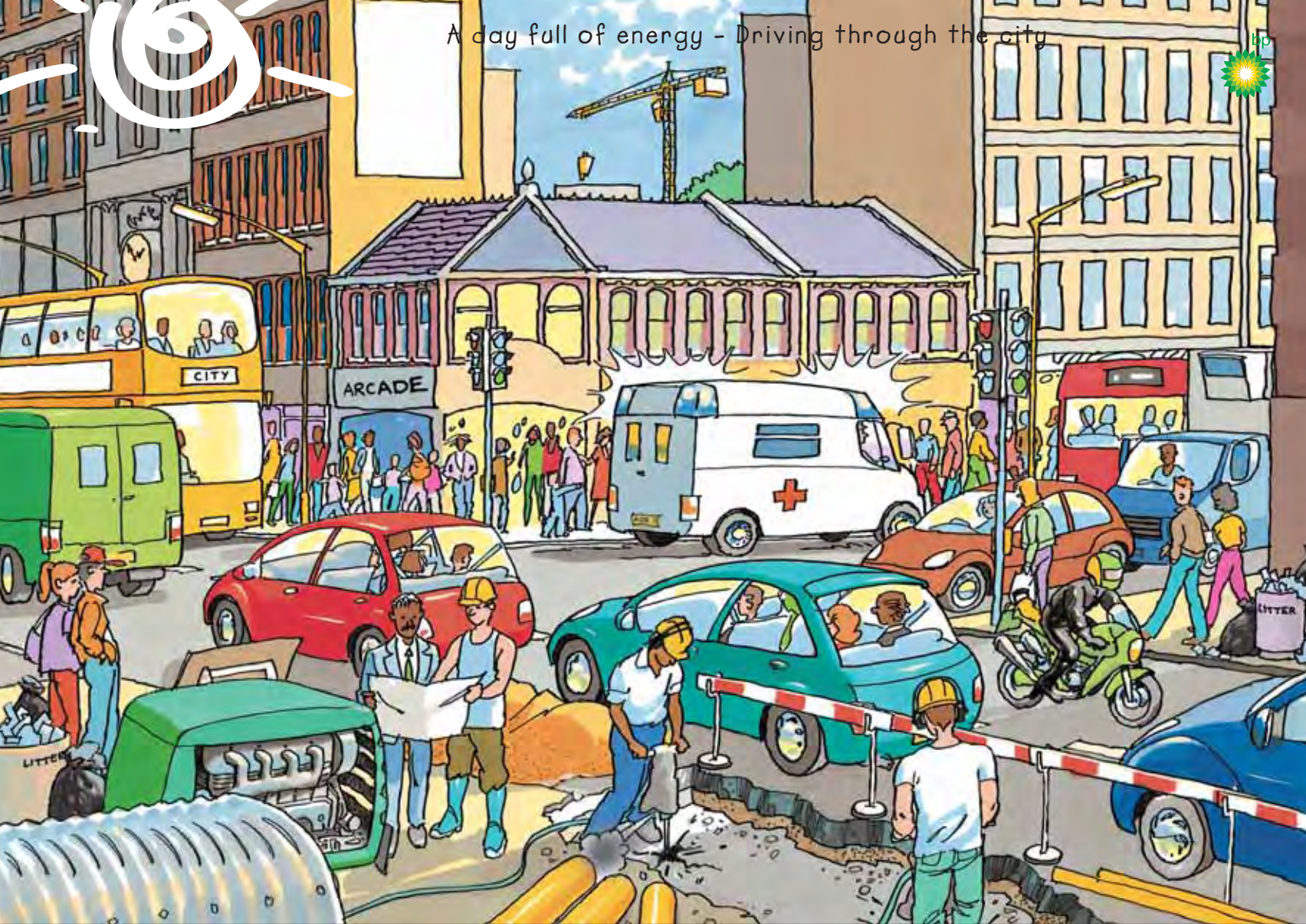




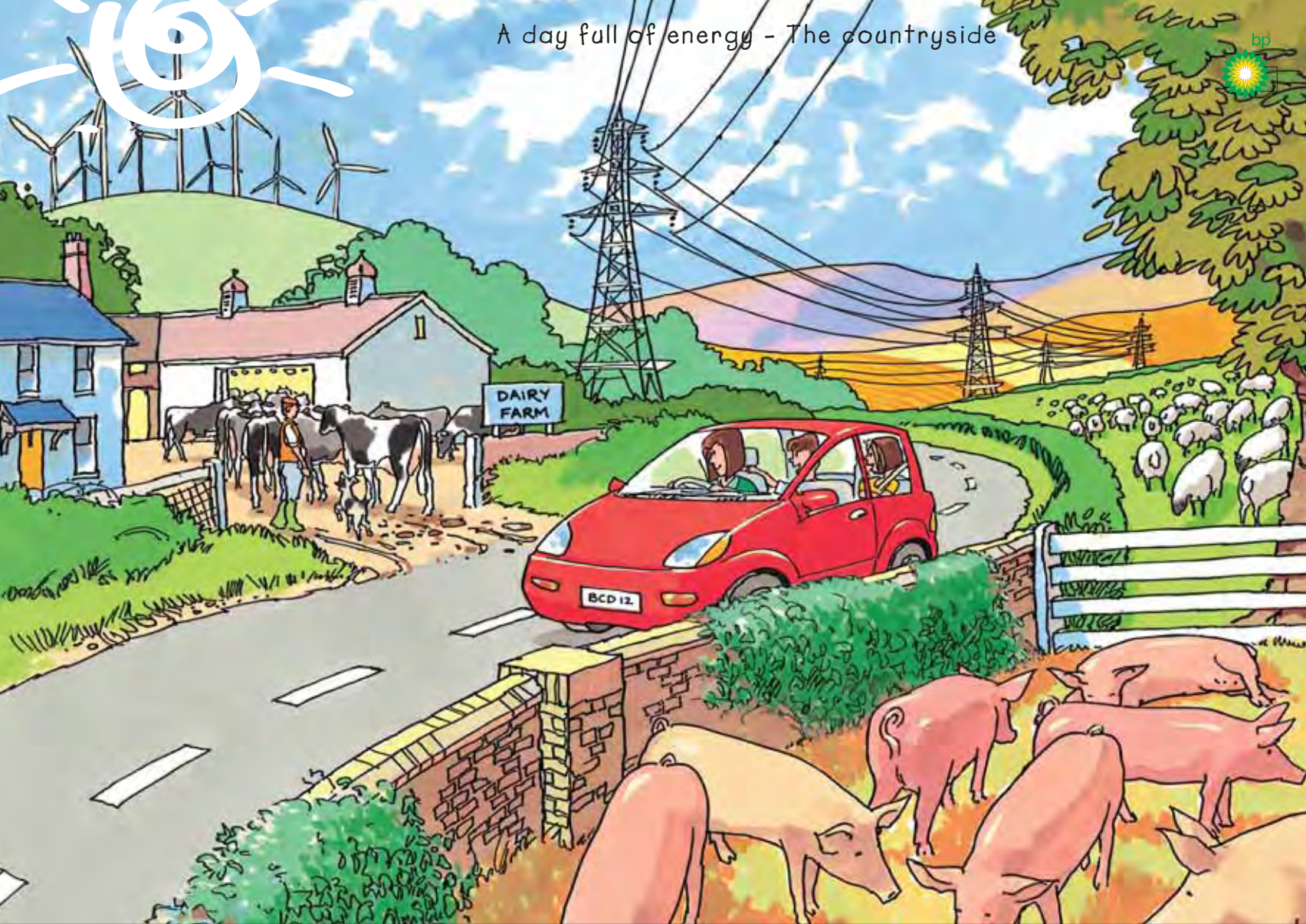
banana	beans	bread	cake	carrot	celery	cereal	cheese
clean	clock	clothes	cooker	crisps	cupboard	dairy product	ear
egg	eyes	fish	fridge	fruit	frying pan	gas	hand
healthy	kettle	meat	milk	nose	orange	pink	purple
sandwich	sizzle	skin	telephone	toaster	tongue	vegetable	yellow



