Year 2 Design Technology: Construction

Learning to Recap :

- When we make something we move through stages of design, making and evaluating.
- A design is a plan.
- An evaluation tells us what is good about something and what needs to get better.
- Know that we can use different materials depending on the product.
- Know that we use tools to cut, shape and join.

1. Axels and Wheels

- Know that vehicles have wheels to make them move.
- Know that wheels are attached by axels
- Know that axels work in two ways.
- Know that one way is when the axel is attached firmly to the wheel so when the axel rotates the wheels turn.
- Know that another way is when the wheels are placed loosely on the axel so that the wheels turn around the axel.
- Know that when wheels are placed loosely on the axel a stopper or washer must be used to stop the wheel falling off the axel.

2. Attaching to chassis

- Know that axels need to be attached to a chassis.
- Know that the chassis is framework of the vehicle.
- Know that the chassis attaches the axel and wheels to the body of the vehicle.
- Know that if the axel is fixed to the chassis the wheels must be placed loosely on the axel.
- Know how to saw a straight cut using a hacksaw and bench hook

3. Attaching to chassis cont.

- Know that axels need to be attached to a chassis.
- Know that if the axel is not fixed to the chassis (holes or an axel sleeve) then the wheels should be attached firmly to the axel.

4. Function

- Know that the body of the vehicle can serve different functions
- Know that the size of the axel depends on the size of the vehicle.

5. Design

The Vikings have landed in England. After successfully using boats to travel across the sea before invading England, the Vikings are now travelling by foot. They are struggling to carry their belongings long distances.

Design a miniature Viking Cart which can be pulled/pushed between two locations carrying either crops (blocks) or people (Lego people)

6. End of Unit Outcome and Evaluation

Design, make and evaluate a miniature Viking Cart using your design from last week

Collect and prepare cardboard for chassis
Collect and prepare axel and wheels
Attach axel and wheels to chassis
Decorate/Construct according to your design

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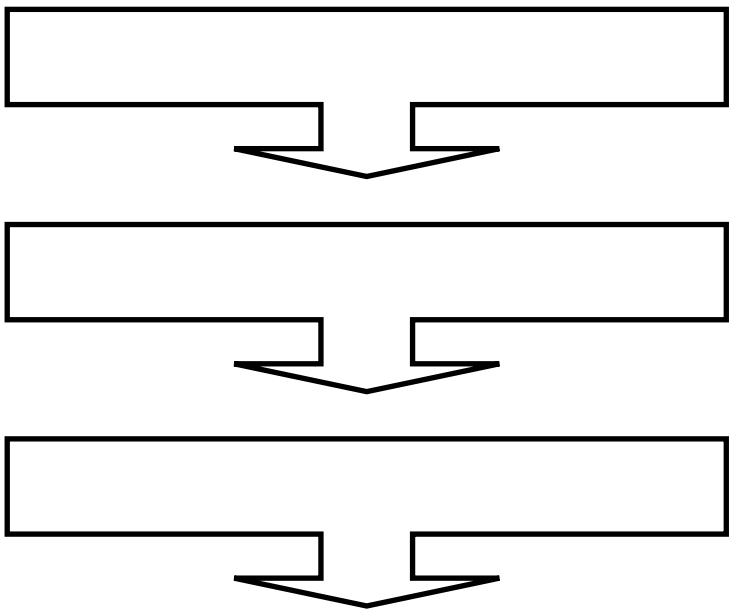
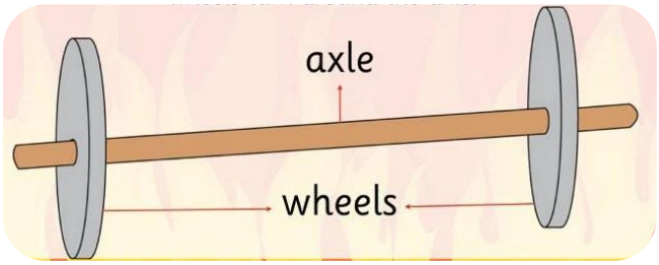
Recap: Designing, making and evaluating



Evaluate Design Make

Axels and Wheels: Vehicles have w _ _ _ _ _ to make them move. Wheels are attached to a _ _ _ _ . Axels work in ___ ways. One way is when the a _ _ _ is attached firmly to the w _ _ _ _ so when the axel rotates the wheels t _ _ _ . Another way is when the wheels are placed l _ _ _ _ _ _ on the axel so that the wheels turn a _ _ _ _ _ the axel. When wheels are p _ _ _ _ _ loosely on the axel a s _ _ _ _ _ _ or washer must be used to stop the wheel falling off.

