

Automotive Design Sculpture Model

Name: _____

The term **Automotive** was created from Greek **autos (self)**, and Latin **motivus (of motion)** to represent any form of self-powered vehicle.

The **automotive industry** began in the 1890s with hundreds of manufacturers that pioneered the horseless carriage. For many decades, the United States led the world in total automobile production. In 1929 before the Great Depression, the world had 32,028,500 automobiles in use, and the U.S. automobile industry produced over 90% of them.

STEP ONE: CHOOSE ONE time period/era to **RESEARCH** for the design of your car:

- **Vintage era** (1922–1939 – Austin 7)
- **Pre-war Design era** (1932–1948 – Ford V-8 Model B)
- **Post-war Design era** (1946–1980s – United States Studebaker Champion)
- **Modern Design era** (1960s– present Toyota Corolla)
- **Post-Modern Design era** (2020–2100 Futurist-Concept)



Mazda Paper Model

STEP TWO: RESEARCH the different kinds of automobiles associated with your chosen Automotive time period. Answer the attached question sheet: **Automotive Design: Research Questions**.

STEP THREE: DRAW 3 different conceptual sketches of your design – **Side & perspective schematics**. Print off source material to work from.

- Consider the elements and principles of design (Line, Form, Space, etc....) and perspective!
- Your work **must** show clear connections/stylistic elements to your chosen researched source(s) from the specific era.

Have your sketches approved by the teacher before starting to create your model sculpture out of paper.

WRITE your **Artistic Statement Template** to document your artistic process.

STEP FOUR: REFLECT: Answer the following questions using the elements and principles of design and hand them in with your completed model sculpture for evaluation.

1. What part of your finished project did you find most successful and why?
2. What part of your finished project did you find least successful and why?
3. If you had to do this project, what part would you change or improve on and why?

K/U: Automotive Design: Research Questions

Name: _____

1. What Automotive era/time period have you chosen to research?
2. What kind of Automotive vehicles are you focusing on researching?
3. Who designed your first Automotive vehicle and why?
4. What is the form and function of your first Automotive vehicle?

Form (Automobile, Truck, Van, Bus, Coaches, Motorcycle):

Function: • Residential

• Business

• Commercial

• Sporting

5. What material(s) techniques, and processes were used to create it?
6. What is the historical, social, political, economic in which the Automotive vehicle was created?
7. How does the form and function of your first Automotive vehicle reflect your chosen era/time period?
8. What kind of mood/feeling do you get from your first Automotive vehicle and why?

9. Who designed your second Automotive vehicle and why?

10. What is the form and function of your second Automotive vehicle?

Form (Automobile, Truck, Van, Bus, Coaches, Motorcycle):

