

Making a
World of
Difference

Dear Headteacher,

An open invitation to a renewable energy teaching resource for KS1 and KS2

Mitsubishi Electric has a strong sense of our corporate social responsibility and, since autumn 2011, we have therefore been making our National Renewable Training Centres available to schools to help increase awareness of renewable energies and widen pupils' understanding of how these technologies work.

"The Learning Curve" has been designed to fit seamlessly into the existing curriculum, with carefully defined learning objectives, for both Key Stage 1 and Key Stage 2 pupils. Over 2,500 pupils have already taken part in the three hour sessions, making use of our interactive, purpose-built classrooms and the live renewable technology in our showrooms and grounds. The programme allows the pupils to look at energy use as a whole whilst focusing on solar energy, heat pump technology utilising air and ground source energy and the themes of "reduce, reuse and recycle".

I would like to invite you to consider whether your school could make use of this opportunity. Please be assured that these **free sessions** are designed specifically to educate and will not in any way be used to promote or sell products.

A workbook is provided for each child containing information on the topics covered and includes space to record findings from experiments and offer tips for the reduction of energy consumption at home.

Whilst the experience of an off-site visit is a valuable one, I appreciate this is not always possible, and therefore we can offer support for this topic to be taught within your school environment. We can supply lesson plans and the loan of the required equipment.

The enclosed pack contains the programme, learning objectives and further information that you might find useful to make a decision. If you would like to book a visit or have any questions, please contact us on 01707 288795 or by email at thelearningcurve@meuk.mee.com.

Yours faithfully

Jenny Maskrey
Learning Curve



Air Conditioning | Heating
Ventilation | Controls



UNITED KINGDOM Mitsubishi Electric Europe
Living Environmental Systems Division
Travellers Lane, Hatfield, Hertfordshire, AL10 8XB, England

OVERALL LEARNING OBJECTIVE:

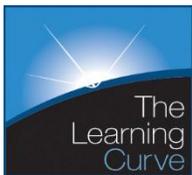
To give the children an understanding of renewable energy sources.

We envisage that:

ALL children will go away with an understanding of what renewable energy is

MOST children will be able to share what they have learnt with others

SOME children will be able to explain how the renewable energy technology works

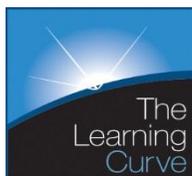


First Steps - Links to the National Curriculum

The First Steps Programme will endeavour to cover these areas of the National Curriculum:

KS = Keystage

	Citizenship	Geography	Science	English	Maths
Speaking and Listening: Group discussion and interaction	KS1& KS2			KS1& KS2	
"express views about people, place and environments (for example about litter in the school)"	KS1& KS2	KS1& KS2			
"recognise changes in the environment"	KS1& KS2	KS1& KS2			
"recognise how the environment may be improved and sustained"	KS1& KS2	KS1& KS2			
"care for the environment"	KS1& KS2		KS1& KS2		
"Breadth of opportunity: (pupils should be given the opportunity to)"meet and talk with people" and "consider social and moral dilemmas of everyday life...simple environmental issues"	KS1& KS2				
"make observations about other features in the environment (for example seasonal changes in the weather)"		KS1			
"recognise changes in the environment"		KS1			
"recognise how the environment may be improved and sustained"		KS1			
"pupils should carryout fieldwork investigations outside the classroom"		KS1			
"recognise how people can improve the environment or damage it and how decisions about places and environments affect the future quality of people's lives"		KS2			
"recognise how and why people may seek to manage environments sustainability, and to identify opportunities for their own involvement"		KS2			



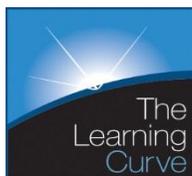
Continued over...



