the core principles and concepts of color theory, and understanding how to apply them to a character in order to create the animation.

#### Outcomes



Outcomes

**Upon completion of this unit you will be able to:**

- Know about color theory
- Introduction to color vision principles
- Elucidate about the history of color
- Understand about Interaction of colors
- Color expressions

#### Terminology



Terminology

<b>Hue:</b>	The apparent value of a color, the color itself.
<b>Saturation</b>	<b>of</b> The general power or splendour of a color.
<b>Chroma:</b>	
<b>Value:</b>	The delicacy or haziness of a color.
<b>Tone:</b>	Addition of dim to an immaculate hue or color.
<b>Shade:</b>	Addition of dark to an unadulterated hue or color.
<b>Primary Color:</b>	The primary colors are Red, yellow, blue .

<b>Secondary Color:</b>	The secondary colors are Cyan, Magenta, Yellow and Black.
<b>Triadic:</b>	The three colors equidistant from each other on the color wheel (illustration: red, yellow and blue).
<b>Optical Color:</b>	Color that individuals really see additionally called neighbourhood color.
<b>Arbitrary Color:</b>	Colors picked by the craftsman to express emotions or state of mind.

## Introduction to color theory

With colors you can set a disposition, draw in consideration, or create an impression. You can utilize color to invigorate, or to cool down. By choosing the correct color plan, you can make an atmosphere of style, warmth and serenity or you can pass on a picture of fun loving energy. Color can be your most capable component when you figure out how to utilize it viably.

Colors influence us from numerous points of view, both rationally and physically. A solid red color has been appeared to raise the circulatory strain, while a blue color has a calming impact. Having the capacity to utilize colors deliberately and concordantly can enable you to make fabulous outcomes.

## History of color theory

The main color wheel was invented by Sir Isaac Newton. He split white sunlight into red, orange, yellow, green, cyan, and blue shafts. At that point, he joined the two closures of the color range together to demonstrate the normal movement of colors. Newton connected each color with a note of a melodic scale.

A century after Newton, Johann Wolfgang Goethe started studying mental impact of colors. He saw that blue delivers a feeling of coolness and yellow has a warming effect. Goethe made a color wheel showing the mental impact of individual color. He partitioned every one of the colors into two gatherings - the "in addition to" side (from red through orange to yellow) and the



minus side (from green through violet to blue). Colors of the "in addition to" side create energy and brightness. Colors of the "minus side" are related with shortcoming and unsettled feelings.

The present form of color theory was produced by Johannes Itten, a Swiss color and craftsmanship theorist who was teaching at the School of Applied Arts in Weimar, Germany. Johannes Itten created 'color chords' and changed the color wheel. Itten's color wheel depends on red, yellow and blue as the primary set of three and includes twelve hues.

## The Three Dimensions of Color

The 'Post-Impressionists', subsequent toacing Impressionist theory, tossed its strict application out of the window, with the exception of Cezanne. He supported warm-cool differentiations and complexities of color-saturation (level of virtue) to such an extent like inverse hues. In this manner, he re-attested basic characteristics of painting, utilizing high color, that were lost in favoring the complexity of hues over the other two measurements of color. It is an essential indication on how he utilized saturation to construct frame. To comprehend what Cezanne was doing, it is critical to remember the three measurements of color and four types of differentiation that they make accessible. The three measurements are:

1. Value (light-dim).
2. Hue (the wavelengths: green, red, yellow, and so forth.).
3. Saturation (virtue of color)

These measurements can be set in a three-dimensional model. Note that the color circle is calculated in respect to the vertical value(brightness) scale with the goal that the unadulterated hues are set opposite to each other to their coordinating values.

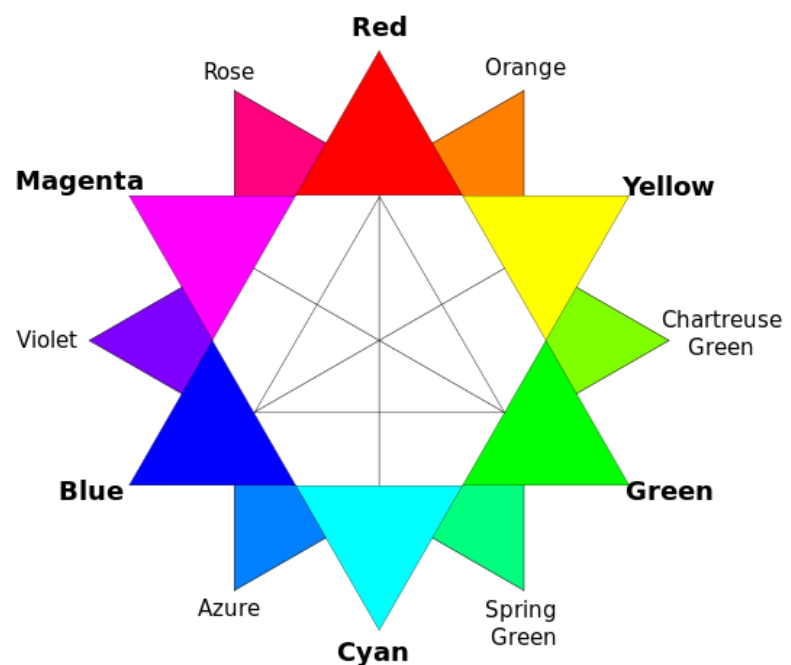
Each of these measurements gives a type of complexity:

1. Value: light versus dim
2. Hue: color versus its inverse
3. Saturation: killed color versus unadulterated color

Each of these differentiations, independently or together, can be utilized to assemble space and shape and to escalate lighting impacts. The last complexity accessible is the warm-cool differentiation. A warm-cool differentiation is really a component of hue as opposed to a different measurement.

Earle Loran, who distributed the conclusive work, "Cezanne's Compositions" attested that the canvases could be dissected on the premise of highly contrasting (value) outlines. His examination of the canvases on these grounds is splendid. In any case, it is deficient in light of the fact that he disregarded the way that Cezanne was forming with an advanced blend of value, hue and saturation.

## The Color Wheel



Title : RGB Color wheel

Attribution : [DanPMK](#)

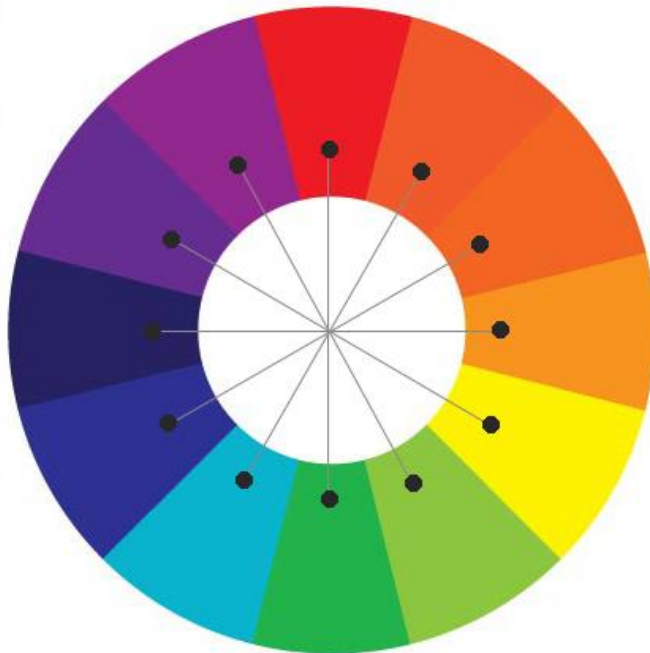
Link : [https://commons.wikimedia.org/wiki/File:RBG\\_color\\_wheel.svg](https://commons.wikimedia.org/wiki/File:RBG_color_wheel.svg)

The color wheel or color circle is the essential instrument for consolidating colors.

