Magnificent Revolution
Workshops and Activities

www.magnificentrevolution.org

We understand the importance of equipping children and young people with the knowledge and skills in order to actively participate in building a sustainable world. MR has developed a series of workshops, and activities providing a space for children and young people to express themselves creatively. In MR workshops attendees learn about the issues surrounding energy production, consumption, climate change and what can be done to ensure a sustainable future.

MR's workshops are unique as they make use of our bicycle power generator, tying in many aspects of the curriculum, from science to PE, in a hands-on and participatory style.

Our inspirational and progressive team have knowledge of design, art and ecology, to create a fun learning space with good role models.

Our workshops and activities generally engage participants in:

- Conceptualisation of energy, energy awareness and appreciation.
- Learning to examine issues critically and generate solutions creatively
- Recognising the implicit connections between energy use and climate change.
- Learning about renewable energy production.
- Exploration of the history of human behavioural habits and creative visions of sustainable futures
- Building of motivation to take action and overcoming of barriers to change our personal habits

In some workshops there may be an opportunity for the school to purchase the generator that the children have built to create a lasting educational resource to teach energy transfers/ electricity generation/ renewable energy sources/ environmental topics in science, geography, citizenship and PE. Please speak to us to obtain further information if you'd like to find out more.

MR assembly

(Suitable for all key stages. Some of the KS1 children may be too small to have a go but they can watch the older children from the assembly)
Duration: 45min to 1.5h (flexible)

Our assembly activity depends upon how much time we have. Our workshops/activities are flexible and can be tailored to schools individually. The school is asked to provide certain items prior to the workshop (see general list below). The general outline of our assembly activity is as follows:

1. MR sets up a bicycle generator with 3 bicycles: 2 children's bikes (24inch wheel size minimum) and one adult bike. MR will also provides table lamps and bring along different types of light bulbs.
2. At first we do a run with regular incandescent light bulbs. We pick a random participant from the crowd to power the bulb. At first we switch on one 60W incandescent light bulb (within the capacity of one child to power). Then we switch on another light bulb, at which point there will be too much to power by a single youngster. We then we do another lucky draw for an extra peddler. Between a pair of them, they should be able to power two lights but it may take 3 lucky peddlers.
3. We repeat step two but with energy saving light bulbs to show that one child maybe be able to power up to 3 energy efficient light bulbs on his/her own in comparison with the incandescent light bulbs.
4. We then go on to try and power other appliances we find; trying to equate power consumption with the number of people pedaling.
5. We will draw up a table representing the appliances and equating them to the number of people we would need pedaling.
6. At this point we have a discussion about how appliances creating heat require a lot more peddlers e.g. kettle would need 60 people cycling.
7. Lastly, we wrap up with a good lesson in pester power. Lets get those parents understanding about what needs to be done!

School to provide:

- Table for appliances
- Teacher(s) at hand to help with powering appliances. It is good to have someone do this that the children know as it adds a real fun element to see the teacher having a go!
- Some electrical appliances. This is something that the school can discuss with MR prior to their arrival. MR can also bring items to power but we generally find that there are enough around the school. The sorts of appliances that we are talking about are lamps, fans, radios, and TVs.
- Blackboard with chalk or a flipchart with pens
- The schools will also be asked to promote the assembly and encourage children to ride their bicycles to schools and have them used in our generator.

Powerama Workshop

(Suitable for KS1 & KS2)
Duration: 90min (flexible)

PART 1 (25min). YOU TELL US!
Throughout Part 1, we will map all the children's answers.

- So, what is the big deal with climate change? Why is it a problem? Is it important to you? If yes, why? If not, why not?
- Where does energy come from (geographically)? Coal, can be mined for in the UK. Oil and gas often come from other countries such as the Middle East (oil) and Russia (gas) and it is then transported all the way to the UK to be transformed into energy in power stations.
- Why do we need to use energy? Do we ever use energy when we don't need to? E.g. leaving computer screens on when they're not in use, leaving computers on overnight, leaving lights on in empty rooms. Here we also explore the complex web of energy use; from making food and clothes to transporting ourselves around.
- Discuss the connections between energy use and climate change. Burning coal, gas and oil produces carbon emissions, which contribute to climate change.
- Where do you expect the energy hotspots to be in the school? The IT room, the kitchen, the offices?

PART 2 (25min). PEDAL FOR THE PLANET MEDAL – What Magnificent Revolution did to address the problem?

