



Saint Elizabeth's Knowledge Mat



Year: Two

Subject: D&T (Wheels, axles, chassis)

Topic: What makes a good fire engine?

1. What I should already know:

From: Y1

- To select appropriate resources and tools for their building projects.
- To make a simple plan before making an object.
- To make a structure using different materials
- To describe the materials using different words.

Can you make a model fire engine?

At the end of this unit you will:

- Design a model fire engine that fits a given design criteria.
- Use a range of appropriate tools, materials, and techniques to create a model fire engine.
- Experiment with and use different techniques to ensure your fire engine moves easily.
- Evaluate your fire engine and say what went well and what you would improve next time.

2. What I am going to learn:

What makes a fire engine move and what equipment must it have?

About modern fire engines and how they have changed constantly as technology has advanced.

What the main features of a fire engine are and the function of each of those features.

What wheels, axles and chassis are.

That there are two different ways of attaching wheels to axles.

Different ways of combining materials to create the body of a fire engine.

To explore different ways of making different parts of a fire engine such as the ladder.

To choose appropriate materials and tools for different tasks.

To discuss your design and say what you think and feel about it.

To evaluate your finished product by identifying what you did well, and what you would improve.

3. Diagram/ picture/ quotation:



A fire engine from 1670



A modern fire engine.



Here you can see the ladder going up, and on the other picture you can see the different parts labelled.



An axle with two wheels attached and a chassis with axles and wheels.

4. Important vocabulary and facts:

axle	A rod passing through the centre of a wheel
chassis	The base frame of a car or other wheeled vehicle
criteria	A principle or standard by which something can be judged or decided
design	A plan or drawing of something used to help make it
evaluate	To look at something to decide how good or bad it is
extendable	Can be made longer
function	How something works, what something is used for
investigate	Find out about
join	Where two or more things are fastened together
wheel	A circular object that revolves on an axle

5. Resources and skills to help me learn:

Use found materials to make your own model fire engine at home.

What do you think fire engines will be like in the future?

https://kids.kiddle.co/Fire_engine

<https://www.cambsfire.gov.uk/community-safety/come-and-play/>