The main circular color graph was planned by Sir Isaac Newton in 1666. The color wheel is outlined with the goal that for all intents and purposes, any colors you pick from it, will look great together. Throughout the years, numerous varieties of the essential outline have been made, yet the most widely recognized rendition is a wheel of 12 colors in view of the RYB (or creative) color model. Customarily, there are various color blends that are considered particularly satisfying. These are called color harmonies of color harmonies and they comprise of at least two colors with a settled connection in the color wheel.

## Traditional Color Theory

### Complementary colors



Title : Complementary Colors

Attribution : [Bababao](#)

Link : <https://commons.wikimedia.org/wiki/File:Complementary.jpg>

For the mixing of colored lightweight, Isaac Newton's color wheel is normally used to depict integral colors, the square measure colors that cross out each other's tint to supply relatively colorless (white, grey or black) lightweight blend.

Newton offered as a guess, that colors exactly inverse each other on the shade circle dispose of each other's tone; this thought was incontestable a ton of absolutely inside the nineteenth century.

A key presumption in Newton's shade circle was that the "blazing" or most immersed tones are settled on the external perimeter of the circle, though colorless white is at the center. At that point the immersion of the blend of 2 ghastly shades was anticipated by the line between them; the blend of 3 colors was predicted by the "center of gravity" or center of mass of 3 triangle focuses, et cetera.

As per old color hypothesis bolstered subtractive essential colors and consequently, the RYB color model that originates from paint blends, yellow blended with violet, orange blended with blue, or red with green creates a comparable dim and are the painter's corresponding colors. These kinds of complexities are the possibility of Chevreul's law of color difference: colors that appear along are changed as though blended with the chromatic color of the inverse color. In this manner, a touch of yellow fabricated set on a blue foundation can appear tinted orange. Be that as it may, once integral colors square measure picked bolstered definition by lightweight blend, they're not comparable on the grounds that the craftsmen's essential colors. This disparity winds up noticeably imperative once color hypothesis is connected crosswise over media. Computerized color administration utilizes a tone circle delineated round the added substance essential colors (the RGB color model), in light of the fact that the colors in an exceedingly PC screen, square measure added substance blends of daylight, not subtractive blends of paints.

### Warm vs. cool colors



Title : Warm Cool Color

Attribution : Oliver Harrison

Link : [https://commons.wikimedia.org/wiki/File:ART\\_WARM\\_COOL\\_COLOR.png](https://commons.wikimedia.org/wiki/File:ART_WARM_COOL_COLOR.png)





The qualification amongst "warm" and "cool" colors has been imperative since 18th century. The refinement, as inferred by historical backgrounds inside the Oxford English Dictionary, shows up that a scene light-weight is the "warm" colors identified with sunlight or sunset and furthermore the "cool" colors identified with a grey or cloudy day. Hot colors square measures normally aforementioned to be tints from red through yellow, tans and browns included; cool colors square measures ordinarily previously mentioned to be the tones from blue green through blue violet, most grays encased.

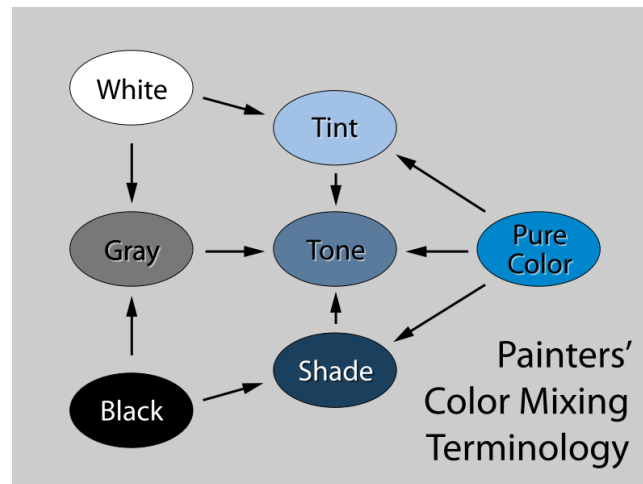
Color theory creates a tangible action and mental impacts to the present refinement. Hot colors are said to progress or appear to be extra dynamic in an exceedingly painting, while cool colors have a tendency to retreat; utilized in inside style or form. Hot colors are said to excite or animate the watcher, though cool colors quiet and unwind. The vast majority of those impacts, which are genuine, will be ascribed to the upper immersion and lighter worth of warmth colors in comparable to chill shades. Subsequently, darker could be a dull, unsaturated hot color that a couple of people consider as outwardly dynamic or mentally stimulating.

### **Achromatic colors**

Any shading that needs solid chromatic substance is said to be unsaturated, colorless, close unbiased. Close neutrals incorporate browns, tans, pastels and darker hues. Close neutrals can be of any hue or lightness. Unadulterated colorless or unbiased hues incorporate black, white and all grays.

Close neutrals are acquired by blending unadulterated hues with white, black or gray, or by blending two reciprocal colors. In shading hypothesis, impartial hues are effectively changed by adjoining more immersed colors and they seem to go up against the tone reciprocal to the soaked shading; e.g.: beside a splendid red sofa, a gray divider will show up particularly greenish.

## Tints and shades



Title : Tint-tone-Shade

Attribution : [Jacobolus](#)

Link : <https://commons.wikimedia.org/wiki/File:Tint-tone-shade.svg>

A tint is the blend of a color with white, which builds lightness, and a shade is the blend of a color with black, which reduces lightness. A tone is created either by the blend of a color with gray, or by both tinting and shading. Blending a color with any impartial color (counting black, gray and white) reduces the chroma, or colorfulness, while the hue stays unaltered.

The expression "shade" can be summed up to besides incorporate any assortments of a specific color, regardless of whether in fact they are shades, tints, tones, or marginally unique hues; while the expression "tint" can be summed up to allude to any lighter or darker variety of a color.

When blending colored light (added substance color models), the colorless blend of frightfully adjusted red, green and blue (RGB) is not gray or black, it's constantly white. When we blend colorants, for example, the shades in paint blends, a color is delivered which is constantly darker and brings down in chroma, or immersion, than the parent colors. This pushes the blended color toward an impartial color—a gray or close black. Lights are made brighter or dimmer by changing their brilliance, or vitality level; in painting, lightness is balanced through blend with white, black or a color's supplement.