In this section we introduce bike power and invite children to power various electronic devices and appliances to conceptualise energy. The children will have a chance to learn about how much power they can produce and how much power it takes to get various appliances running. Children get to be part of the physical process of generating electricity and feel the resistance as more power hungry appliances are plugged in.

PART 3 (30min). SUPER DUPER POWER FUTURE – What could the energy world of the future look like?

After getting inspired with the bicycles, children will be split into groups to do some visioning about how we could make power in the future without harming the planet. In groups, children will create newspaper articles/diagrams from the year 2500. The work of different groups in all workshop sessions will then be collated together to create a future energy newsletter.

WRAP UP (10min)
Informal chat about what the children thought about the workshop and if they ran it for their peers what would they change, add or eliminate.

School to provide:

- Blackboard & chalk
- Scissors
- Colour pens & pencils

- Large sheets of paper
- The schools will also be asked to encourage children to ride their bicycles to school and use them with our generator.
- Some electrical appliances. This is something that the school can discuss with MR prior to their arrival. MR can also bring items to power but we generally find that there are enough items around the school. The sorts of appliances that we are talking about are lamps, fans, radios, and TVs.

Human Power Workshop

(Suitable for KS3, KS4, KS5)
Duration: 2h -3h (flexible)

The Human Power workshop can work in one of three ways:

A. Building a simple bicycle-powered generator (1.5h)
We will take the children through the individual parts of our generator system to explain how they function and then put a single bike generator together to power a selection of appliances. Throughout the process we will ask the participants to guess how much power each appliance uses and use this as a springboard discussion about our personal power consumption and climate change.

B. Exploring human behaviour (30min)
Together, we will trace the history of the tools that we all use in the home and garden and look back to what we did before the age of electrical appliances. We will discover how much power appliances require and how this equates to bicycle power; not forgetting to address the carbon footprints of productions. We will ask the kids to draw a huge diagram to represent these ideas.

AND/OR

C. Addressing our needs and wants (1h)
We will host a topical debate based on environmental issues e.g. coal or nuclear production in the UK. We will invite children to elicit their views and write a letter to EU parliament/UK government.

School to provide:

- A4 Lined paper, pens, envelopes and 2nd class small letter stamps for attendees (option C only)
- Table for appliances
- Big sheets of paper and scotch tape to make a big sheet for diagram ((option B only)
- Some electrical appliances. This is something that the school can discuss with MR prior to their arrival. MR can also bring items to power but we generally find that there are enough around the school. The sorts of appliances that we are talking about are lamps, fans, radios, and TVs.
- Blackboard with chalk or a flipchart with pens
- The schools will also be asked to encourage children to ride their bicycles to school and have them used in our generator.

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iPower Workshop

(Suitable for KS3, KS4, KS5)
Duration: 2h (flexible)

iPower workshop runs in two parts. During the first part of the workshop participants get to experience electricity production by becoming part of the physical process. Participants will then go on to explore power consumption and production. This will lead into a series of motivational sessions that will include the teachers and workshop instructors. This part serves as a reinforcement and further engagement of participants in their motivations to change.

PART 1 – Energy Exploration (1.5h)
In this part of the workshop, participants get to lean about the various parts that make up the bike power generator and how they work. With the help of our instructors, the participants will then get the chance to build a generator.

They will then go on to power various appliances from around their school and discuss power consumption in terms of human power. The experience of the pedal power generator and its function are then tied into exploration and discussion about other renewable and non-renewable power sources and production.

PART 2 – Our motivation to change (30min)
The second part of our iPower workshop centres attention on the children and young people's own views. The instructors only ask questions. A comfortable space is provided to allow participants to express their motivations for change, and the concerns and circumstances that may affect their ability to lead a low impact life.

Children and young people are led to a better understanding of what motivates them to change or what may be the barriers they will have to overcome to take action. Through these discussions, workshop leaders can assess the readiness for children to change their behaviour and offer hints, tips and appropriate websites, organisations and publications to take action on the issues of sustainability.

School to provide:

- Blackboard & chalk
- Table for appliances
- The schools will also be asked to encourage children to ride their bicycles to schools and use them with our generator.
- Some electrical appliances. This is something that the school can discuss with MR prior to their arrival. MR can also bring items to power but we generally find that there are enough items around the school. The sorts of appliances that we are talking about are lamps, fans, radios, and TVs.

Hopefully, see you at your school!

To find out more:
email: info@magnificentrevolution.org
tel: Barbora on 07843023538 or adam on 07736327958
write to us at: Magnificent Revolution, 15 Lister house, Lomas Street,
London, E1 5BG