

Curriculum for Wales 2022

Lesson/Session Plan

Age: 8-9	No. of learners 15-20	ALN/Meeting learners' needs:	Requirement of additional adults to help assist those with ALN Potential of making a group out of those with ALN to increase the range so that individual help can be given for the whole group
Additional Adults: 2-4	Responsibilities of additional adults for this session: To help with the task, To help with meeting learning needs of those with ALN		
Learning objective(s): To understand and apply forces of push and pull To understand how speed is created from this force To further understand what a "fair test is" To build and use a pull back car using materials Can explain information and ideas using supportive resources To identify the appropriate steps and information needed to complete the task or reach a solution		Success criteria: Can define what forces are Can define the purpose of a fair test Can describe the difference between push and pull Are able to build a pull back car Can hypothesise what will happen with the car they have built	
Links to previous learning: prior experiments, with regards to "fair tests" lessons of what forces are and push and pull lesson of the theory of how pull back cars work			
Curriculum coverage (AoLE/Strand/Descriptions of learning)			
Thinking Skill Learners pursue the processes of planning, developing, and reflecting in all areas of Enquiry where the Range is taught. Lessons are offered in order to create and apply learning and thinking strategies to new situations, resulting in high-quality outcomes.		Literacy(LNF) explain information and ideas using supportive resources transfer mathematical skills to a variety of contexts and everyday situations select and use suitable instruments and units of measurement estimate and visualise size when measuring and use the correct units.	
Numeracy (LNF) identify the appropriate steps and information needed to complete the task or reach a solution adapt talk showing understanding of the differences between informal talk with friends and more extended talk with a wider group Learners develop their number skills across the curriculum by using mathematical information, calculating, and interpreting and presenting findings		Digital Competence (DCF)	
Y Cwricwlwm Cymreig (the Welsh Dimension)		Global Dimension	

Time	Session activities, organisation and management	Assessment for Learning (strategies and opportunities)
	Introduction	

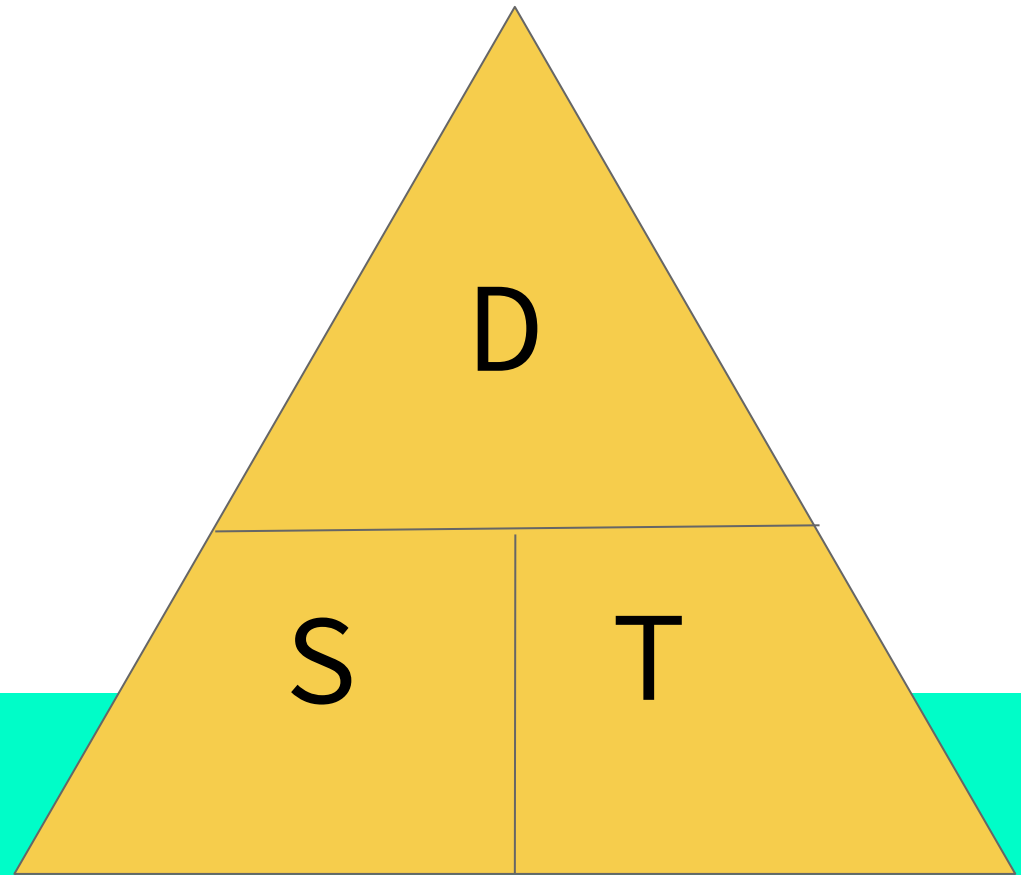
	Start by introducing class to the lesson Introduce success criteria and learning objectives start trying to achieve the objectives by having class recap prior learning, discuss what fair tests are and how they are important to an experiment, Recap what forces are and how push and pull work (use push and pull activity with class to help remember) Focus on the force of pull and how that can generate speed Discuss $\text{Speed} = \text{Distance}/\text{Time}$ Discuss how data is gathered Discuss what a hypothesis is. Discuss the main activity with the class	Use of traffic lights to gauge understanding during the introduction, to decide who needs recapping on prior lessons and topics such as ideas of a fair test as well as who might need guidance before starting the practical side of the experiment which includes the idea and application of a hypothesis
	Main activities Using what they have learnt about what a hypothesis is, apply that knowledge and hypothesise what will happen to the car in different scenarios given through the resource pack. Using tools given and brought to school with, and with the help of teachers and additional adults teams follow the steps to make their pull back cars with the intention of testing the drivability of each car in line with their hypothesis, as well as the opportunity to see whos car is the fastest Write down the results of each trial and use them to quantify cumulative and qualitative data which culminates into making a conclusion.	Resources and Key Vocabulary Key Vocabulary includes: Forces, Push, Pull, Fair Test, Hypothesis, Speed, Acceleration Resources used: Worksheets given out that show how a pull back car can be made. Sheet also shows a speed equation to make sure they can go back to it during the data stage of the practical. it also shows how to make a pull back car as well as how to set up the experiment
	Plenary Using the results of the experiments create a conclusion comparing the results to the hypothesis made prior to the experiment, further ask on how they could have improved their car as well as improved keeping the test fair.	