Recap:



Session 2: Talk Partners: How do wheels and an axel work to move a vehicle?

Session 3: Talk Partners: What are the two ways an axel can work?

Session Two: Draw and label and axel and wheels where the wheels are not attached to the axel.

Session Three: Draw and label and axel and wheels where the wheels are attached to the axel.

See the photo pages at the back of this booklet for me fixing wheels to an axel in two different ways.

Recap:

Talk Partners: Using a toy car to help, explain how the wheels turn to allow the vehicle to move.

Function Draw two vehicles in the space below. Vehicle One should be able to carry crops to market. Vehicle Two should be able to carry people.

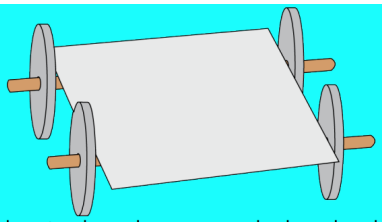
Recap: Production Process

Put the following words in the correct order: **MAKE, EVALUATE, DESIGN**

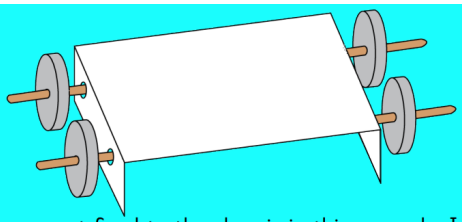
My Design

Draw a picture of your design including materials and the tools needed to make it.

Tick the box to show how you plan to attach your axel and wheels to the chassis.



With this chassis, the axles are attached to the chassis from underneath. This means the axles cannot turn around. The wheels are placed over the axles but not attached so that the wheels can rotate around the axle.



The axles are not fixed to the chassis in this example. Instead, the axles are put through holes in the chassis so that the axle can turn around. The wheels are firmly attached to the axle so they turn when the axle turns.

See the photo pages at the back of this booklet for images of me making my vehicle and the final product.

Evaluation

My vehicle looks really good.	
The wheels and axles on my vehicle work really well.	
I followed my design well when I was making my vehicle.	
I worked safely and carefully when I was making my vehicle.	

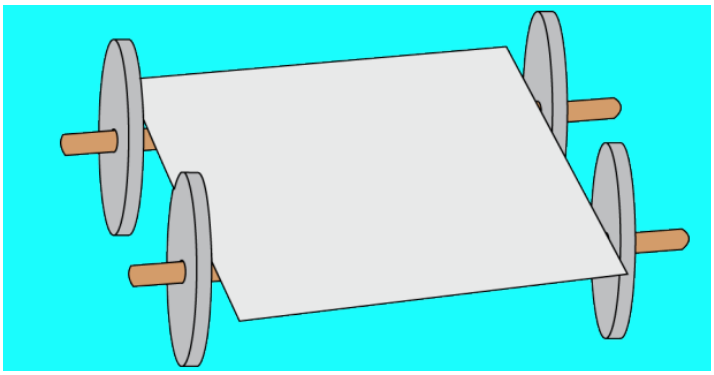
What do you like best about your vehicle?

What could you change to make your vehicle even better?

How many marks out of 10 would you give your vehicle? out of 10

Assessment

Label the image below to show all of your knowledge about vehicles.



Because, But, So - Use all of your learning to prepare your answer to the statements below.

Please write your response in your writing book.

Without an axel, wheels wouldn't move because…

Without an axel, wheels wouldn't move but…

Without an axel, wheels wouldn't move so…