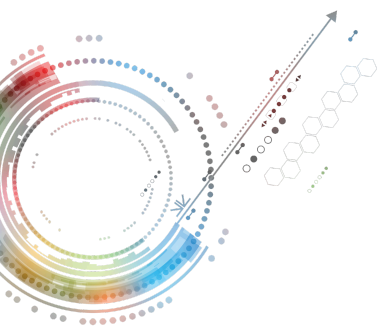




ENGINEERING DESIGN
Unit 1. Animation Machines
Learning Cycle 1: Computer Simulations
Computer Simulation Exercise

NAME:	CLASS PERIOD:	DATE:
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Complete the following exercise in a Snap! file and submit the link to your instructor.

Design Specification 1: Design three different animation images for your animation sequence.

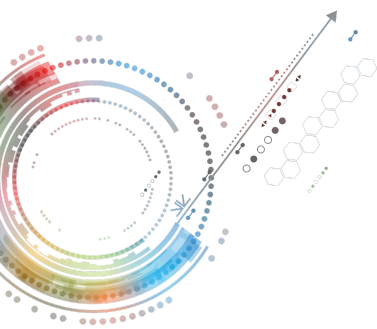
1. The **kangaroo articulated figure will be used for the digital animation**. The *Jointed Toy Patterns* book provides additional options.
2. **Cut out the animal body pieces and assemble** onto a blank piece of paper.
3. **Pose the animal's body parts** and use a **camera to create separate images** for the digital animation.



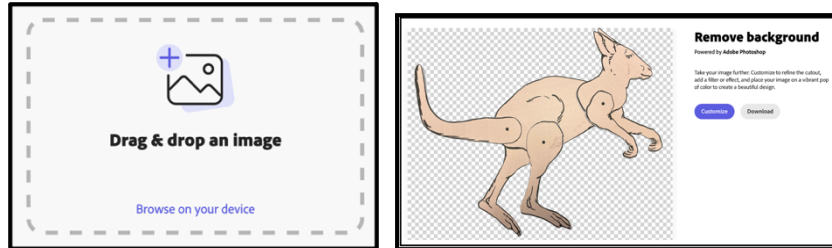
4. Using the images of the animal taken with a camera, the background of each can be removed using Adobe Express. This will make the animation look polished. **Sign up for a free account** using this link: <https://express.adobe.com/sp/>

5. **Go to the background removal tool:**
<https://express.adobe.com/tools/remove-background>

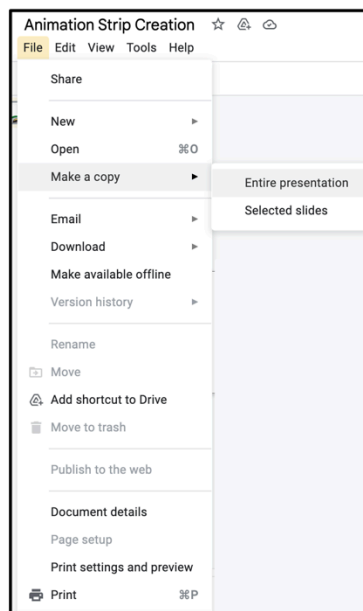


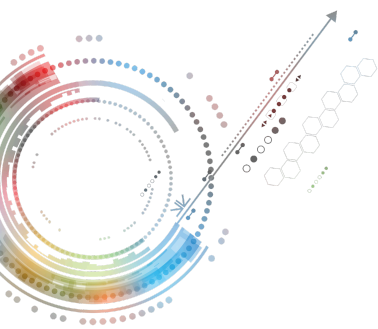


6. **Drag each image into the background removal tool.** Adobe Express will automatically remove the background, and it can be downloaded.

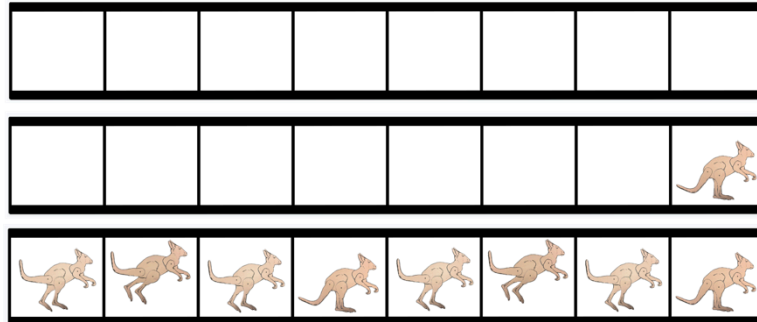


7. **Drag the images into the Animation Strip Creation template** to resize and align each image within the borders. This will help you create a strip of your animation images
Example 1.1.3 – Animation Strip Creation: <https://bit.ly/Animation-Strip-Creation>
8. Go to **File** ☐ **Make a Copy** ☐ **Entire Presentation** to start making your own strip.