adult	attendant	bag	ball	book	bottle	bubble bath	car
child	cotton	doll	food	forecourt	glass	juice	label
magazine	material	metal	milk	money	oil	paper	petrol
petrol pump	plastic	roof	shampoo	shelf	shirt	shorts	solar panels
stand	sweets	teddy	tie	till	toy car	toy train	toys



ambulance	building	bus	busy	car	city	concrete	crane
crowd	dangerous	drill	driver	energy	exhaust	fumes	generator
horns	indicator	lamppost	litter	lorry	machine	motorcycle	noise
passenger	pavement	pedestrian	people	pollution	road	roadworks	rubbish
safe	siren	sound	traffic	traffic light	van	vehicle	waste



barn	building	bush	car	corn	countryside	cow	crop
dairy	dangerous	dog	electricity	electricity pylon	farm	farmer	field
food	fuel	gate	grass	habitat	hedgerow	herd	hill
house	leaves	meat	milk	pig	protection	road	safe
sheep	shelter	tree	vegetable	verge	wall	wheat	wind turbine

A day full of energy - Picnic by the pond



bee	bench	bird	bullrush	bush	butterfly	car	car park
clean	code	country	countryside	creature	dragonfly	duck	fish
flower	frog	geese	grass	green	group	habitat	insect
leaves	light	litter	path	picnic	plant	pond	protect
root	rubbish	safe	spoil	swan	tree	water	wildlife

A day full of energy - At last the seaside!



ball	beach	boot	bottle	build	bury	catch	crab
damp	dig	float	high	jump	material	metal	natural
ocean	paddle	plastic	polystyrene	recycling	re-use	rock	rubbish
run	safety	sand	sandcastle	sea	seaweed	shadow	shine
shore	sink	sponge	sun	water	wave	wet	wood

A day full of energy - One more treat



adult	balloon	big wheel	bottom	children	down	electricity	environment
fairground	family	force	friction	fun fair	heat	helter-skelter	high
hot	ice cream	laugh	light	low	melt	merry-go-round	movement
music	people	pull	push	ride	rough	roundabout	slide
slippery	smooth	sound	start	stop	turn	twist	up



careful	car	dangerous	dark	day	driver	electricity	energy
eyes	factory	fast	headlight	lamppost	light	light beam	moon
movement	night	office	passenger	reflected	road	safe	safety belt
senses	shadow	shop	sleep	slow	solar system	star	street
sun	supermarket	tower block	traffic light	train	wheel	window	world



A day full of energy posters

teacher's notes



Energy

Energy as a concept is not easy; scientists believe that the amount of energy in the universe is constant, not used up but just converted from one form to another. Stimulating young children to understand the value of energy is vital.

Following requests from teachers using our popular 'A day full of energy' resource, we have now developed this set of 8 posters as large visual teaching aids, to further complement the existing resource or as a stand-alone discussion resource.

These posters take a look at a family's day – a day full of energy. Their day is divided into the 8 posters, each showing different environments and activities that the family are involved in, highlighting all the different forms of energy they encounter – from the energy inside them, to that found and used around them. We need to emphasise how important energy is to everyone's lives, so we should not waste it.

ENERGY IS OUR LIFE – LET'S LEARN TO USE IT WISELY!

Each picture poster has its own set of linked words on the flap beneath which can be photocopied for individual use or utilised as part of the wall displays. Should you wish to use a magnetic board as backing for the posters, each word can be cut out and backed with self-adhesive magnetic strips, for children to place the words strategically on the poster itself.

The whole range of 'A day full of energy' resources have been specifically designed to link science through literacy, and to that end we have given suggestions for both science and literacy teaching ideas and discussions.