KS = Keystage

	Citizenship	Geography	Science	English	Maths
"pupils should be taught about everyday appliances that use electricity"			KS1		
"pupils should be taught to identify different light sources, including the sun"			KS1		
"pupils should be taught that burning materials results in the formation of new materials and that this change is not usually reversible"			KS2		
"pupils should be taught that light travels from a source"			KS2		
"present results in an organised way"					KS1
"solve a relevant problem by using simple lists, tables and charts to sort, classify and organise information"					KS1
"discuss what they have done and explain their results"					KS1
"organise work and refine ways of recording"					KS2

As per English National Curriculum July 2011



PROGRAMME *(Approximately 3 hours)*

Introduction to Renewable Energy

- What is renewable energy?
- Energy in the home
- Lean, Mean, Green - the stages of reducing energy consumption in the home

Snack Time

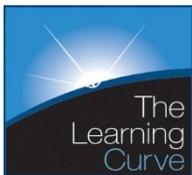
- Recycle food waste at the wormery

Small groups (each group to move round to each activity)

- Solar Energy - discussion, look at display, solar panel experiment
- Ground & Air Source - discussion, changing state experiment
- Reduce, Reuse, Recycle - discussion, reduce experiment

Group Discussion & Close

- What have we learnt?
- Homework & Competition



Group Work Detail

Small groups (each group to move round to each 20 minute session)

Solar Energy

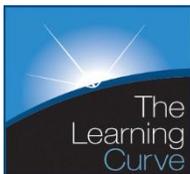
- Discussion: What is solar energy?
- Activity: Make a circuit using a solar panel, can you make the buzzer sound?
- Record: Draw the circuit

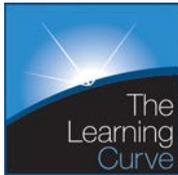
Ground & Air Source

- Discussion: How does the heat pump work?
- Activity: Experiment to understand how things change state
- Record: Log results in a table and draw graph

Reduce, Reuse, Recycle

- Discussion: What do we understand by reduce, reuse, recycle?
- Activity: Experiment to understand water savings from turning off a tap
- Record: Complete booklet activities





Visit Agreement

Learning Curve – First Steps

Mitsubishi Electric Living Environmental Systems Division is committed to supporting our local community. We take our corporate responsibility seriously and as such request that the two parties involved in the Learning Curve – First Steps programme, namely Mitsubishi Electric (MEU) and the visiting school/organisation agree to these few terms:

Mitsubishi Electric Living Environmental Systems Division agrees to:

- Provide a safe classroom environment at its training facilities
- Carry out a risk assessment prior to the visit and provide a copy to the school
- Provide support to the qualified first-aider supplied by the school, if required
- Brief school visitors on fire evacuation procedures on arrival
- Provide a snack of fruit and squash for the children

The School / Group agrees to:

- Visit the premises prior to the event to carry out an independent risk assessment
- Be responsible for transporting pupils to and from the Mitsubishi Electric office
- Ensure children are accompanied by correct ratio of adults to children.
- Provide a qualified child first aider for the visit
- Have a list of attendees (including staff) for fire evacuation purposes and be able to provide exact number of attendees to MEU upon arrival
- Ensure a member of staff is present with the children at all times
- Advise of any medical conditions or special needs that MEU should be aware of prior to the visit
- Advise of any allergies with regards to snack prior to the event
- Obtain photographic permission from parents, or inform MEU of any required exclusions
- Ensure a member of staff accompanies any child wishing to use the toilet facilities

School Representative

Signed:

Name:

Position:

School:

Date:

Mitsubishi Electric Europe Representative

Signed:

Name:

Position:

Date:



Risk Assessment to be carried out in accordance with Regulation 3 of the Health and Safety at Work Regulations 1999.

Areas / processes / activities assessed: Schools visits to MEU

GENERAL:

Date: Oct 2018	Assessed by: MEU Facilities Manager	Location: Mitsubishi Electric Offices	Assessment No: 0009a
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Summary of area:

The Living Environmental Systems Division holds seminars for schools at office premises. They are attended by children or young persons and they will be supervised by teachers.

Accident history (including near misses):

N/A

Staff, visitors:

MEU employees, teachers, teaching support staff, children

Assessor checklist:

Asbestos, chemicals, dangerous substances, DSE, Electricity, fire and explosion, first aid, electrical equipment and/or machinery, manual handling, PPE, slips/trips/falls, stress, COSHH, PUWER, WRULDs, working alone, working environment

