**Lesson Plan Template**

**Teachers:**  Michael Moore

**Course:** Exploring Technologies TIJ10

**Lesson Title:** Sketching Concepts

**Unit Title:** Technological Design Unit

**Lesson Number:** 3

**Specific Expectations:**

A1.4 incorporate appropriate technological concepts (e.g., aesthetics, control, environmental sustainability/stewardship, ergonomics, fabrication/building/ creation, function, innovation, material, mechanism, power and energy, safety, structure, systems) in the design, fabrication or delivery, and evaluation of a product or service (see pp. 5–6);

A2.1 use a variety of appropriate methods to communicate information or ideas and concepts during the planning and production stages of a project (e.g., production plans, scripts, flow charts, storyboards, sketches, technical drawings, recipes, client consultation reports, design briefs);

A2.2 use correct terminology to identify and describe various processes, tools, and equipment used in creating products or delivering services (e.g., processes: levelling, squaring, formulating, baking, sterilizing, colouring; tools: pruning saw, wire cutter, curling iron; equipment: USB flash drive, tire balancer, camcorder, flat iron, deep fryer, magnifying lamp, ultraviolet sanitizer, solderless breadboard, measuring cup, thermometer);

**Prior Learning:** Lesson #1&2, activity on different taxi styles and types, activity on cabin layout

**Key Learning Goals**

Students will understand the purpose of sketching concepts.

Students will be able to describe sketching techniques.

Students will identify technical terms used to describe body types and locations.

**Key Learning Question** (List any key questions you will ask during the lesson which may seek student prior learning or knowledge)

-What is an easy way to start sketching a vehicle?

-The front corner of a car is normally called a fender what is the back corner called? (1/4 panel)

-What part of the SUV normally lines up with the rear of the tire?

**Materials List** (List the materials which may be needed to deliver the lesson whether it is a Socratic or Demonstration lesson format)

[Work sheet](https://www.allthingstopics.com/uploads/2/3/2/9/23290220/worksheet-carparts-picture.pdf) for naming body parts.

For students, hand out example of a sample board.

**Teaching Aids** (List any teaching aids needed for the lesson; Handouts, Power Points, etc. and include them with this plan)

Blank paper, grid paper with lighter than normal boxes can be used

Pencil

[Work sheet](https://www.allthingstopics.com/uploads/2/3/2/9/23290220/worksheet-carparts-picture.pdf)

Videos

[Side View Proportions - SUV](https://www.youtube.com/watch?v=EywSBcVcCVY)

[Sketching Interior view](https://www.youtube.com/watch?v=Br95iIbkm20)

[Car Design Sketching – Interior 2D](https://www.youtube.com/watch?v=MneSSyLTPA4)

**Teaching Strategies** (Give step by step instruction on how to deliver the lesson, this should be clear and precise and there should be enough information given so that another teacher would be able to deliver the lesson)

-Start the lesson by explaining why sketching is an important step. *It's not about creating a final design, it's about creating a concept to show a possible client or a quick way to display ideas. This can be applied to any design from a car to a water bottle to an air plane. The ideas can be fluid and change without spending too much time on them. Engineers and designers create these drawings while in meetings to come up with solutions to problems. You can sketch concepts on basically anything, a napkin at a restaurant during a business meeting is common. A sketchbook or notebook is ideal so you can keep the sketches safe and refer back to them*.

-Introduce the video and view with the class [Side View Proportions - SUV](https://www.youtube.com/watch?v=EywSBcVcCVY), pause video and ensure students understand key steps, 5 circles and where the rear of the suv ends.

-Remind them that in the concept stage, proportions are key.

-Body and panel terms are mentioned in the video, these are common terms needed to understand the different parts of the vehicle. After the video use the [Work sheet](https://www.allthingstopics.com/uploads/2/3/2/9/23290220/worksheet-carparts-picture.pdf) to test knowledge and understand of the terms and the related locations on the vehicle. Take up before moving onto the next step.

-**Option**, either stop here and have students start the task for sketching the exterior or if they are attentive move onto the next two videos on how to sketch the interior.

-Explain to the students that interiors are harder to sketch than the exterior, and it's not just about proportions it's about perspective. Suggest two options, if they feel comfortable completing an interior sketch using one point perspective, if they do not complete the interior sketch in sections, front, left side, back, right side. Keep them 2D with no perspective, similar to the second video. This will be easier for students that have trouble visualizing.

-Start the next two videos on interior sketching. [Sketching Interior view](https://www.youtube.com/watch?v=Br95iIbkm20) and [Car Design Sketching – Interior 2D](https://www.youtube.com/watch?v=MneSSyLTPA4)

-Keep videos loaded to review with students when they are completing the next step in the project

-Move onto the Sketching task after the lesson is complete.

**Modifications and Accommodations** (List any possible modifications or accommodations to the lesson needed to help students achieve the key learning goals of the lesson)

Review the needs for the classroom. Make notes or highlight points in the article for students that may require accommodations. Have a scribe ready if a student requires one based on their IEP.

**Terminology List** (List all new terminology that may be learned during the lesson)

-Proportions

-SUV

-Body and Panel terms

**Literacy and Numeracy** (List any literacy strategies and numeracy strategies which may be addressed or delivered during the lesson)

Have a long pause after a key point in the video to allow the processing of information. Repeat key terms to ensure understanding and look for visual cues if students are having trouble.

**Closing Questions** (List any closing questions which may be used to reflect student participation during the lesson)

What is one of the most important things to consider when sketching? (proportions)

After watching the videos, do you feel comfortable creating a few different sketches?

**Lesson Reflections** (What when wrong/What went right, What can be changed)

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