For further information on 'A day full of energy' or other resources please contact:

BP Educational Service, PO Box 635, Harrow HA1 2GU
Tel: 0870 333 0428 Fax: 0870 333 0131 Email: bpes@bp.com

Alternatively, visit our web site at www.bpes.com

The posters

Poster 1: Wake up sleepy head – shows the family getting ready for their day out: the children have washed and dressed; mum is preparing a tasty breakfast. In the background is all the food for their picnic.

Science topics that can be included in discussion:

Five senses/our bodies/electricity (appliances)/ healthy eating/balanced diet/hygiene.

Poster 2: In the car – shows mum, having filled the car with petrol ready for their journey, is now paying at the counter, whilst the children are looking at all the different items on the shelves in the forecourt shop.

Science topics that can be included in discussion:

Fossil fuels/petrol, oil/energy from the sun/ materials and properties.

Poster 3: Driving through the city – shows the family driving in their car through the busy streets of a city, full of hustle, bustle, noise and litter; the roads full of traffic, the pavement full of people.

Science topics that can be included in discussion:

Sound/movement/recycling and caring for the environment.

Poster 4: Driving through the countryside – shows the family's car on winding country roads; passing farms, fields and animals grazing. We also see wind turbines on a hill and electricity pylons stretching across the fields into the distance.

Science topics that can be included in discussion:

Animal and plant life/ food production/ life cycles/ electricity/ renewable, non-renewable energy.

Poster 5: Picnic by the pond – shows our family having pulled into a special picnic area. They've parked their car safely in a car park and are now eating their picnic lunch by a pond brimming with wildlife – plant life, birds, insects and fish.

Science topics that can be included in discussion:

Wildlife and habitats/preserving and protecting environment, what happens if we don't care.

Poster 6: At the seaside – shows the family having arrived at the seaside. There are various people on the beach, but the two children are showing their mother all the plant life and creatures in a rock pool. Unfortunately it also contains an array of rubbish.

Science topics that can be included in discussion:

Wet and dry/floating and sinking/recycling/ environment and habitat/sunlight and shadow.

Poster 7: At the funfair – shows the family have now moved on to the funfair, full of excited children and parents, all enjoying a variety of rides and 'goodies'.

Science topics that can be included in discussion:

Movement/energy/electricity/forces/pushes/pulls/frictions/heat/melting.

Poster 8: The journey home – shows it's evening now and the family are on their way home, driving through streets illuminated by the lights from passing traffic, street lights, factories, offices and shops.

Science topics that can be included in discussion:

Earth and sun movements/different light sources/electricity circuits/reflective, non-reflective material.

Poster 1: Wake up sleepy head

Prompts for science and literacy

1. Can you name the food groups that make up a healthy balanced diet?
2. Name three electrical items you can see in the poster.
3. What sort of power is the cooker using?
4. Can you say why it is important to wash hands before eating or preparing food? How does brushing teeth after eating help keep teeth and gums strong and healthy?
5. What do we use for hearing, for seeing, for touching, for smelling and for tasting?
6. Write about breakfast time in your house.
7. Talk about all the types of food you like for breakfast, lunch, dinner, treats; do they differ at different times of the day?
8. Can you name all the colours you can see in this picture?
9. Play rhyming games: match sound words like 'sizzle' or 'tick tock' or 'ring', with other rhyming words.
10. Working in pairs try and list all the electrical items in each room of a house.