RISK ASSESSMENT FORM

Areas / processes / activities assessed: Schools visits to MEU

Hazards (what has the potential to cause harm?)	Numbers / who is affected?	Record the preventative and protective measures already in place	S	L	R	What further action, if any, needs to be taken to reduce risk sufficiently?	To be actioned by: (by whom / by when)	Review date for corrective actions:	To be reviewed by:
(1) COMMUNICATION	ALL	EVERY VISIT TO BE ARRANGED VIA SCHOOL AND TO SATISFY THEIR SAFETY REQUIREMENTS	3	2	6	<p>CHILDREN AND TEACHERS TO BE ESCORTED TO CLASSROOM AND GIVEN SHORT SAFETY INDUCTION AT THE START. TO INCLUDE:</p> <ul style="list-style-type: none"> • FIRE ALARM SOUNDING • DON'T TOUCH WITHOUT ASKING, ESPECIALLY ANY ELECTRICS • FOOD ALLERGIES (nb BISCUITS, CAKES) • PROCEDURE IF FEELING UNWELL • NO RUNNING ON SITE <p>IF GIFT PACK IS TO BE SUPPLIED, ENSURE THAT CONTENTS AND BAGS ARE SAFE FOR CHILDREN</p> <p>SCHOOL TO OBTAIN PHOTOGRAPHIC PERMISSION FROM PARENTS FOR THE EVENT</p>	ONGOING		
(2) SUPERVISION	MEU & CHILDREN	<p>TEACHERS TO ESCORT CHILDREN AT ALL TIMES AND THEREFORE AVOID CRB CHECKS FOR MEU EMPLOYEES</p> <p>ADULTS IN THE WORKPLACE.</p> <p>TRAINED MANAGERS AND SUPERVISORS ON SITE</p>	3	2	6	<p>SAFETY OF CHILDREN CANNOT BE DISCHARGED SOLELY TO THE TEACHERS. EMPLOYEES INVOLVED IN THE EVENT WILL BE CONSIDERED AS "MEU SUPERVISORS" HEREAFTER</p> <p>THIS RISK ASSESSMENT TO BE COMMUNICATED TO EVERY MEU EMPLOYEE INVOLVED IN THE EVENTS</p> <p>IMPORTANT: MEU EMPLOYEES MUST NOT BE LEFT ALONE WITH A CHILD. TO BE ACOMPANIED BY ANOTHER ADULT AT ALL TIMES</p>	ONGOING		

RISK ASSESSMENT FORM

Areas / processes / activities assessed: Schools visits to MEU

Hazards (what has the potential to cause harm?)	Numbers / who is affected?	Record the preventative and protective measures already in place	S	L	R	What further action, if any, needs to be taken to reduce risk sufficiently?	To be actioned by: (by whom / by when)	Review date for corrective actions:	To be reviewed by:
(3) MANUAL HANDLING	CHILDREN	MOST MEU EMPLOYEES HAVE BEEN TRAINED FOR MANUAL HANDLING TASKS	3	2	6	CHILDREN MUST NOT LIFT ANYTHING HEAVY	ONGOING		
(4) AGGRESSION	MEU, TEACHERS, CHILDREN, VISITORS, CUSTOMERS	TEACHERS ABLE TO MANAGE AN INCIDENT BETWEEN CHILDREN MEU SUPERVISORS CAN RESPOND TO ANY INCIDENT INVOLVING EMPLOYEES, VISITORS, COURIERS, CUSTOMERS	2	1	2	CHILD WILL NOT BE LEFT ALONE WITH EMPLOYEES, MEMBERS OF THE PUBLIC OR VISITING CUSTOMERS IN EVENT OF AN INCIDENT NOT DIRECTLY INVOLVING THE CHILDREN, ALL CHILDREN TO BE REMOVED FROM THE SCENE IMMEDIATELY	ONGOING ONGOING		
(5) ELECTRICAL SAFETY			5	2	10	DOORS TO DEMO AREAS TO BE LOCKED PRIOR TO CHILDREN'S ARRIVAL AND ONLY UNLOCKED ONCE THEY LEAVE SITE ALL EQUIPMENT PANELS MUST BE ATTACHED SECURELY THROUGH ENTIRE DEMO SUITE. THIS INCLUDES AREAS NOT WITHIN THE SCOPE OF THE EVENT IN CASE A CHILD WANDERS IN THERE MEU SUPERVISORS NOT TO OPEN A LIVE PIECE OF EQUIPMENT OR ADOPT BAD PRACTICES DURING DEMONSTRATION AS IT MAY ENCOURAGE CHILDREN TO DO THE SAME ELSEWHERE.	LES TEAM LES ONGOING		