Function: • Residential

- Business

- Commercial

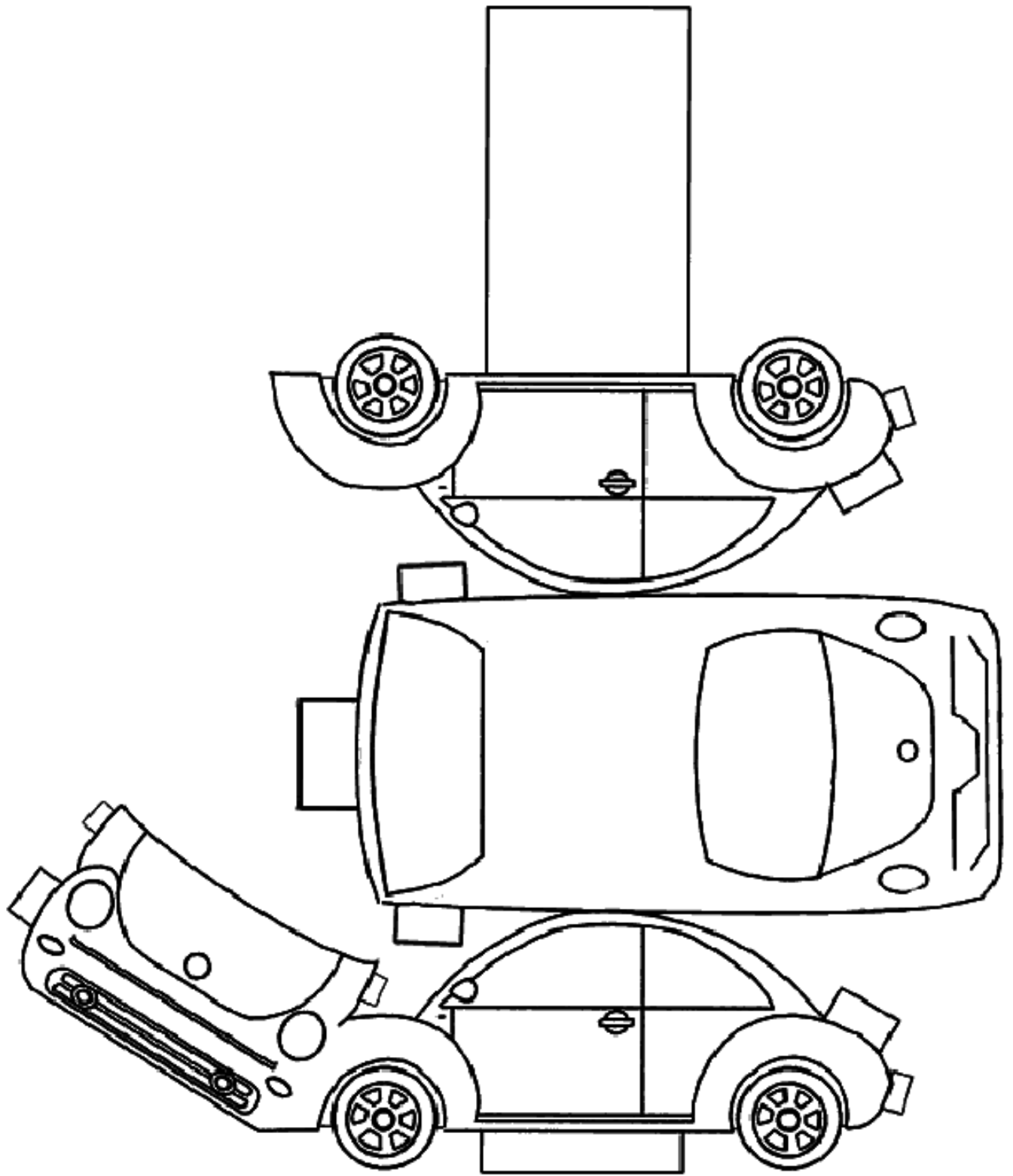
- Sporting

11. What material(s) techniques, and processes were used to create it?

12. What is the historical, social, political, economic in which the Automotive vehicle was created?

13. How does the form and function of your second Automotive vehicle reflect your chosen era/time period?

14. What kind of mood/feeling do you get from your second Automotive vehicle and why?



Volkswagen Beetle Template

Rubber Band Engine – How To

Step 1: Punch holes for axles



Use the hole punch to make holes for the axles, two straight across from each other on either end. It helps the car roll better if the wheel holes are lined up and square with each other, front to back and side to side. Using a ruler to draw a line down the side of the tube can make it easier to line up the holes.

Step 2: Enlarge axle holes in tube



Use the big end of the jumbo paper clip to enlarge all the axle holes in the paper towel tube. If you just push a pencil through the hole punch hole it will be too tight to turn freely. Where the pencils fit into the wheels needs to be a tight fit. Where the pencil goes through the tube/body needs to be a loose fit (seems obvious, but it's a common problem).

Step 3: Front wheels and axle



The front wheels and axle! I prepared the front wheels ahead of time, they are 2 1/2 inch diameter circles cut from corrugated cardboard with a starter hole poked in the center with a sharp pencil. Push the pencil through the wheels so that they fit tightly on the pencil--the pencil should turn freely in the holes in the paper towel tube.

Step 4: Build up rear axle with tape



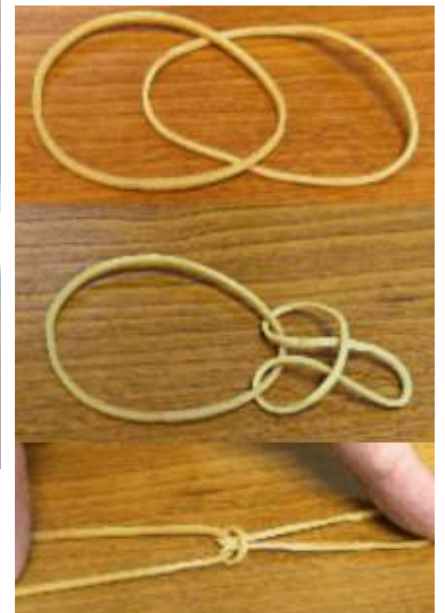
Wrapping about 2 1/2 feet of masking tape around the pencil should build it up enough to fit tightly in the hole of a CD--You may need to adjust by squishing down the resulting blob of tape, peeling away a turn or two of tape, or adding a turn or two. Do one on either side of the body, but not so close that it rubs!