## Split primary colors

In painting and other visual expressions, two-dimensional color wheels or three-dimensional color solids are utilized as apparatuses to show tenderfoots the fundamental connections between colors. The association of colors in a specific color model relies upon the reason for that model: a few models indicate connections in view of human color observation, though others depend on the color blending properties of a specific medium, for example, a PC show or set of paints.

This framework is as yet prevalent among contemporary painters, as it is fundamentally a rearranged rendering of Newton's geometrical decide that colors nearer together on the tone circle will create more dynamic blends. Notwithstanding, the scope of contemporary paints accessible, numerous craftsmen just add more paints to their palette as craved for an assortment of viable reasons.

## Color Harmony

Harmony is nature's method for saying that at least two things together bode well. Color harmony speaks to a fantastic adjust or solidarity of colors. Mixes of colors that exist in harmony are satisfying to the eye. The human mind recognizes the visual intrigue and the feeling of request made by the harmony and structures a dynamic equilibrium. Experts have particular thoughts in light of the standards of color hypothesis and color brain research of color mixes that are tastefully engaging and lovely. The accompanying calculated model shows this 21st century way to deal with color harmony:

Color harmony =  $f(\text{Col}1,2,3,\dots,n)$ . (ID+CE+CX+P+T)

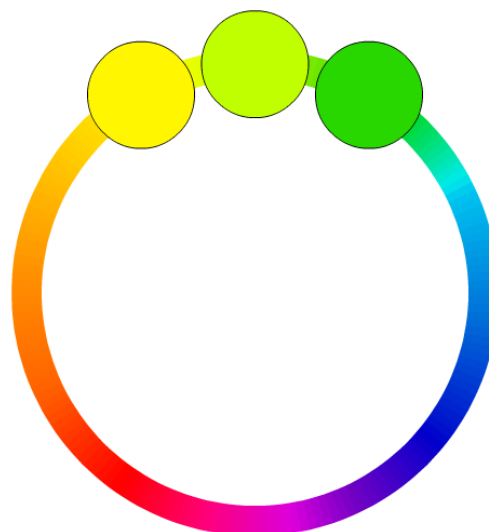
Wherein color harmony is a function (f) of the cooperation between color/s (Col 1, 2, 3, ... ,n) and the components that impact constructive stylish reaction to color: singular contrasts (ID, for example, age, sexual orientation, identity and full of feeling state; cultural encounters (CE), the context (CX) which incorporates setting and surrounding lighting; interceding perceptual impacts

(P) and the impacts of time (T) as far as overarching social patterns.

### **Color Harmonies: Basic techniques for creating color schemes**

Furthermore, given that people can see more than 2.8 million distinct tones, it has been proposed that the quantity of conceivable color mixes is for all intents and purposes limitless in this way suggesting prescient color harmony formulae are in a general sense unsound. Despite this, many color scholars have concocted formulae, standards or rules for color mix with the point being to anticipate or determine constructive tasteful reaction or "color harmony". Color wheel models have frequently been utilized as a reason for color blend standards or rules and for characterizing connections between colors. A few scholars and specialists trust juxtapositions of reciprocal color will deliver solid difference, a feeling of visual pressure and in addition "color harmony"; while others trust juxtapositions of comparable to colors will inspire positive stylish reaction. The following demonstrate the essential color harmonies in view of the color wheel.

#### **Analogous color Scheme**



Title : Analogous Colors

Attribution : Trond Grøntoft

Link : <https://commons.wikimedia.org/wiki/File:AnalogousColors.png>



Practically equivalent to color plan tend to create a solitary tinted or monochromatic color involvement and a few scholars likewise allude to these as "basic harmonies".

Undifferentiated from color plans are frequently found in nature and are agreeable and satisfying to the eye. Ensure you have enough differentiation while picking a comparable to color plan. Pick one color to command, a moment to help. The third color is utilized (alongside black, white or gray) as a highlight.

### **Complementary Color Schemes**

Integral color plans normally delineate an adjusted corresponding pair, with rather than the "genuine" second color being picked, a scope of comparable to tints around it are picked, i.e. the split supplements of red or green.

The high differentiation of corresponding colors makes an energetic look, particularly when utilized at full immersion. This color plan must be overseen well so it is not jostling. Reciprocal color plans are dubious to use in expansive dosages, yet function admirably when you need something to emerge. Correlative colors are truly terrible for content.

### **Triadic Color Scheme**

Triadic color plan receives any three colors roughly equidistant around a color wheel demonstrate. Triadic color plans have a tendency to be very lively, regardless of the possibility that you utilize pale or unsaturated adaptations of your shades. To utilize a triadic agreement effectively, the colors ought to be deliberately adjusted - given one color a chance to command and utilize the two others for highlight.

### **Split-Complementary Color Scheme**

Split-Complementary color plan is a variety of the complementary color plan. Notwithstanding the base color, it utilizes the two



colors contiguous its supplement. This color plan has an indistinguishable solid visual complexity from the complementary color plan, yet has less pressure. The split-complimentary color plan is frequently a decent decision for apprentices, since it is hard to botch up.

### **Rectangle (tetradic) Color Scheme**

The rectangle or tetradic color plan utilizes four colors organized into two integral sets. This rich color plan offers a lot of potential outcomes for variety. Tetradic color plans works best on the off chance that you let one color be dominant. You ought to likewise focus on the harmony amongst warm and cool colors in your outline.

### **Square Color Scheme**

The square color plan is like the rectangle, however, with every one of the four colors dispersed equally around the color circle. Square color plans works best on the off chance that you let one color be dominant. You ought to likewise focus on the harmony amongst warm and cool colors in your outline.

## **Color Physics (Newton, 1676)**

1. A triangular prism scatters white sunlight into a range of colors (rainbow): Red, Orange, Yellow, Green, Blue, Dark blue and Violet. Each shade (color) can be precisely characterized by indicating its wavelength of recurrence. The light waves are discolored. Color emerges in the human eye and cerebrum. Each ghostly tone is the supplement of the blend of the various otherworldly tones.
2. Light produces the color: Colors are the offspring of light, and light is their mom. A question does not have any color in itself. A red question looks red on the grounds that the particle constituting its surface retains every other color of light, and reflects just red.
3. Color temperature:

Standard Incandescent = Temperature 2700

Kelvin Halogen = 3000K

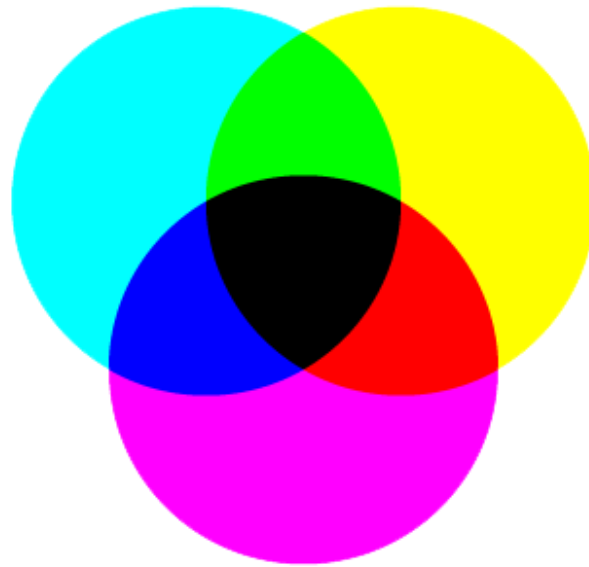
Tungsten = 3200K

Fluorescent = 4200K

Daylight = 5000K

## Color Process

### 1. Subtractive Color (reflected pigment)



**Subtractive Color**

Title : Subtractive Color

Link : <https://commons.wikimedia.org/wiki/File:SubtractiveColorMixingII.png#file>

Color coming about is because of retention of light. Their blends are administered by the run of subtraction. All color, when blended in specific extents, the subtractive outcome is black. (Pigmentary, objects, printed matter and CMYK color) there are three primary shades red, yellow and blue that can consolidate to acquire all other color tints.

