Name: _____   Date: _____

Khan Academy and Pixar Animation Studios collaborated to create an online, interactive experience called *Pixar in a Box* to show students how math, science, and computer science are used to create amazing movies at Pixar.

Color Correction Suite

Visit the following URL: https://tinyurl.com/y4fxtfoe

Fill in the blank: This is a color correction suite - a **program for editing the color properties of an image.**

Click **Select All** on the correction suite. Then play around with the four dials that the correction suite has. In your own words, state what the following dials do:

- What does Hue do to the image?
  Changes the color family.

- What does Saturation do to the image?
  Changes the intensity of the color.

- What does Lightness do to the image?
  Changes how bright/dark an image is.

- What does Contrast do to the image?
  Makes the darks darker and the lights lighter.

Click **Next Image** to try the correction suite on different images.

Rigging

Visit the following URL: https://tinyurl.com/y45p83tr

"Rigging" is what Pixar artists call **the process that gives characters movement.**

Scroll down and click "**Bonus: Animate a rigged character**." Play around with the applet to animate the Pixar lamp.

Straight Ahead Animation

Visit the URL https://tinyurl.com/yylzdu6o. In this activity, you will drag the ball to a specific place. Then you will click the next frame number on the bottom and drag the ball to another location. Keep doing this for all of the frames. Then play your animation.

Water Simulation

Visit the URL https://tinyurl.com/y47bmj24. Play around with the applet and answer the following questions:

- What does **Size of Particle** do?
  Changes how large/small the object is.

- What does **Gravity** do?
  Makes the particles drop more quickly (more force)

- What does **Elasticity** do?
  Increases the bounce.

- What does **Flow Rate** do?

  Increases how many particles drop.

Fireworks Simulation

Visit the URL https://tinyurl.com/y5997ap4.

Play around with the applet on the **Physics** tab and answer the following questions:

- What does **Gravity** do to the fireworks?
  Pulls the fireworks down

- What does **Air Resistance** do to the fireworks?
  Pushes the fireworks down

- What does **Wind Strength** do the fireworks?
  Speed of wind that blows firework away.

- What does **Wind Angle** do to the fireworks?

Changes the direction of the wind that blows the firework away

Click the **Launch** tab and answer the following questions:

- What does launch rate do to the fireworks?
  Increases the amount of fireworks launched (the speed)

- What does launch speed?
  Increases the velocity of the firework when launched.

- What does speed variation do?
  More variation means varying speeds of firework launches.

- What does angle variation do?
  More angle variation means varying directions of firework launches.

Click the **Explosion** tab and answer the following questions:
- What does number of particles do?
  Increases the number of particles when firework explodes.

- What does particle speed do?
  Increases the launch of each particle after explosion.

- What does speed variation do?
  More varying speeds of each particle.

Change the colors of the fireworks by changing the **Start** and **End Colors**.

Hair Simulation

Visit the URL https://tinyurl.com/y4g5ffwe.

Change the **support length** parameter to **100**. What happens?

Hair gets longer

Change the **hair** parameter to **100**. What happens?

Increases number of strands

Change the **support stiffness parameter** to **0**. What happens?

Hair gets more compact

Change the **spring length** parameter to **71**. What happens?

Strands get longer