

Subject:

STEM
(SCIENCE, TECHNOLOGY, ENGINEERING, MATHS)

Inspiration:

Have a look at this link on Youtube.

<https://www.youtube.com/watch?v=qybUFn>

Key vocabulary:

Experiment – to try things out and see what happens.

Force – force is a push or pull on an object. A force can cause an object to accelerate, slow down, remain in place, or change shape.

Cause and effect – when the action of one thing makes something else happen

Motion – Is the way in which something moves from one place to another.

Final Outcome:

**CREATE YOUR OWN RUBE
GOLDBERG MACHINE**

Monday:

Today we would like you to watch the inspiration clip on youtube. You might need to watch it a few times!

➤: What ways can you see that they make things move? What objects move? What is your favourite part?

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➤➤➤: What ways can you see that they make things move? What objects move? What is your favourite part? Search for other Rube Goldberg Machine videos. How do you think they calculated what would happen? Is it luck, science, trial, error?

In the inspiration video you can see that they are covered in paint. This implies that it took several takes for them to get it right!

Tuesday:

➤: Making the inspiration video was quite tricky. We would like you to try and make a ball run. Have a look at this web page to give you some ideas.
<https://www.hellowonderful.co/post/15-impressive-ways-to-make-a-marble-run/> Have a go at making a marble move from one place to another. How many ways can you do this? Record the ways you make it move e.g. a slope, a tube, between two barriers.

➤➤: Watch this clip: <https://www.youtube.com/watch?v=MgDF1tyoOvU> Have a go at recreating some of the moves explained in the video. You might not have the same resources so what could you use instead? Does it work first time?

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Wednesday and Thursday:

➤: Thinking about the marble run ideas you looked at yesterday. Design and plan your own marble run. You might need to find some resources first and then plan your marble run. Have a go at building it. You might need to try different ways and use different ways to join things. Try it out and if it doesn't work try something else!

➤➤: Spend these two afternoons designing and building your Rube Goldberg Machine. Start small with something that was successful yesterday. The build on this as you gain in confidence and understanding of how things work. You can always go back and look at the videos again for ideas. You might want to video it too. Remember to experiment! Things don't always go to plan first time round.

➤➤➤: Spend these two afternoons designing and building your Rube Goldberg Machine. Can you use as many of the elements in the video you watched yesterday as possible? What objects from around your house can you use too? Think about the forces that are at work here. How can you increase the push or pull? (CLUE: you might move from a domino to a small book to an increasingly bigger book so the force of the bigger book falling over is also bigger) Can you make the motion at ground level move to something at a higher level? You might want to video it too. Remember to experiment! Things don't always go to plan first time round.



Friday:

➤: Remember how your marble run worked. Now write down the following things:

What went well? How did you have to change your ideas and try things out? What would you change next time or which other marble run would you like to try and why?

➤➤: Can you evaluate your Rube Goldberg Machine? Present your ideas however you like but make sure you think about what went well, which bits were more tricky and think about why. What could have helped you? What resources did you have to change?

➤➤➤: Have a think about evaluating your Rube Goldberg Machine. What went well? What didn't? Why do you think this was? What forces were at work in your machine? Have a look at the BBC Bitesize website to help remind you about the forces and what they do.

<https://www.bbc.co.uk/bitesize/topics/znmmn39>