**(Primary color of Pigment)** Cyanine (Blue) + (Primary) Magenta =  
**(Secondary)** Violet

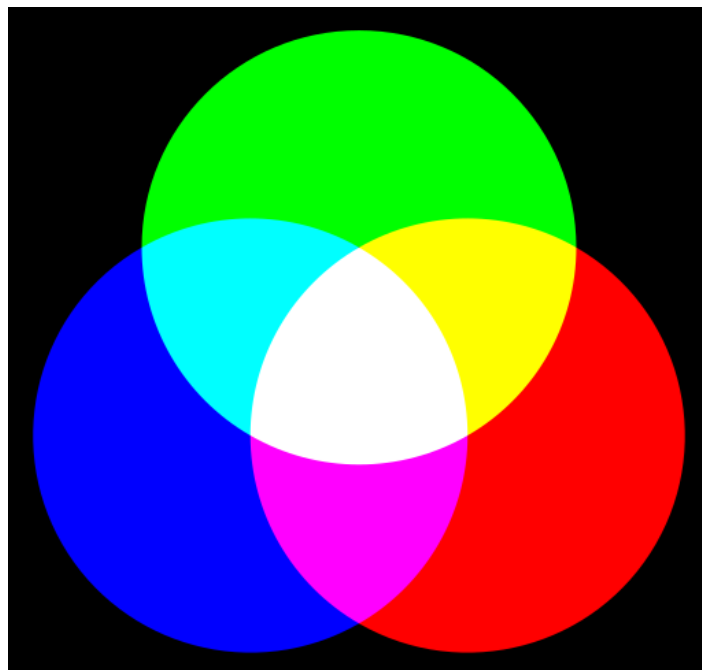
**(Primary color of Pigment)** Magenta (Red) + (Primary) Yellow =  
**(Secondary)** Orange

**(Primary color of Pigment)** Yellow + (Primary) Cyanine =  
**(Secondary)** Green

**Blend of 3 primaries of reflected shade: Black (Brown)**

Reciprocal + Complementary = Gray

## 2. Additive Color (projected light or reflected light):



**Addictive Color**

Title : Additive Color

Source : <image:Synthese+.svg>

Link : <https://commons.wikimedia.org/wiki/File:AdditiveColorMixiing.svg>

All colored light, when blended in specific extents, the added substance result in white. Color coming about is because of projection of light. (TV screen, PC screen and RGB color)





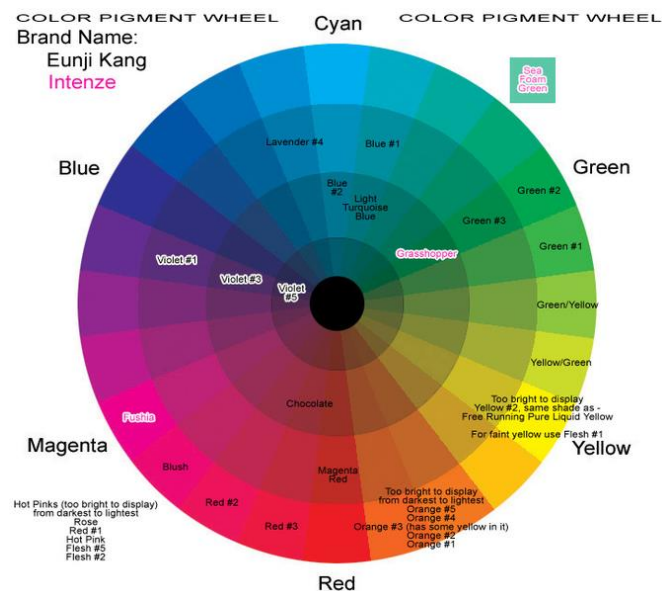
(Primary color of light) Red + (Primary) Green = (Secondary) Yellow

(Primary color of light) Green + (Primary) Blue = (Secondary) Cyanine

(Primary color of light) Blue + (Primary) Red = (Secondary) Magenta

Mixture of 3 primaries of projected light: White

Color Wheel of the Pigment Color (misleadingly increased range, included purple)



Title : Color Pigment

Attribution : [Stib](#) at [English Wikipedia](#)

Source : [Methecooldude](#) using [CommonsHelper](#)

Link : [https://commons.wikimedia.org/wiki/File:Color\\_Pigment.png](https://commons.wikimedia.org/wiki/File:Color_Pigment.png)

## Color Contrast

The color distinction between a subject (or figure) and its encompassing field (ground) makes differentiate - the more difference between a figure and the ground, the more unmistakable it progresses toward becoming.



Difference of color comes in two essential assortments, esteem differentiates (light versus dull color) and tone differentiates (contrast in color tint). Yet, there is more to color complexities. In his two surely understood books, "The Art of Color" and "The Elements of Color," Itten expounds on the viability of color associations regarding seven particular color differences as we'll see next.

## What is Itten's Color Contrasts?

Contrast of tint: Difference between tones, for example, yellow, blue and red.

1. Light-dim complexity: Black and white, night and day, dim gray and light gray. The differentiate is shaped by the juxtaposition of light and dim esteems. Additionally compelling as a monochromatic creation.
2. Cool-warm differentiation: Red, orange yellow (warm) stood out from blue, green and dark colored (cool).
3. Complementary differentiation: Opposing colors on the color wheel which make maximum complexity; yellow, violet, blue, orange, red, green.
4. Simultaneous difference: Contrast when the limits between colors perceptually vibrate here and there making fascinating deceptions. This is an impact that happens when two adjoining colors upgrade or reduce their optic immersion:
  - White looks more white when encompassed by darker esteem.
  - Gray seems more extreme when encompassed by lighter esteem.
  - Colors can seem lighter or darker relying upon their encompassing quality and shade.
6. Difference of immersion: Contrast between immaculate, extraordinary colors and more nonpartisan, pale colors.
7. Difference of augmentation: Involves allotting numeric properties to color and then utilizing them in measuring relative sums by each other.



## Color Expressions

The accompanying colors summon certain implications in this culture. These subliminal observations, natural idea and positive information ought to dependably work together. They bear some broad truth, yet may shift in various social orders. They are identified with the mental domain, mental and enthusiastic experience of the watcher.