RISK ASSESSMENT FORM

Areas / processes / activities assessed: Schools visits to MEU

Hazards (what has the potential to cause harm?)	Numbers / who is affected?	Record the preventative and protective measures already in place	S	L	R	What further action, if any, needs to be taken to reduce risk sufficiently?	To be actioned by: (by whom / by when)	Review date for corrective actions:	To be reviewed by:
(6) SLIPS, TRIPS AND FALLS GENERAL ACCIDENTS	CHILD	TIDY ENVIRONMENT REVIEWED SHARP CORNERS IN DEMO AREAS	2	2	4	<p>RAISED PLINTHS IN DEMO AREAS MAY NOT BE VISIBLE IF ROOM IS CROWDED</p> <p>LES TO KEEP CHILDREN AWAY FROM ANY AREAS THAT COULD PRESENT A RISK OF HEAD INJURIES FROM PROTRUDING COMPONENTS SUCH AS DEMO RIGS ETC</p> <p>SUPERVISOR TO ADVISE CHILD THAT NO RUNNING IS PERMITTED ON THE PREMISES</p> <p>MEU EMPLOYEES TO RECOGNISE THAT A YOUNG PERSON'S HAZARD AWARENESS IS UNDER DEVELOPED AND MUST THEREFORE TAKE EXTRA CARE TO SUPERVISE AT ALL TIMES.</p>	ONGOING ONGOING ONGOING ONGOING		
(7) ACCIDENT REPORTING	CHILD	SCHOOLS REQUIRED TO PROVIDE FIRST AID TRAINED TEACHER FOR EVERY VISIT TRAINED FIRST AIDERS ON SITE. LIST DISPLAYED ON COMPANY NOTICE BOARDS ACCIDENT REPORTING PROCEDURE IN PLACE	2	2	4	<p>CHILD TO BE GIVEN GUIDANCE ABOUT REPORTING AN ACCIDENT TO THEIR TEACHER.</p> <p>TEACHERS TO BE ADVISED ABOUT FIRST AIDER SUPPORT IF REQUIRED</p> <p>IMPORTANT MEU FIRST AIDERS MAY BE ASKED TO SUPPPORT THE TEACHER. IF SO, THEY MUST NOT ATTEND TO A CHILD ALONE. TO BE ACOMPANIED BY ANOTHER ADULT AT ALL TIMES</p>	ONGOING ONGOING ONGOING		

Key: S = Severity, L = Likelihood, R = Residual risk rating

RISK ASSESSMENT FORM

Areas / processes / activities assessed: Schools visits to MEU

Hazards (what has the potential to cause harm?)	Numbers / who is affected?	Record the preventative and protective measures already in place	S	L	R	What further action, if any, needs to be taken to reduce risk sufficiently?	To be actioned by: (by whom / by when)	Review date for corrective actions:	To be reviewed by:
(8) WELFARE FACILITIES	CHILD	<p>TRAINED FIRST AIDERS ON SITE</p> <p>FIRST AID ROOM ON SITE IF CHILD OR TEACHER FEELS UNWELL</p> <p>ONLY COLD DRINKS TO BE PROVIDED</p> <p>CHILDREN WILL NOT BE PERMITTED TO ENTER KITCHENS TO GET HOT DRINKS</p>	3	2	6	<p>CHILDREN TO BE MADE AWARE OF THE RISKS ASSOCIATED WITH CARRYING DRINKS AROUND THE WORK ENVIRONMENT AND DOWN STAIRS ETC. NB MUST BE AVOIDED</p> <p>IMPORTANT: FIRST AIDERS MUST NOT ATTEND TO A CHILD ALONE. TO BE ACCOMPANIED BY ANOTHER ADULT AT ALL TIMES</p> <p>CHILDREN TO BE ESCORTED TO TOILETS BY SCHOOL STAFF</p>	<p>ONGOING</p> <p>ONGOING</p> <p>ONGOING</p>		
(9) FIRE	CHILD	<p>FIRE ALARM TESTED EVERY WEEK AT A SPECIFIED TIME</p> <p>MEU SUPERVISORS ARE FAMILIAR WITH EVACUATION PROCEDURE</p> <p>TRAINED FIRE MARSHALLS IN ALL AREAS</p> <p>FIRE FIGHTING EQUIPMENT AVAILABLE AND MAINTAINED FIRE EVACUATION ROUTES ALWAYS MAINTAINED</p> <p>OFFICES ARE NON-SMOKING BUILDINGS IN COMPLIANCE WITH THE HEALTH ACT</p>	5	1	5	<p>TEACHERS AND CHILDREN TO BE ADVISED OF FIRE EVACUATION PROCEDURE UPON ARRIVAL TO SITE. TO INCLUDE IDENTIFICATION OF FIRE ASSEMBLY POINT AND VARIOUS ROUTES TO EXIT THE BUILDING</p> <p>SUPERVISORS TO BE AWARE OF CHILDRENS INEXPERIENCE AND POSSIBLE PANIC IN THIS SITUATION.</p> <p>CHILDREN NOT TO BE LEFT UNSUPERVISED AT ANY TIME</p> <p>DURING AN EVACUATION, CHILDREN AND TEACHERS TO BE MANAGED BY MEU SUPERVISORS WITH PARTICULAR REGARD TO SAFETY WHILST STANDING IN THE CAR PARK AREA</p>	<p>START OF EVERY EVENT</p> <p>ONGOING</p> <p>ONGOING</p> <p>ONGOING</p>		