Step 5: Put on the rear wheels



Squish the CDs onto the tape blobs on the back axle. These should be a tight fit and be more or less straight and parallel with the paper towel tube. You can add or take away tape to get a good fit.

Step 6: Make a rubberband chain



For best results, you really need to use #14 size rubber bands. The rubber band chain should be about 5 rubber bands long.

Step 7: Attach jumbo paper clip to rubberband chain



Attach the jumbo paper clip to one end of the rubber band chain. Usually 5 #14 rubber bands is long enough, but it varies—they might need to take one away or add one.

Step 8: Drop the clip down one side...



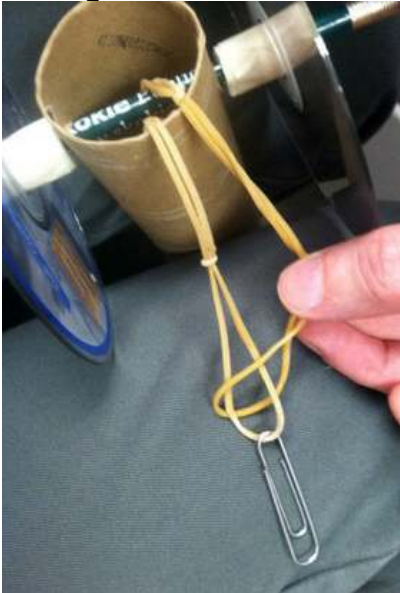
Use the weight of the paper clip to drop one end of the rubber band part way down on one side of the rear axle.

Step 9: ...and out the other



Then flip the car over and tilt it up so the paper clip comes back out again on the other side of the rear axle.

Step 10: Pass paper clip through the end rubber band



Thread the paper clip through the very end rubber band in the chain and pull it through all the way.

Step 11: Rubber band chain on rear axle



It should look like this. When you turn the axel one way the rubber band will catch and wind up. If you turn the pencil the other way it will just spin—so that it will free wheel after expending all its wound-up-ness. This won't happen if you use different size rubber bands and the cars will just stop when the rubber band unwinds instead of coasting and cruising.

Step 12: Pass rubber band chain back through tube



Next, you just drop the paper clip back into the tube so that you can grab it when it comes out of the front end.

Step 13: Cut two slits to hook rubber band onto



Snip two little slits, maybe a half inch deep, into one side of the the front of the tube—this is so you can hook the rubber band chain onto the edge of the tube.

Step 14: Done!



When the rubber band is hooked onto the slits, it looks something like this. You can remove the paper clip at this point, or leave it if you're just busting to wind this puppy up and give it a whirl!

Step 15: But not like this



One common problem with this part is that if the rubber band is touching the front axle before being hooked to the front of the tube, it will rub and the car won't roll. Hook the rubber band straight to the front edge of the tube without going over the front axle.

A) Influence(s) and research from past and present Automotive vehicle works:

B) Drawing and Sculptural techniques used in my work and how they support my intended visual message:

Automotive Design Sculpture Model Rubric

Name: _____

	Level 0	Level 1	Level 2	Level 3	Level 4	
<p>Knowledge/ Understanding Demonstrates understanding of the elements & principles of design in the drawing and model sculpture (e.g. shape, form, space)</p>	<p>Work does not meet assignments expectations for this category. Incomplete. 0</p>	<p>Student demonstrates limited understanding of the elements & principles of design in the drawing and model sculpture. 0.25</p>	<p>Student demonstrates some understanding of the elements & principles of design in the drawing and model sculpture. 0.50</p>	<p>Student demonstrates considerable understanding of the elements & principles of design in the drawing and model sculpture. 0.75</p>	<p>Student demonstrates a high degree of understanding of the elements & principles of design in the drawing and model sculpture. 1</p>	/1
<p>Thinking/ Inquiry Specific Era/Time Period: Automotive</p>	<p>Work does not meet assignments expectations for this category. Incomplete. 0</p>	<p>Student depicts architectural imagery in the model sculpture that reflects the chosen era/time period with limited effectiveness. 0.25</p>	<p>Student depicts architectural imagery in the model sculpture that reflects the chosen era/time period effectiveness. 0.50</p>	<p>Student depicts architectural imagery in the model sculpture that reflects the chosen era/time period with considerable effectiveness. 0.75</p>	<p>Student depicts architectural imagery in the model sculpture that reflects the chosen era/time period with a high degree of effectiveness. 1</p>	/1
<p>Communication Clarity: Discusses research & influences in the research questions & artistic statement</p>	<p>Work does not meet assignments expectations for this category. Incomplete. 0</p>	<p>Student discusses influences in the research questions & artistic statement with limited clarity. 0.25</p>	<p>Student discusses influences in the research questions & artistic statement with some clarity. 0.50</p>	<p>Student discusses influences in the research questions & artistic statement with considerable clarity. 0.75</p>	<p>Student discusses influences in the research questions & artistic statement with a high degree of clarity. 1</p>	/1
<p>Explains use of drawing and sculpture techniques in the artistic statement</p>	<p>Incomplete. 0</p>	<p>Student explains use of drawing and sculpture techniques in the artistic statement with limited clarity. 0.25</p>	<p>Student explains use of drawing and sculpture techniques in the artistic statement with some clarity. 0.50</p>	<p>Student explains use of drawing and sculpture techniques in the artistic statement with considerable clarity. 0.75</p>	<p>Student explains use of drawing and sculpture techniques in the artistic statement with a high degree of clarity. 1</p>	/1
<p>Reflective Questions: Strength, Weakness & Next Step</p>	<p>Incomplete. 0</p>	<p>Poor, yes/no answers/limited incomplete. 0.25</p>	<p>Somewhat coherent and somewhat complete. 0.50</p>	<p>Clear and substantial answers. 0.75</p>	<p>Superior and insightful answers. 1</p>	/1
<p>Application Creative Process: Ability to solve a series of artistic problems, showing an awareness of formal qualities, visual conventions, and relevant ideas and concepts. Preliminary Sketches (2)</p>	<p>Work does not meet assignments expectations for this category. Incomplete. 0</p>	<p>Preliminary sketches are poor/incomplete. Concepts are poor/incomplete. Planning is tentative or non-existent. (0.5) 0.5</p>	<p>Preliminary sketches are somewhat clear and complete. Concepts are somewhat complete. Planning is somewhat substantial & shows some alternative ideas. (1) 1</p>	<p>Preliminary sketches are mostly complete. Concepts are complete. Planning is evident & shows some divergent thinking is evident. (1.5-2) 1-1.75</p>	<p>Preliminary sketches are thorough & complete. Concepts are fully developed. Planning is exceptional & shows considerable flexibility in thinking. (2+) 2</p>	/2
<p>Creative Process: Demonstration of Skill Development & following procedures including Clean Up</p>	<p>Incomplete. 0</p>	<p>Student demonstrates limited effectiveness in demonstrating the creative process and following procedures. 5</p>	<p>Student demonstrates some effectiveness in demonstrating the creative process and following procedures. 5-6</p>	<p>Student demonstrates considerable effectiveness in demonstrating the creative process and following procedures. 7-8</p>	<p>Student demonstrates superior effectiveness in demonstrating the creative process and following procedures. 8- 10</p>	/10
<p>Uses elements & principles of design and drawing/sculpture techniques to produce an effective artwork (e.g. shape, form, line)</p>	<p>Incomplete. 0</p>	<p>Student demonstrates limited use of the elements & principles of design & drawing/sculpture techniques to produce an art work of limited effectiveness. 1</p>	<p>Student demonstrates some use of the elements & principles of design & drawing/ sculpture techniques to produce an art work of some effectiveness. 2-3</p>	<p>Student demonstrates considerable use of the elements & principles of design & drawing/sculpture techniques to produce an art work of considerable effectiveness. 3-4</p>	<p>Student demonstrates a high degree of using the elements & principles of design & drawing/ sculpture techniques to produce a highly effective art work. 5</p>	/5

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A1. The Creative Process: apply the creative process to create a variety of artworks, individually and/or collaboratively;

A1.1 use various strategies, individually and/or collaboratively, to generate, explore, and elaborate on ideas and to develop and revise detailed plans for the creation of art works that address a variety of creative challenges (e.g., use brainstorming, concept webs, and/or groups discussions to formulate original ideas for thematic works and/or works of personal expression; use research and discussions with a partner to explore and elaborate on ideas; use diagrams, notes, and/or outlines to help them formulate detailed plans for the art work; revise their plans on the basis of reflection)