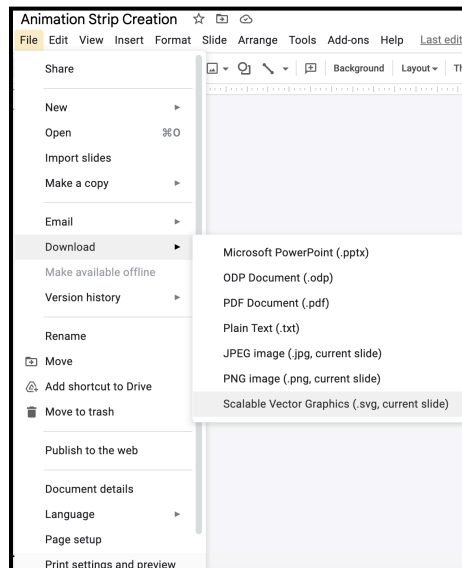


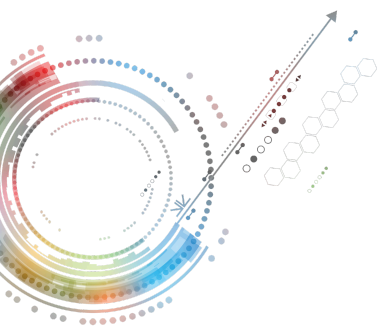


9. **Drag your animation images** into Google Slides.
10. **Drag and resize your images** to make them fit inside the borders of each box on the strip.
11. **Repeat the images** to create the animation strip.



12. Go to File ☐ Download ☐ and save your strip as a Scalable Vector Graphic (SVG).

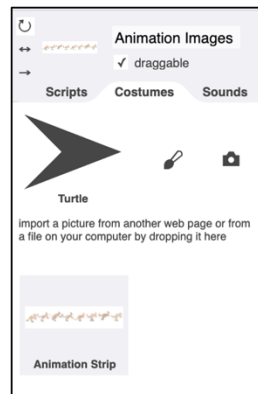




Design Specification 2: Use the three animation images designed to create a digital animation using **Example 1.1.4 – eENGINEER Computer Simulation Code**. There should be a total of 8 images in the animation sequence.

Go to this link to access the program: <https://bit.ly/Computer-Simulation>

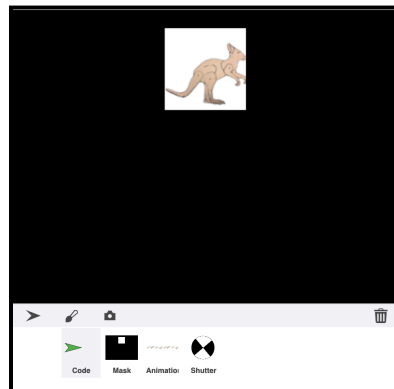
1. Take the **animation strip** created and **import it to Snap!** as a **sprite**.



2. You may have to use the **Set Size** block to resize the animation strip.

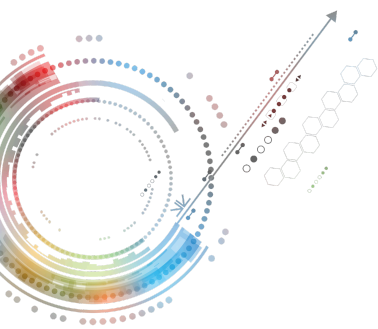


3. The **image furthest to the right** on the strip should fit inside the window.

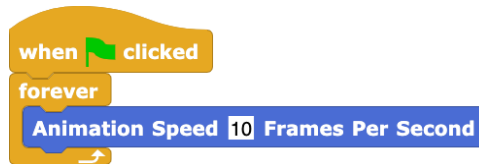


4. The **Hide Sprite** block will allow you to hide the Mask, Animation Images, and Shutter sprites. The **Show Sprite** block will allow you to show the Mask, Animation Images, and Shutter sprites. The **Reset Sprites** block will reorder the Mask, Animation Images, and Shutter sprites and display them in the correct order.





5. Click the **Green Flag** to start the computer simulation.
6. In the **Code sprite**, explore different frame rates by changing the number in the **Animation Speed** block. For example --**1 Frame Per Second** will show one image from the animation strip in the window every second.



Save your work and submit the link to your instructor.