RISK ASSESSMENT FORM

Areas / processes / activities assessed: **Schools visits to MEU**

Hazards (what has the potential to cause harm?)	Numbers / who is affected?	Record the preventative and protective measures already in place	S	L	R	What further action, if any, needs to be taken to reduce risk sufficiently?	To be actioned by: (by whom / by when)	Review date for corrective actions:	To be reviewed by:
(10) DEMONSTRATION AREAS (EXTERNAL)	CHILD	<p>IN SOME LOCATIONS A WORMERY IS PRESENTED BY MEU SUPERVISORS.</p> <p>CHILDREN NOT PERMITTED TO TOUCH THE WORMS OR CONTENTS OF THE WORMERY.</p> <p>DESPITE PREVIOUS REQUESTS FROM CHILDREN, WORMS ARE NOT FOR SALE - EVEN FOR £1!</p> <p>FOOD SCRAPS PUT INTO CONTAINER AND PLACED INTO WORMERY BY MEU SUPERVISOR</p>	2	1	2	NONE			
(11) WORKSHOPS / DEMO AREAS	CHILD	<p>WORKSHOP POWER ISOLATED WHEN NOT MANNED</p> <p>HEATING DEMO ROOM DESIGNED TO PROVIDE LOW RISK</p> <p>COMMERCIAL HEATING DEMO IS HIGHER RISK AREA BUT POWER CAN BE ISOLATED</p>	5	2	10	<p>CHILD NOT TO BE PERMITTED TO ENTER ANY WORKSHOP ENVIRONMENT</p> <p>CHILD NOT TO BE LEFT UNSUPERVISED AT ANY TIME</p> <p>SUPERVISOR TO RECOGNISE THAT A YOUNG PERSON'S HAZARD AWARENESS IS UNDER DEVELOPED AND MUST THEREFORE TAKE EXTRA CARE TO SUPERVISE AT ALL TIMES</p>	<p>ONGOING</p> <p>ONGOING</p> <p>ONGOING</p>		

Key: S = Severity, L = Likelihood, R = Residual risk rating

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Areas / processes / activities assessed: Schools visits to MEU

Hazards (what has the potential to cause harm?)	Numbers / who is affected?	Record the preventative and protective measures already in place	S	L	R	What further action, if any, needs to be taken to reduce risk sufficiently?	To be actioned by: (by whom / by when)	Review date for corrective actions:	To be reviewed by:
(12) USE OF EQUIPMENT	CHILD	NICEIC TESTING CONDUCTED THROUGHOUT TRAINING SUITE PAT TESTING CARRIED OUT ON OFFICE EQUIPMENT REGULARLY	1	2	2	CHILDREN MUST NOT USE EQUIPMENT DEMONSTRATION OF HOT WATER SYSTEM SHOULD BE CARRIED OUT BY THE MEU SUPERVISORS. RISK OF SCALDING	ONGOING ONGOING		
(13) CAR PARK	CHILD	SPEED LIMIT ON SITE	3	2	6	MEU SUPERVISORS TO RECOGNISE THAT CHILDREN'S HAZARD AWARENESS IS UNDER DEVELOPED AND MUST THEREFORE TAKE EXTRA CARE TO SUPERVISE AT ALL TIMES	ONGOING		