### **Red**

Red stands for the color of flame and blood, and is related with war, vitality, quality, peril, control, assurance, enthusiasm, longing, and love. It is a sincerely serious color, and improves human digestion, expands breath rate, and raises circulatory strain. It has high perceivability, which is the reason stop signs, stoplights and fire hardware are typically painted red. In heraldry, red is utilized to show mettle. It is a color found in numerous national banners.

### **Orange**

Orange joins the vitality of red and the satisfaction of yellow. It is related with euphoria, daylight, and the tropics. Orange speaks to energy, interest, satisfaction, innovativeness, assurance, fascination, achievement, consolation, and incitement.

### **Yellow**

Yellow stands for the color of sunshine and is associated with happiness, joy, intellect and energy. Yellow produces a warming effect, arouses cheerfulness, stimulates mental activity, and generates muscle energy. Yellow is often associated with food. Bright, pure yellow is an attention getter, which is the reason why taxicabs are painted this color. When overused, yellow may have a disturbing effect; it is known that babies cry more in yellow rooms. Yellow is seen before other colors when placed against black; this combination is often used to issue a warning. In heraldry, yellow indicates honor and loyalty. Later the meaning of yellow was connected with cowardice.

### **Green**

Green is the color of natural world. It is a symbol of development, concordance, freshness and fruitfulness, and has compelling enthusiastic correspondence with security. Dull green is additionally normally connected with cash. Green has awesome recuperating power. It is the most serene color for the human eye; it can enhance vision. Green recommends steadiness and continuance. Some of the time green signifies absence of experience; for instance, a "greenhorn" is a tenderfoot. In heraldry, green shows development and expectation. Green, instead of red, implies wellbeing; it is the color of free entry in street movement.

### **Blue**

Blue is the color of the sky and ocean. It is regularly connected with profundity and soundness. It symbolizes put stock in, dedication, shrewdness, certainty, insight, confidence, truth, and paradise. Blue is viewed as advantageous to the brain and body. It moderates human digestion and produces a quieting impact. Blue is unequivocally connected with serenity and tranquillity. In heraldry, blue is utilized to symbolize devotion and earnestness. You can utilize blue to advance items and administrations identified with cleanliness (water purging channels, cleaning fluids, vodka), air and sky (carriers, air terminals, aeration and cooling systems), water and (ocean voyages, mineral water). Instead of sincerely warm colors like red, orange, and yellow; blue is connected to cognizance and acumen. Utilize blue to recommend accuracy while advancing cutting edge items.

### **Violet**

Violet consolidates the soundness of blue and the vitality of red. Violet is related with sovereignty. Violet is a baffling, reflective, enthusiastic, devotion color and the color of poise. Its tints symbolize the brighter parts of life, while shades speak to the dim, negative powers and dread.

### **White**

White stands with light, guiltlessness, goodness, immaculateness and virginity, and is the color of flawlessness. White means security, virtue and cleanliness. Rather than dark, white as a rule



has a positive meaning. White can speak to a fruitful start. In heraldry, white delineates confidence and virtue.

### **Black**

Black is related with control, style, convention, passing, abhorrence, and riddle. Black is a secretive color related with fear and the obscure (black gaps). It normally has a negative essence (blacklist, black cleverness, 'black demise'). Black means quality and specialist; it is thought to be an extremely formal, rich, and esteemed color (black tie, black Mercedes). In heraldry, black is the image of distress.

Black gives the sentiment viewpoint and profundity, however, a black foundation reduces decipherability. When planning for an exhibition of workmanship or photography, you can utilize a black or dim foundation to make alternate colors emerge. Black stands out well from splendid colors. Consolidated with red or orange – other intense colors – black gives an exceptionally forceful color plan.

## **Meaning of Color in Different Geographical Locations**

Colour is prompt correspondence. It genuinely is the main language, other than music, that doesn't require any words. Is it any ponder that color is utilized as a part of images and signs everywhere throughout the world! You might not need to know how to peruse to see the red stop sign or perceive a yellow posted warning in the United States. We can talk about light in a wide range of viewpoints. It has its material science and arithmetic appearances. We can talk about color as far as light and vitality. By a long shot the most significant dialog of color we can have is in the impression of color. Color, similar to style, feel or even nourishment inclination is to a great extent impacted by the way of life we live in. In the United States for instance, red means risk; in China it implies bliss and celebrations; in Japan, it stands for outrage; in the Middle East, it implies insidious. Know your essential crowd.

---

## Unit Summary



### Summary

The focus of this unit lies in as you build up your own designs, remember that shading is subjective and shading decisions will most likely be made in a joint effort with your customers. Differentiation in esteem, and also shading, assumes a critical part in design. Confide in your intuition and in addition theoretic information while applying shading, and recall that shading is only one of the variables in your design. It ought not to be utilized to just "enhance" highly contrasting structures. It should add something meaningful to your message, for example, setting the state of mind, introducing social meaning, or connecting through unconstrained relationship with your watchers.

---

## Assessment



### Assessment

- What is a color wheel and what the purpose?
- What does primary color mean?
- Define secondary colors? How are they produced?
- What do tertiary colors mean and how are they produced?
- Distinguish between complementary and analogous colors From where each one is obtained on the color wheel?
- What does color contrasts mean and why is the importance of it?
- How to define color dominance in design.
- Distinguish between hue contrast and value contrast. Which is more critical in design of websites among them?
- You can deliver shading contrasts yet not really esteem contrasts. Clarify how this functions and give cases.
- Define color context and what is the importance
- Describe simultaneous contrast and how to use it in design
- Distinguish between warm and cool colors
- What does saturation mean
- How does type and readability is related to color? What is the



main aspect of choosing type color?

- What is Gamma? What is gamma correction?
- Describe hue, brightness and saturation? Distinguish between them
- Define GIFs and JPGs. Distinguish between these two? How to use each one and why



### Reading

---

## Resources

- <https://s-media-cache-ak0.pinimg.com>
- <http://mexicounexplained.com>
- <https://google.com>

## Unit 4

---

# Incorporating Sound into 2D Animation

## Introduction

is for individuals who wish to make a career in sound editing. The course will

This unit is about the exploration of sound in 2D animation. Sound is very important like any visuals in an animation. Whether you're looking to make a score, surrounding noise, discourse, or a total soundtrack, you'll require sound for your piece. This unit incorporates sound for animation. It will explain the theory and working behind sound for picture, and will give a diagram of the frameworks and generate way to enable you to make your soundtrack. Figure out how to utilize the devices and procedures of the exchange. Improve your piece and figure out how to configure sound for animation.

