Virtual STEAM Mobile—Augmented Reality
Design the STEAM Mobile!

Badge Requirements:
- Brownie Computer Expert, Steps 1 and 5

Materials
- Quiver App, free and found in the App Store for smartphones and tablets
- Printed Quiver coloring sheet
    o If you do not have a printer, you can use your computer and the Paint application
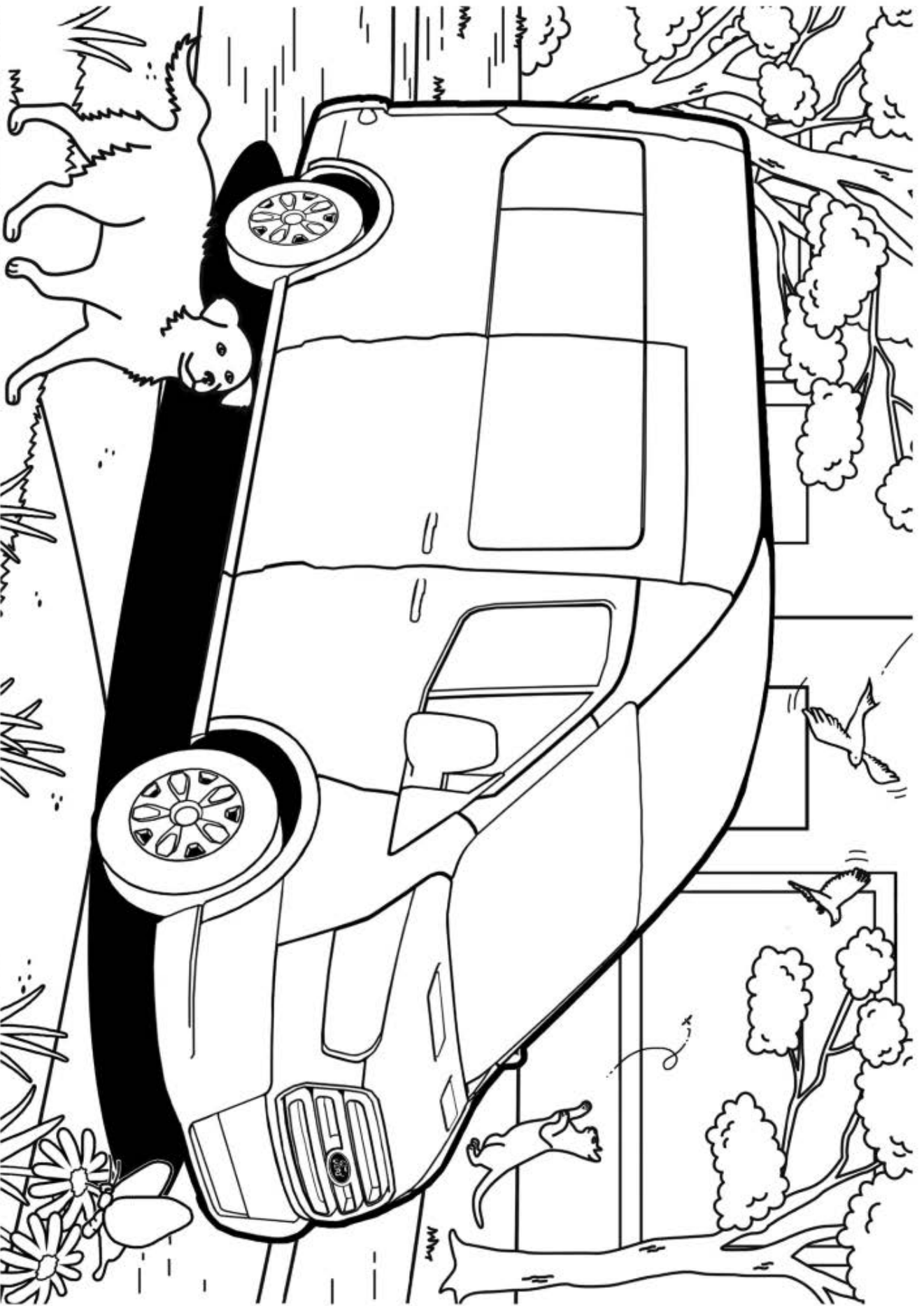- Crayons, markers, or colored pencils

Introduction
- What is Augmented Reality?
    o Ask the girls if they know what augmented reality is or if they can give an example of augmented reality.
        ➢ Augmented reality technology takes a real-world environment and adds computer-generated input to it. The real-world and the augmented environments can then interact together and be digitally manipulated.
    o Ask the girls if they know the difference between AR and VR?
        ➢ Augmented reality adds digital elements to a live view. So you are adding to the environment. Virtual reality submerses you in a whole new world and blocks out the physical world.
    o Does anyone know an example of augmented reality?
        ➢ Pokémon Go, Snapchat filters, drawing or writing on a photo you took on your phone
        ➢ Today we are going to experiment with augmented reality and see if we can understand how it can make the world a better place.

Activity
- Quiver
    o Download the Quiver App
        ➢ It is a teal and white icon with a white butterfly on it
    o If you are printing out the Quiver coloring sheet:
        ➢ Print out the coloring sheet that is located within this document
        ➢ Your challenge is to design a new look for the STEAM Mobile!
            • Use markers, crayons, and colored pencils
            • NOTE: try your best to color within the black lines. If these lines aren't visible, it will not be able to be scanned in the Quiver app. If your picture doesn't scan, try coloring another one in lighter colors this time.
                o Having trouble? Scan the blank Quiver sheet to see how the picture comes to life.
            • Once you are done coloring, open the Quiver App.
                o Tap on the circle at the bottom that is orange/yellow with a white butterfly on it.
                o Hold it up over your paper.
                o Your paper will turn red, hold it higher so the entire photo gets scanned.

- o See your picture come to life!
  - ➢ Interact with your picture by tapping buttons on the screen.
- o When the girls are done using the app, ask the following:
  - ➢ Ask the girls what they like and don't like about the technology.
  - ➢ What is one way this type of technology could be used other than fun and entertainment?
    - Ex: Architect, fashion designer
- o If you do not have a printer:
  - ➢ Save the coloring sheet as a photo. Then copy the photo and paste it into the Paint or Paint 3D application on your computer.
  - ➢ Not working? Use the Snipping Tool on your computer to create a photo, then choose "edit with paint" on the photo.
  - ➢ NOTE: try your best to color within the black lines. If these lines aren't visible, it will not be able to be scanned in the Quiver app. If your picture doesn't scan, try coloring another one in lighter colors this time.
    - Having trouble? Scan the blank Quiver sheet to see how the picture comes to life.
  - ➢ Once you are done coloring, open the Quiver App.
    - Tap on the circle at the bottom that is orange/yellow with a white butterfly on it.
    - Hold it parallel with your computer screen
    - Your screen will turn red, hold it further away from the computer so the entire picture is in view and gets scanned.
    - Once your picture turns blue, it is able to be scanned.
    - See your picture come to life!
      - o Interact with your picture by tapping buttons on the screen.
    - When the girls are done using the app, ask the following:
      - o Ask the girls what they like and don't like about the technology.
      - o What is one way this type of technology could be used other than fun and entertainment?
        - ➢ Ex: Architect, fashion designer