- A1.2 apply the appropriate stages of the creative process to produce and revise two- and three-dimensional art works using a variety of traditional and contemporary media (e.g., explore, experiment with, and refine their use of a variety of media; choose a medium/media appropriate for their planned art work; reflect on the effectiveness of preliminary versions of their work; revise their art work on the basis of reflection and useful feedback)
- A1.3 document their use of each stage of the creative process, as well as varied and extensive research, in a portfolio that includes art works created for a variety of purposes (e.g., ensure that their portfolio includes evidence of idea generation and elaboration, research, investigation, planning, exploration, experimentation, and revision; include a variety of works created for different purposes), and review and reflect on the contents of their portfolio to determine how effectively they have used the creative process
- A2. The Elements and Principles of Design: apply the elements and principles of design to create art works for the purpose of self-expression and to communicate ideas, information, and/or messages;
- A2.1 explore how elements and principle of design can be used to convey emotion and enhance personal expression, and use a combination of these elements and principles to create two- and three-dimensional art works that express personal feelings and communicate specific emotions to an audience (e.g., explore how variations in line, value, form, proportion, and emphasis can be used to convey various emotions; adapt their findings to enhance expression in their art work)
- A3. Production and Presentation: produce art works, using a variety of media/materials and traditional and emerging technologies, tools, and techniques, and demonstrate an understanding of a variety of ways of presenting their works and the works of others.
- A3.2 explore a range of traditional and current materials, technologies, techniques, and tools used by visual artists (e.g., Claude Monet's use of optical colour mixing; Andy Warhol's use of silkscreens; George Segal's use of plaster bandage; Jean-Paul Riopelle's use of a palette knife for impasto application of paint; Daphne Odjig's use of interconnecting black lines), and adapt and apply them to create original art works
- B1. The Critical Analysis Process: demonstrate an understanding of the critical analysis process by examining, interpreting, evaluating, and reflecting on various art works;
- B1.1 analyse their initial response to art works (e.g., describe their initial reaction to an art work and determine which specific aspects of the work and their personal experience led to their reaction)
- B1.2 deconstruct the visual content and the use of elements and principles of design in their own art work and the work of others (e.g., identify individual elements and principles and aspects of the visual content in an art work, interpret their function, and analyse how the artist has manipulated them to create impact, emphasis, mood, movement, and meaning; compare The Abduction of the Daughters of Leucippus by Peter Paul Rubens to the cover of a contemporary comic book about an action hero, with reference to the artists' use of colour, line, shape, value, balance, and emphasis)
- B1.3 explain, with reference to particular works, both historical and contemporary (e.g., J. M. W. Turner's Rain, Steam, and Speed: The Great Western Railway; Maya Lin's Vietnam Veterans Memorial), how knowledge of an art work's cultural and historical context, achieved through research, has clarified and enriched their understanding of the work's intent and meaning
- B1.4 describe and reflect on the qualities of their own art works and the works of others, and evaluate the effectiveness of these works, using a variety of criteria
- B2. Art, Society, and Values: demonstrate an understanding of how art works reflect the societies in which they were created, and how they can affect both social and personal values;
- B2.1 analyse the function and social impact of different kinds of art works in both past and present societies (e.g., the use of art works for ritualistic and religious purposes; for social and/or political commentary; as propaganda; as symbols of economic or social power; to commemorate people and/or historical events; to instruct)
- B2.2 explain, on the basis of research, ways in which various art works are a response to and a reflection of the societies in which they were created
- B2.3 reflect on and explain how creating and analysing art works has affected their personal identity and values and/or changed their perceptions of society and social issues (e.g., with reference to their emotional awareness and their ability to express themselves; their awareness of stereotypes; their understanding of the meaning of objects and symbols associated with a variety of cultural groups; their awareness of and relationship to their physical environment; their position on social issues such as censorship, discrimination, inequality)
- C1. Terminology: demonstrate an understanding of, and use correct terminology when referring to, elements, principles, and other components related to visual arts;
- C1.1 demonstrate an understanding of the elements and principles of design, and use terminology related to these elements and principles correctly and appropriately when creating or analysing art works (e.g., when describing how they have used elements and principles in a sculpture to convey a sense of movement)
- C1.3 using appropriate terminology, explain the creative process and describe in detail the critical analysis process, with particular reference to the role of deconstruction in the latter process
- C2. Conventions and Techniques: demonstrate an understanding of conventions and techniques used in the creation of visual art works;
- C2.1 demonstrate an understanding of a wide variety of techniques that artists use to achieve a range of specific effects (e.g., techniques used to create the illusion of depth and perspective and to create texture on different surfaces; the use of additive and subtractive sculpture, layering, positive and negative space, and relief to create effects)
- C2.2 demonstrate an understanding of a variety of conventions used in visual arts (e.g., allegory, expressive exaggeration, juxtaposition, synectics; conventions associated with heroic, narrative, naturalistic, propaganda, realistic, and satirical art), and explain how they are used in different types of art works
- C3. Responsible Practices: demonstrate an understanding of responsible practices in visual Arts.