MISSION

Our school is celebrating our 50th Jubilee in September. You have been learning all about how West Auckland has changed.

Your challenge…

Design a model of a moving toy. It will be made from mm MDF or another hard material. Your toy can be no higher than 100mm and no longer than 200mm.

Should you choose to accept…

You can exhibit your moving toy model during the Jubilee celebrations, talk to guests about what a model is and present your learning journey to our special agents.

Agent name:_____ Code number:_____

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Before you start on the dangerous journey ahead, you must arm yourselves with some new words

Learn these words and test a buddy to earn your 'Beginner' tags…

Attributes	*A quality, characteristic or quality*
Function	*A purpose for which something is designed/How it works*
Concepts	*Ideas- For example: 'Design concepts'*
Model	*Design made as an example for consideration*
Prototype	*Original model of which something is based on*
Mock-ups	*A model for study, testing or teaching*
Evaluation	*To review and reflect*

First steps

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Walt: use a Venn diagram to identify how toys have changed

Walt: Explain and record information about the outcome we are going to produce

Brainstorm ideas

Talk about a toy you might like to make with your buddy.
What are some questions you could ask you buddy about their toy ideas?

(2)Draw a picture of what your toy could look like and label it's parts. This is called a visual model.

Compare traditional and modern toy designs in the Venn diagram:

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Then

Now

I have found out that…

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Planning for practice

- Helps identify what we are going to do next, and the resources we will need

Teacher check

Date:	Learning intention: Completed: Next Step:
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Comments:

Key Features

Walt: Describe important attributes and resources needed for our toy

Write a checklist of the attributes and key attributes your toy must have to work well and look good.

FEATURES (Big Picture)	KEY FEATURES	RESOURCES/TOOLS NEEDED
e.g. Wheels move freely	Wheels turn and not catch on sides of car and are glued perpendicular to the axles.	Hole saws, 64mm and 50mm

Thumbnail sketches of possible designs -Side view only- Choose which design will work best

☐	Peer Comment	☐	Peer Comment
☐	Peer Comment	☐	Peer Comment

POSITIVES (List your ideas about the positive attributes your favourite one has.)	Negatives (list your reasons why you did not choose the rest)

Before building your moveable toy, you will need to make a model out of ……..to test your ideas.

Walt: Model our ideas and record information that can help us progress

Here are some clues…

Shoe
Cardboard
Boxes/Milk cartons
Skewers/Tape
Polystyrene
Corrugated card
Rubber bands
Cardboard wheels

Q. Why do we need to test ideas 1st before making anything?

When we tried out our model we found that……

Draw your Model as a simple sketch.

Working drawings

Outcome Development and Evaluation:
My design ideas meet the key attributes because….

⏩Put the step number in the circles

Now that you have your design and you know what resources you need …..

- Think about the steps you have to go through to build your moveable toy and number them 1 – 6

Now that you know the steps needed to build your moveable toy, work out how many times you need to go to the Technology Room to make your ……

Now write down the **Completion date:**

Mission

ATTRIBUTES	QUESTIONS TO ANSWER…
Appearance:	**Does it work the way I designed it to?**
Size:	**Who will use it?**
Strength and Durability:	**How will it be used?**
User Friendliness:	**How does my design need to change? How could earlier modelling have avoided these problems?**
Fit for Purpose:	
How does my toy connect / compare with toys from long ago?	*Attach a photo of your final design*

What is the best thing about my design?

What would I do differently next time?