

Mini alternative powered vehicles

Find ways to power mini vehicles, using balloons, elastics, or anything else the scouts can figure.

Section: All
Time: 1 hour
Where: Home, Den

7 AFFORDABLE AND CLEAN ENERGY



PLAN

This activity is about exploring different ways of making vehicles move forwards (or sideways!) without any kind of motor. There is no right or wrong answer, and no set of drawings to follow. The scouts can look up solutions online and adapt them to this project. They may choose to take an existing small toy, or make their own vehicle from scratch. They can even make a flying vehicle, which could be as simple as a paper airplane, but it needs to have something more than a person just throwing it!

Materials

If doing this in the den, you could pull together a whole range of craft materials, alongside various mechanisms for powering movement, such as balloons and elastic bands. An alternative is to allow them to bring in what they need themselves.



In a nutshell...

- Think of some ways to power a car, boat or plane with balloons, elastics or other simple mechanisms
- Fiddle around and come up with the best design - how far can it go
- Discuss alternative ways of powering vehicles in the future.

DO

In trying to make a small vehicle travel some distance, the scouts have two areas they can work on. The first is the method of propulsion. There are numerous ways of using balloons and elastic bands to store up energy and then release it to move a vehicle forward. Scouts, being an imaginative and inventive bunch, might come up with more ideas. The second is designing or modifying the vehicle itself. Making the vehicle lighter should make it easier to move, but not so light that it loses control. The fun part of this activity is getting the vehicle to go any speed in any direction; the faster the better. The learning part is to adjust the design to try to improve the speed, control and direction. If this is being done from home, the scouts could video their best test drive.



Follow-on

Scouts could refine their ideas further and have a competition to see who can propel their vehicle the furthest. This could be expanded to find the most effective design for each zone; water, land and sea.

REVIEW

Come together to discuss the results. What worked well and what was completely unsuccessful? What were the improvements which people made after their first attempts? What redesigns did people do on the vehicles themselves? Could those redesigns be applied to larger vehicles in the future? If cars were not so big and heavy, could they be powered with less energy (so long as they were still strong enough to be safe)? Finish off the discussion by chatting about the other ways of powering vehicles in the future. What do the scouts know about electric cars, or hydrogen engines? Can they see other solutions in the future which will make vehicles run without pollution (such as really big elastic bands!).



SDG 7 Affordable and Clean Energy

SDG 7 aims to substantially increase the share of renewable energy in the global energy mix. This is going to need public support and innovation and the scouts can play their part in understanding the need for this change, as well as bringing about the solutions.



Find out more!

Visit - www.betterworld.ie
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 Produced by the Scouting Ireland Sustainable Scouting Team