## Outcomes

**Upon completion of this unit you will be able to:**



### Outcomes

- Explain why audio is so important in animation
- Explain the process for digitizing sound
- Understand the important audio components
- List sources for audio clips
- Describe the functions of audio components
- Explain the considerations when using audio in animation





## Terminology



### Terminology

<b>Magnetization :</b>	"Mental pan" of the sound medium.
<b>Pitch:</b>	The apparent "highness "or "lowness" of the sound
<b>Mouth chart:</b>	A graph in light of the eight activity phonemes (A & I, E, U, O, F & V, L, M and Q which is utilized to speak) utilized for lip-match up.
<b>Sound scrubbing:</b>	A procedure that gives you a chance to hear sound progressively while you advance the play head or in reverse. This is extremely helpful for fine-tuning a lip-synchronize.
<b>Synchronous:</b>	The mental combination between a sound and a visual when these happen at the very same time.
<b>Composer:</b>	Individual in charge of composing and masterminding the melodic substance of the film.
<b>Recording session:</b>	The occasion amid which a film's soundtrack is recorded.

## Incorporating Sound into 2D Animation

Sound can be an imperative part of any animation medium and a significant component of specific applications. For instance, consider how troublesome it is to examine a foreign language dialect without hearing how the words are articulated; Sounds can be joined with animations to make temperaments, improve understandings, fortify ideas, and enable the client to work through the applications.

## Essential audio components

Each film and animation consists of three types of different audio components. These are music, dialogue and sound effects. In silent films the dialogue is missed out, still sound effects and music make it interesting. Dialogue is more essential content than playback audio.

### Music

First of all you have the music. This incorporates all the background music that officially isn't a part of the film. It can add a real emotional layer to a film. There has been a great deal of impact of music and sound. We as a whole know the minutes that make us hop, or the minutes that make us cry. Unknowingly, music has a huge impact in that we experience in a motion picture. You can really change the setting and disposition of a scene by utilizing different music.

The music in movies is called film score. Creating for film is its very own train. Much the same as writing a catchy pop song, there are certain rules you can use to make a great sound track. There are a couple of styles you have to know. One of them is traditional ensemble orchestra. It doesn't make a difference what the genre of the film is -- almost every sort utilizes an ensemble orchestra. This means as a composer you have to have the capacity to write music for different instruments.

Some huge film composers are AR Rehman, Vishal-Sekhar and Salim-Suleman. For instance, Vishal-Sekhar really knows how to make music dramatic and emotionally charged. It's important the music really enhances the story that is being told.

In Ra-One, you erase the music from the last scene and just leave in some stable impacts. The scene totally changes from being heroic to being very awkward and boring. This really indicates how music can totally change a film.



### Sound effects

The sound impact is one that truly makes the feel of the story being told. It's the rain out of sight, the strides on wood, an entryway that closes, and so forth. Without the sound impacts a film or animation wouldn't feel practical. Particularly for animation, this is the part that needs a ton of work, since you don't have any sound in any case. With films, they frequently can utilize a considerable measure of sounds that are recorded while filming. Some should be supplanted by reproduced sounds, in light of the quality. They must be reproduced, which is frequently done in a studio and is called Foley. There are whole studios where Foley specialists will reproduce sounds and match them to the pictures in the film.

'Foley is the generation of ordinary sound impacts added to film, video and other media in after creation to improve sound quality'. It's a decent approach to include the inconspicuous sounds that a creation mouthpiece regularly misses. Be that as it may, for animation, you need to make each and every thing in the film that makes a sound.

As indicated by Tom Meyers, you can't generally record sounds in the "genuine" world, since you frequently can't control these sounds. He says that each solid has two segments, the exacting part and the enthusiastic segment. From one perspective it must be reasonable, however, on the other it additionally needs to get a specific feeling over. 'The sound outline doesn't need to thump you over. It is there to upgrade your experience. To keep you inside the story, and the occasion.'

Adjacent to the enthusiastic layer, a few sounds you can't simply basically reproduce for basic reasons as wellbeing. You can't simply crash an auto each time you require a sound of an auto collision. This is for example why they regularly utilize a watermelon at whatever point they need the sound of a human head being crushed in. You likewise don't need to reproduce each solid yourself; there are great deals of sound impact libraries you can use. You frequently need to pay for this, yet there are likewise as of now a considerable measure of free stable libraries.

### History

The primary animations utilized a considerable measure of instruments to make the sounds. The recording hardware was



enormous -- just go outside to record sound. We most likely all recall those old Mickey Mouse animations where you would for example hear some kind of cymbal crash when somebody was hit on the head (which is presently called 'Mickey Mousing'). When you consider it, it isn't reasonable in any way, yet it adds a specific layer to a film that makes it more sensible than when you wouldn't utilize any stable impacts.

Afterward, when animations turned out to be more famous, the sound originators became more inventive also. There are cases of sound fashioners, who might trigger whole establishments to make a particular sound. For example, they would have a 'rain-machine' that reproduced the sound of rain without utilizing any water. These days, the systems are obviously much more progressed; however, still in some cases they utilize the most bizarre establishments or articles to make sounds.

In short there are "just" three sound parts you need to consider while doing sound outline: discourse, music and sound impacts. Obviously, there is far more to that than simply recording it and putting it under a scene. You must be cautious that a scene doesn't end up plainly one major tumult with all these diverse sounds. You need to locate the correct adjust. A major piece of sound outline is quite recently attempting a variety of things. These include exploring different avenues regarding recording distinctive sounds, assembling the men tuning in to them again and again until the point you locate the ideal blend.

## Functions of each component

### Non-diegetic and Diegetic

Sound can be divided into two types like diegetic and non-diegetic sound. Diegetic originates from the Greek word diegesis, which signifies 'described story'. This needs to do with whether the wellspring of the sound is "noticeable" in the realm of the film or not. Exchange amongst performing artists and sound impacts like strides, are diegetic sounds since they exist in the story itself. The source doesn't really need to be unmistakable; it could likewise be a rescue vehicle siren out of sight.



Cases of non-diegetic sounds are music (score), a voiceover and other sound impacts that are for instance included for a more emotional impact. So, all sound we can listen, yet the characters in the film can't. We include an additional layer that aids the gathering of people through the film. Utilizing both diegetic and non-diegetic sounds will "appear" on the outside and within an occasion at the same time.

## Functions of Audio Component

Toward the end, every one of the parts will meet up and make one major sensible condition that will ideally take you away to another universe for 90 minutes. Each bit of sound has its own particular capacity in doing this. In this unit it turns out to be all the more clear why you would utilize these diverse sounds and how you can utilize them to achieve a specific objective you have.

### Dialogue

Dialogue has a few capacities that are very vital to make a decent story. However, it's more about substance than it is about sound. As indicated by Ellen Jackson, discourse has the accompanying six capacities:

- Revealing the characters
- Giving important data
- Moving plot along
- Showing the possibility of one character about another
- Reveal strife and construct pressure
- Show how somebody feels.

Dialogue is more about substance, yet these things are essential and can (mostly) not be proficient by the other sound parts. Composing discourse is really hard and is about what you do and you would prefer not to uncover to the group of onlookers.

### Music

One of the greatest elements of music is adding an additional enthusiastic layer to the film. As per Robin Hoffman, music has 17 unique capacities. Here are a couple of them that show in what ways you can utilize music.



Most importantly, it truly pushes the crowd in a specific bearing. With music you can infer that a scene is courageous or that somebody is feeling dismal. Now and again individuals can locate this irritating on the grounds that it takes their capacity to judge something for themselves away.