WHAT IS SPEED?

SPEED IS DISTANCE/TIME

IF A CAR MOVES 60 MILES IN
1 HOUR HOW FAST IS THAT
CAR GOING?



HOW DO WE MAKE A PULL BACK CAR?

GET AN ADULT TO MAKE A 2MM HOLE AT THE CENTER OF THE CAPS

USING THE GLUE GUN WITH AN ADULT ATTACH A CAP TO A 50MM SKEWER

PASS A 40MM STRAW ONTO THE SKEWER AND ATTACH THE SECOND CAP

TAKE 2 ICE LOLLY STICKS AND MAKE A V SHAPE

WITH AN ADULT CUT ANOTHER STICK TO 30MM AND STICK TO THE BOTTOM OF THE V WITH GLUE AND LET DRY

ONCE DRY CUT 2 20MM STRAWS AND PLACE AT THE TOPS OF THE V WITH GLUE

TO MAKE THE BACK WHEELS GET 2 MORE CAPS WITH 2MM HOLES

CUT OUT AN 80MM SKEWER AND A 20MM SKEWER

ADD THE 20MM SKEWER TO THE CENTER OF THE 80MM SKEWER

PLACE THE SKEWER THROUGH THE STRAWS AND ATTACH THE BACK WHEELS

ADD ANOTHER 20MM SKEWER TO THE FRONT OF THE FRAME AND ADD THE RUBBER BAND AND ANY OTHER FINISHING TOUCHES TO YOUR CAR



YOUR GOAL:

NOW YOU'VE MADE YOUR CAR TEST IT OUT

USING MASKING TAPE PLACE A START AND FINISH
LINE OF 5 METERS AS SEEN BELOW

PLACE ANOTHER PIECE OF TAPE AT THE PULLBACK
SPEED AND USE THAT TO MAKE SURE EVERY TIME
YOU START YOU PULL BACK TO THAT LOCATION

AFTER 6 ATTEMPTS AND RESULTS RECORDED ON THE
FIRST TABLE CHANGE THE PULL BACK LOCATION AN
RECORD THE RESULTS ONTO THE SECOND TABLE TO
SEE IF THERE IS A DIFFERENCE



