# ON A STEM QUEST!

QuestFriendz, the STEM educational children's book publisher, founded by Dr Thomas Bernard and Lisa Moss, are passionate advocates of sparking children's interest in STEM from a young age. In their book series, SuperQuesters, they aim to provide children with the opportunity to develop a wide range of STEM skills - coding, sequencing, pattern recognition and algorithms. To mark the launch of their latest book, The Case of the Great Energy Robbery, we are sharing some environmental themed STEM activities to try in the classroom.

#### 1. DAM DESIGN Use a large milk bottle to make a dam and experiment with water flow. Pierce 3 holes on the bottle, and cover with duct tape. Elevate the bottle and predict what will happen when you remove the duct tape. Will the water flow the same? Land in the same place? What would happen if you made a bigger hole? Find the full activity at: sciencebuddies.org



## 2. EXPLORING PAPER **AEROPLANES** Encourage children

to follow a range of different paper aeroplane designs. Test these to see which travels the furthest/highest/fastest and discuss why. Does it change if you fly on a windy day? What happens if you fly it with the wind, or against the wind? What happens if you add cargo/weight (coins). Find the full activity at: kidsactivitiesblog.com



## 3. MAKE A WEATHER **STATION** Students can make and

use their own weather station and DIY weather tools to observe and track weather changes, learn about weather patterns and forecasting, and talk about climate. The Weather Stations and Weather Forecasts: Can You Do It Yourself? lesson incorporates lessons for building simple weather monitoring instruments like an anemometer, a hygrometer, a thermometer, a rain gauge, and a barometer and provides educators with a weather forecasting activity for use with students. Find the full activity at: sciencebuddies.org

#### **4. SOLAR OVEN** This is great to demonstrate solar power and might be possible with some autumn sun. Line a box with different materials. Children can predict which will be the most effective. Line various box lids with heat-absorbent materials (including tin foil, black paper, cling film) then place towards the sun. Put the s'mores inside and watch/wait to see which melts the fastest. Find the full

#### **5. RAIN CLOUDS**

activity at: teachersareterrific.com

Put water in a plastic cup and cover with a thin layer of shaving foam. Predict what will happen when you drop the food colouring into the shaving foam, watch and observe.

Find the full activity at: laughingkidslearn.com

#### **6. DIY WATER WHEEL**

A DIY water wheel is a great STEM challenge or engineering activity. Create the structure frame using DUPLO® or you can even rest the water wheel on two stacks of books. Pour water and watch how the wheel turns. Discuss water power and their observations. What happens when pouring fast or slow? It's a great introduction to hydroelectric power, renewable energy and transfer of energy for older children or just a fun construction challenge for younger

Find the full activity at: science-sparks.com



### 7. STEM BOTTLE CARS

Build a balloon-powered car from recycled materials in this fun activity. What happens if the balloon is full, or half full? Will it change how fast the car moves? Find the full activity at: sciencebuddies.org



## **WIN A SUPERQUESTERS BUNDLE FOR YOUR**

CLASS!

Discover your inner superhero in this unique interactive adventure story with hands-on activities. designed in



line with the Key Stage 1 Computing, Maths and Science National Curriculum to help children develop their STEM skills in innovative new ways.

When Leo's mum challenges Leo, Lilli and Bea to figure out how to power a model airplane using a special biofuel that can be made from an ingredient in their own garden, the trio start investigating and return to Questland in search of a solution. Upon arrival, the is once again up to his tricks, stealing energy throughout Questland from the sun, wind, water, animals and crops, and sending it back to his secret hideout on Black Rock Island. Can you help them to stop Lord Grumble and return the stolen energy?

Children 5 to 8 years old learn about renewable energy and develop 13 different STEM skills including problem solving, coding, sequencing and algorithms as they complete each interactive quest.

We have a SuperQuesters Bundle to give away to your class, including copies of the new book, posters and bookmarks. To be in with a chance of winning, head to scotland4kids.com/competitions and answer this question:

#### WHAT ARE THE **SUPERQUESTERS NAMES?**

Friday 8 December 2023. No cash alternative.