Music can likewise be utilized as a purported leitmotif. This is tied in with giving a character a specific personality that can be utilized through the whole film. When you hear this subject later on in the film, you will realize that they are discussing that character.

It's likewise conceivable to inform all the more concerning social/social/geographic condition and the time/time frame the scene is set in. This should basically be possible by utilizing unmistakable music from a day and age or from a specific nation or culture.

Something else is that music can likewise associate scenes. Without the music a scene may appear to be disorganized on account of a great deal of hops. The music pastes everything together and makes it more justifiable all in all.

You can truly control or underline something in a scene by utilizing the correct music. You can for example, utilize repudiating music or substitute the impression of time by changing the rhythm. Things can turn out to be more terrifying or amusing and you can absolutely change the presence of a character. There are great deals of things you can do with music.

### **Sound effects**

Sound impacts are particularly truly essential for animation. This is the part where you are truly going to make that condition. Sound impacts have three primary capacities. These are:

- **Creating illusion**

With sounds you can demonstrate individual things that aren't straightforwardly appeared in the scene. When you hear planes out of sight you will get an entire other thought of nature than when you hear youngsters snickering.

- **Creating mood**

You can likewise thoroughly change the state of mind of the scene through foundation sounds, this can likewise change the



temperament and climate. Flying creature sounds will set an unexpected air in comparison to stormy climate.

- **Simulating reality**

This is tied in with finding the correct sounds that fit the activities occurring on the screen. When you see an entryway pummeling you would prefer not to hear an entryway being closed tenderly. The group of onlookers needs to trust that what they see is genuine, sound has a major impact in fulfilling that.

## Effects of sound on humans

Sound is something that we're quite often encompassed by and we unwittingly respond to. Normally sound influences us physiologically, by making us deliver certain hormones, raising our circulatory strain, our heart rate and brainwaves. For example, startling noisy sounds will make us hop since it will make us go into battle or-flight mode. On the opposite side, trilling winged animals will make us feel loose. The best sort of music, contingent upon the individual obviously, is regularly recently basic feathered creature sounds.

### Emotions

For film, the passionate impact of music is the most vital. A most pleasant aspect regarding music is that is basically a general dialect. Each culture on the planet has music, and in spite of the fact that this may vary especially from what we know, there are a couple of things that are truly all inclusive. The two essential feelings: joy and pity. Cheerful music is higher pitched, has more vacillations in cadence and pitch and a quicker beat. The inverse of this is viewed as dismal music.

### Infrasound

This is a sound beneath 20Hz, which is underneath the level of what people can listen. Be that as it may, what is fascinating is in spite of the fact that we can't generally hear it, we do respond to it. These sounds can make sentiments of dread, distress and even dejection. These sounds are made by a ton of characteristic things. A few creatures can deliver infrasound, additionally quakes, vibrating channels in your storage room, atomic blasts, and so forth.

Presently, how is this associated with film? There are hypotheses circumventing that some blood and guts movie have utilized these sounds to upgrade the experience. Paranormal activity is one of the films that have transparently conceded on their site to have utilized infrasound in specific scenes. In the event that it truly works, it's a truly decent approach to give an additional measurement to a film.

## Considerations in using sound

The accompanying ought to be considered when utilizing sound in any media application:

1. Appropriateness
2. Intended audience

### Appropriateness

Utilizing sound can upgrade most mixed media applications. Without a doubt, sounds are fundamental for specific applications, for example, instructive titles that educate remote dialects or music.

Notwithstanding, the simplicity with which sounds can be gotten and joined into an application may make a designer abuse sound as a segment and to incorporate "charming" sound impacts that end up diverting or irritating a client.

### Intended audience

For a few people, understanding an idea is less demanding when sound is utilized. Envisioning how the target group will react to different sounds can control the decision of which sounds to utilize. For instance, grown-ups may react superior to anything kids to the utilization of traditional music as a foundation sound.





## Lip Sync and Mouth Chart

### Lip-sync – 1

In full animation, it is critical for a character to emulate. When S/he is talking, thus his emulating must be once in a while synchronized to the soundtrack. Exchange is perpetually recorded before creation and the planning of it is passed to the artist as a phonetic breakdown. It is likewise critical that the illustrator ought to have a duplicate of the track on tape, with the goal that he can hear it out more than once until the example of accentuation, the ascent and the majority of the voice, and so forth, is clear in his psyche. It is once in a while valuable to demonstrate this. The phonetic breakdown by methods for a line which moves left and perfectly fine voice falls and rises and winds up noticeably thicker and more slender as per the level of accentuation.

### Lip-sync – 2

The initial step is to make the character's activities fit his/her words. On the off chance that s/he is forceful, s/he will tend to push himself forward and strengthen certain focuses with signals. In the event that s/he is timid, he may shrivel away and talk conciliatory and in the event that s/he is cunning he may put on a show to grin, while giving speedy looks to see the response to his/her words et cetera.

**The second step** comprises moving the character's lips and maybe the lower some portion of the face, to fit the edge by outline phonetic breakdown of the discourse on the presentation diagram. Here it is vital to listen over and over to the way the exchange is talked. In a typically talked sentence, there are generally a couple of complemented vowel sounds and whatever is left of the words are of lesser significance. Play the soundtrack again and again until the example of accentuation, the ascent and fall of the voice and so on, is clear. At that point design the lip match up to comply with this example in visual terms. As of now specified, mass-delivered TV arrangement the exchange conveys the focal enthusiasm of the film and there is basically no animation separated from the mouth. This is not adequate in different sorts of generation and it is along these lines imperative to guarantee as a matter of first importance that the mouth, eyes and different elements of the face should express the significance



of the exchange. The hands ought to likewise be utilized for accentuation. Thirdly, the body itself ought to be utilized to underline the substance. The three components have obviously to be firmly organized.

### **Lip-sync – 3**

Once the fundamental planning of the mouth development is worked out, the following stage is to consider how the outward appearance, head development and body motions can underline and add to the significance and enthusiasm to the exchange.

In the main discourse of Old Major in Animal Farm, it was particularly essential to pass on the message of this character to the gathering of people, since the entire film was spurred by it. The outward appearance needed to express the figure's genuine worry, as well as a sickly character, physical agony too. The whole body of the pig was enlivened while its face, eyes, mouth, nose and the facial wrinkles passed on the feelings of the character.

It is not fundamental to energize all vowels and consonants as far as single edges. Particularly in TV diversion arrangement, where speed of creation is basic around eight places of mouth and tongue are sufficient.

Lip match-up is the most critical idea in animation, since the aggregate animation depends on energizing discoursed. Dissimilar to live activity, discourse can't be recorded after creation. In animation a discourse must be recorded first and energized. That implies artists should design the activity and acting of the character as indicated by the exchanges. Utilizing programming like Magpie, a discourse can be part into outlines so a track peruser can get the length of the exchange. Same exchanges will be composed on the introduction sheet alongside the edges. This implies the exchange can be measured with the casings.