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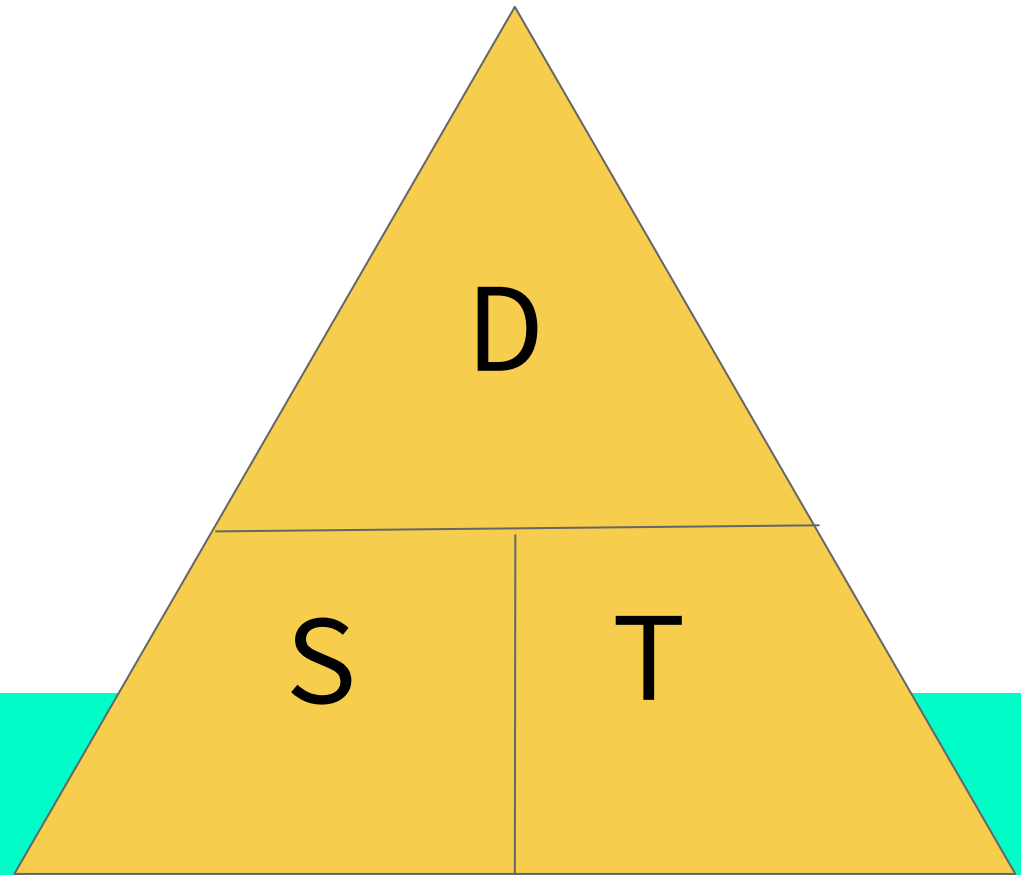
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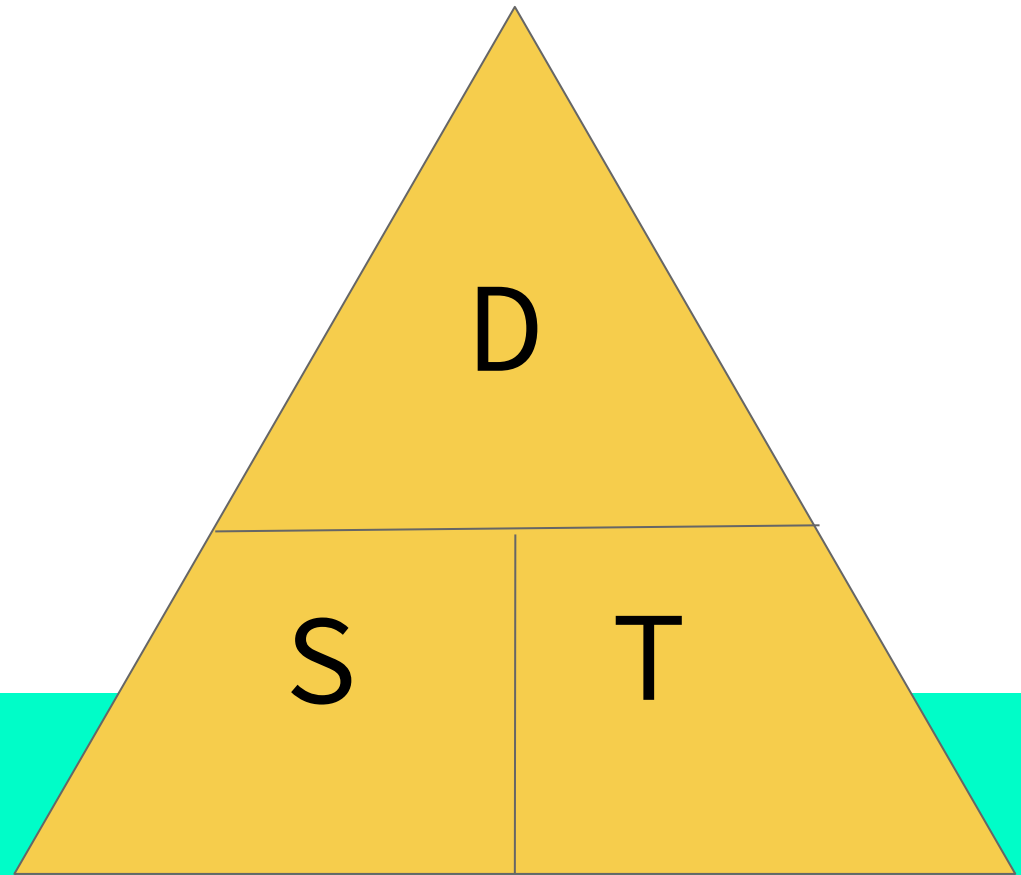
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F1 Car Images from Quique on pixabay

[Meeting in General -20230123_173240-Meeting Recording.mp4](#)

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