Active animation. An object changes poses while moving on the screen.

Active object. Object in the game frame with which the player can interact; can be programmed.

Alpha channel. Varies the opacity of the color from full transparency to full opacity.

Animation. Series of frames played in sequence with small differences between each frame that the brain interprets as motion.

Backdrop. Objects in a game frame that the player can touch or walk behind, but do not damage or reward the player.

Background object. Object in the game frame with which the player cannot interact.

Bit depth. A binary measurement for color.

Bitmap. Raster image file format that digitally maps the location and color of each pixel.

Blitting. Combining two or more bitmaps into a single bitmap.

Bounding box. Invisible cube inside of which a 3D object completely fits; used as a reference to rescale the 3D object.

Buffering. Preloading data into a section of memory called the buffer.

Camera. Displays the visual play area of the game and follows the player wherever the character goes.

Clarity. How clearly images are displayed with either line or pixel density.

Color palette. Set of colors used throughout a scene to maintain mood and continuity.

Compression. Image file size reduction through the use of mathematical formulas to approximate the location and color of each pixel.

Coordinate system. Combination of X, Y, and Z values to determine a location in space.

Deep color. A color depth that uses a bit depth of 48, which produces over 1 billion colors.

Dithering. Computer process of scattering pixels of different colors to approximate a true color.

Dots per inch (dpi). Number of pixels per square inch; the higher the dpi, the clearer the picture.

Draw. The computer displaying images on the screen.

Faces. Flat surfaces on a 3D model.

First-person perspective. Gameplay view where the player sees through the eyes of the character.

Flickering. Visible flashes on the screen when the refresh rate is too low and portions of the screen are not being illuminated quickly enough and black (non-illuminated) pixels show.

Frame rate. How many times per second a new frame is displayed.

Full articulation. All of a character’s body parts can move through a range of motion in a realistic manner.

Game frame. All items programmed for a complete scene or level of a game.
**Gamut.** The portion of all the available colors that can be reproduced by a device.

**Geodesic sphere.** A 3D model created with faces of regular polygons, like a soccer ball.

**Hybrid.** Created by combining features from two different items.

**Interpolation.** When resizing an image, the computer makes a decision to create a blended-color pixel where original pixels are moved.

**Loading.** Transferring data from one location (i.e., the Internet or a CD-ROM) to another.

**Lossless.** Image compression algorithm that compresses the image and keeps perfect clarity when uncompressed.

**Lossy.** Image compression algorithm that compresses the image but does not keep perfect clarity when uncompressed.

**Masking color.** A single shade of a color that can be set to be transparent.

**Mesh.** A 3D shape created with interconnecting polygons stuck together along their edges.

**Mosaic.** Differently shaped and colored geometric pieces assembled to create the illusion of a single image.

**Movement sets.** The movements of a single sprite character included on a single sprite sheet.

**Native poles.** Original pixels of an object before it was resized.

**Overhead view.** Shows the character and surroundings from a perspective high overhead.

**Parallax.** Describes how objects in the distance seem to move slower than objects in the foreground.

**Perspective.** How the gameplay is displayed on screen and the position of the player within the game.

**Pixel.** Picture element; the smallest point or dot of color a computer screen can generate

**Pixel shading.** Applying the principle of visual perspective such that as you move farther from the light source, things get darker.

**Pixelated.** Condition resulting in a blurry image; created by improper resizing.

**Platform view.** Shows the character in profile and a side view of all obstacles.

**Poly count.** Number of polygons used to make a 3D object.

**Raster images.** Images that are made of pixels.

**Reading edge.** Line between two vertices on a 3D object that is used as a reference to rescale the object.

**Refresh rate.** The rate of how many times per second (Hz) the screen is refreshed.

**Render.** Adding color and shading to represent a solid object.

**Scale.** Proportional change in the dimensions of an object.

**Scene.** Objects on a game frame that create an attractive layout, obstacles, and objectives to convey story and mood.

**Scope.** See *Visible Display Area.*

**Scrolling.** Game frame is moved so the player is always in the visible play area.
**Second-person perspective.** Player sees the game as if the player were an opponent or intermediary; rarely used in video games.

**Sprite character set.** Collection of poses for a single 2D asset.

**Sprite sheets.** A single bitmap image of all the frames of animation for a sprite movement.

**Stage.** The visible portion of the game map.

**Static animation.** Object retains its original pose while moving.

**Tearing.** Occurs when video frames are out of sync or are only getting partially refreshed.

**Tessellate.** Stretching of a color and texture map to apply a piece of the overall texture to each polygon of a 3D mesh.

**Third-person perspective.** Gameplay is viewed by a person who is not the player’s character or opponent, rather a neutral third person; spectator view.

**Three-dimensional (3D) game.** Game with 3D characters and 3D background objects that presents gameplay in a simulated three-dimensional environment.

**Tile sets.** Standard sized tiles arranged next to each other on a single sheet as a single bitmap image.

**True color.** A color depth that uses a bit depth of 24, which produces 16,777,216 colors.

**Two and one-half–dimensional (2.5D) games.** Gameplay with two-dimensional background graphics, but which use three-dimensional characters and obstacles.

**Two-dimensional (2D) games.** Gameplay with characters and backgrounds that play in only two dimensions: length and width.

**UV sphere.** Rounded 3D model created with trapezoidal segments that vary in size to create a round shape that is later wrapped with a 2D image to provide texture.

**Vanishing point.** Point in the background where the edges of all assets will meet at a single point if extended; the faraway point where an object seems to disappear as it becomes smaller.

**Vector image.** An image composed of lines, curves, and fills; they do not store the color value and location of each pixel—each pixel is assigned a color as the vector image is drawn.

**Vertex.** Single point on a 3D model where the corners of adjacent faces meet.

**Vertices.** Plural of vertex.

**Visible play area.** The part of the game frame that is displayed on the video screen.

**Visual perspective.** Sense of depth using shading and narrowing to represent the third dimension of depth on a two-dimensional screen.

**Wireframe.** View showing objects as if they are built with wire with visible edges and invisible faces.