Once the length of the exchange winds up noticeably clear, particular mouths will be included for every last casing. Each expression of the exchange will be part into the coordinating mouth shapes. A mouth diagram, of mouth shapes for each character will be set up in the pre-generation organize itself. There are 11 essential mouth shape utilized as a part of animation.



In pre-creation arrange, the Story Board craftsman will design the acting part as per the discourse and scene tweak. Executive or key illustrator energizing that specific scene will design situating the fundamental key drawings on to the introduction sheet with key positions said with reference to casings and sound. Presently, activity is determined to the introduction sheet. At that point an artist assumes the part of producing all drawings required to fill the entire presentation sheet. On the keys he will specify which mouth ought to show up on what drawing. The collaborator artist will take after a similar guideline and produce the mouth shapes for in-betweens.

### **Synchronizing animation to speech**

Not at all like real to life movies, where the discourse is at the same time recorded with the action, in animation it must be recorded beforehand so the development can be fitted to it unequivocally. It is a fundamental preproduction operation that can't be left until after the fulfillment of animation.

Once the soundtrack is accessible either on tape or optical movies, the sort and character of the voice can be investigated through the utilization an of synchronizer (16mm or 35mm) and outline by outline timing guide for the animation can be made. This should be possible either on the introduction diagram, where there is an uncommon section for it, or on a different outline. In either case, it must be done as far as casing investigation. No two-discourse exhibitions are the same. Indeed, even single words like 'you', "yes", "its", "had" can differ considerably when examined as far as partitioned outlines. Such data is the premise of fitting animation to sound.

Initially, listen painstakingly to the soundtrack and specifically to the inclination behind the path in which the words are talked. At that point, tune in to the stating and beat of the discourse and discover the places of the principle accentuations and catchphrases. Design the developments of the character's body, head, arms and so on, to fit the words and the path in which they are being stated, to strengthen the emotional impact. Attempt to accentuate the principle purposes of the discourse with the entire body, if time and spending grant it. In animation, the significance



of exchange ought to be to some degree overemphasized, particularly in an engaging film.

## Audio Production

After the story has been laid out with a storyboard and pitched to a group of artists, chiefs, and makers, it's a great opportunity to begin recording the exchange. Now, on the off chance that they haven't as of now, the scholars and executive will adjust their storyboard into a composed script, finish with a diagram of what each character is doing amid every scene. This procedure is intended to additionally expand on the thoughts displayed in step 1, as storyboards are by and large just unpleasant, divided diagrams of what the last item will resemble.

After the script has been concluded, it is given to the voice ability to the film, who works intimately with the executive to nail down each character's individual identity. Despite the fact that it may not be clear to the group of onlookers, voice performing artists assume an immense part in fleshing out their characters' on-screen identity. Periodically, scripts are utilized for the most part as free rules for the performing artists, who impromptu the character to life, giving them a considerably more appealing identity than originally proposed and notwithstanding influencing the imaginative style or finished product of the film.

Robin Williams' execution as Genie in the Disney classic Aladdin is an ideal case of how a voice performer can impact the identity of a character and the heading of the film overall. The chiefs of Aladdin enabled Williams to improvise the vast majority of his lines, just adhering to the script when it was completely fundamental. They even let him include his own particular jokes and stiflers to the script. Illustrators utilized the identity that Williams made to think of the last search for Genie, including how he moves and how he connects with alternate characters. The outcome was a standout amongst the most vital and adorable characters ever.



## Sources of Sound Files

### Pre-packaged

Some solid documents may accompany your PC's working framework or with programs that are introduced on your PC. Some sound files that come with Microsoft Office. Notice that these are for special effects (applause, chimes, etc.) and that they are small in size and length (3 seconds).

### Purchased or Borrowed

Sound files can be purchased from companies specializing in sound clips. The Internet is an excellent source for sound clips that can be purchased, or in some cases, they may be provided free and downloaded. These sources may be good for background and special-effect sounds as well as historical events, but for narration you will need to create your own files.

### Make your own sound

Making your own particular sound claps can be as simple as utilizing a recording program that accompanies a PC's working framework, (for example, sound recorder) and talking into a receiver joined to the PC. The quality of the resulting sound files may be acceptable for certain applications such as a simple media, web pages, etc. However, if the goal is to produce a high quality commercial product, you have to consider utilizing a recording studio with gear, for example, DAT (Digital Audio Tape) gadgets that record sounds carefully.

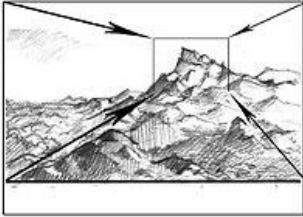

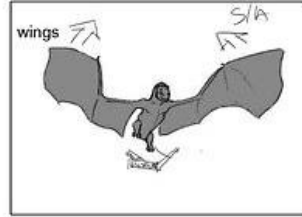
### Incorporating sound into 2D animation application

Presentation development programs such as Macromedia Flash, Pencil, Tupi, Synfig Studio, Plastic animation Paper, PowToon and Victorian Giotto and many other programs allow you to easily incorporate sound.

For complex projects where sound will be a significant component, storyboards and scripts should be used to guide the application developer. There are various formats for a script.

The figure below shows the audio script format that would be used for incorporating sound into the accompanying storyboard.

The storyboard in the image also shows how an animation sequence would take place.

TITLE		George and the dragon		PAGE 1	
S-1	1/1	S-2	1/7	S-2	2/7
					
<b>ACTION</b> zooming in Still image		Dragon come out from cave		Dragons starts swing his wings	
<b>DIALOGUE</b> Far, far way in the high, high mountains		there lived a mighty dragon.		SFX: waving wings	
<b>TRANSLATION</b>					
<b>TIMING</b> last about 8 sec 00:00:00:00:		00:00:09:16		00:00:09:20	

**(Example of a storyboard associated with an audio script)**

Title : Storyboarding Example

Attribution : [Tomas Mitkus](#)

Link : [https://commons.wikimedia.org/wiki/File:Storyboarding\\_template\\_02.jpg](https://commons.wikimedia.org/wiki/File:Storyboarding_template_02.jpg)

Making a video or animation truly woken up isn't something you will essentially fulfil by following two or three stages. Sound is something that you not record but also put it under a scene. You need to consider its numerous parts: exchange, music and sound impacts. To put it plainly, with exchange you can truly recount the story, with the music you include an emotional layer and with the sound impacts you can truly make a whole world.



---

## Unit summary



### Summary

In this unit, you have learned how sound is used in animation. You are familiar with the categories of sound, as well as the ways sound can be used (set a mood, provide narration, add special effects, etc.). You know about the sources for sound clips and how sound can be created. You also know about the considerations for using sound in animation.

---

## Assignment



### Assignment

- State the important audio component.
- Describe the music importance in animation.
- Explain synchronizing animation to speech.
- Explain the history behind animation, sound.
- List the various steps of sound recording.
- Explain the effect of sound on humans.
- Explain developing audio production.
- Explain infra sound.
- List the component of sound effects.
- Explain diegetic sound.

---

## Resources



### Reading

- <https://animationbrain.com>
- <http://wikipedia.com>
- <https://google.com>
- <http://minyos.its.rmit.edu.au>