Useful words

banana	beans	bread	cake	carrot
celery	cereal	cheese	clean	clock
clothes	cooker	crisps	cupboard	dairy product
ear	egg	eyes	fish	fridge
fruit	frying pan	gas	hand	healthy
kettle	meat	milk	nose	orange
pink	purple	sandwich	sizzle	skin
telephone	toaster	tongue	vegetable	yellow

Poster 2: Into the car

Prompts for science and literacy

1. Name two things in the picture made of plastic.
2. Name two things in the picture made of metal.
3. Name two things in the picture made of cotton.
4. Name two things in the picture made of paper.
5. What collects energy from the sun and changes it into electricity?
6. Write a description of one of the items for sale in the forecourt shop.
7. Talk about what your parents do when they stop at a garage to fill the car with petrol.
8. Discuss some of the reasons why you have to be careful at a garage and mention some of the things you shouldn't do.
9. Make lists of all the words you can to rhyme with the word car.
10. Play memory games: look at the picture, close your eyes and describe as many things as possible in the picture.

Useful words

adult	attendant	bag	ball	book
bottle	bubble bath	car	child	cotton
doll	food	forecourt	glass	juice
label	magazine	material	metal	milk
money	oil	paper	petrol	petrol pump
plastic	roof	shampoo	shelf	shirt
shorts	solar panels	stand	sweets	teddy
tie	till	toy car	toy train	toys

Poster 3: Driving through the city

Prompts for science and literacy

1. Name three things using energy - for movement.
2. Name three things using energy - for light.
3. What are the waste fumes given off by cars called?
4. Name three things that can pollute our cities.
5. Name three things that make a loud noise in this picture.
6. Write a story about a busy, noisy city centre.
7. Talk about the different types of sounds that could be heard in a busy city centre - include types of traffic, machinery and people.
8. Discuss with each other why cities could be called a concrete jungle.
9. Make a list of 'oo' or 'ee' words.
10. Sing the song 'Wheels on the Bus'. Make up verses for different vehicles and different parts of them, or for passengers.

Useful words

ambulance	building	bus	busy	car
city	concrete	crane	crowd	dangerous
drill	driver	energy	exhaust	fumes
generator	horns	indicator	lamppost	litter
lorry	machine	motorcycle	noise	passenger
pavement	pedestrian	people	pollution	road
roadworks	rubbish	safe	siren	sound
traffic	traffic light	van	vehicle	waste

Poster 4: The countryside

Prompts for science and literacy

1. In the picture, what collects energy from the wind and changes it into electricity?
2. What holds up the cables and wires, carrying electricity around the country?
3. Can you name three uses we have for trees?
4. What three farm animals can you see in the picture?
5. Name five food products we get from farms.
6. Write a description of a car journey through the countryside.
7. Talk about the busy lives of farmers and how their days are filled with looking after the animals and crops.
8. Discuss all the uses that wind has, including windmills, wind turbines, sailing, drying washing, etc.
9. Make a list of all the different animals (wild and farm) that can be found in the countryside.
10. Play sound games trying to mimic/guess all the types of sounds you would hear in the countryside from the weather, the trees, the birds, the animals etc.

Useful words

barn	building	bush	car	corn
countryside	cow	crop	dairy	dangerous
dog	electricity	electricity pylon	farm	farmer
field	food	fuel	gate	grass
habitat	hedgerow	herd	hill	house
leaves	meat	milk	pig	protection
road	safe	sheep	shelter	tree
vegetable	verge	wall	wheat	wind turbine

Poster 5: Picnic by the pond

Prompts for science and literacy

1. Look at the poster. Can you name three insects in the picture?
2. Name two birds in the picture.
3. Name two things that plants need to be able to grow.
4. Do you know what the word is to describe where plants or animals live?
5. What are the litterbins in the picture for? What would happen if they weren't there?
6. Write a story about the importance of following the country code.
7. Talk about how our roadways make it easier to drive into different parts of the country and how picnic areas allow us to experience the countryside, keeping it protected.
8. Discuss how important it is that wildlife habitats are protected and what happens if they are damaged (liken it to their own homes).
9. Make lists of all the different types of winged creatures that can be found in the country.
10. Play an 'I Spy' game with the picture, going through each letter of the alphabet – what letters can't be used?

Useful words

bee	bench	bird	bullrush	bush
butterfly	car	car park	clean	code
country	countryside	creature	dragonfly	duck
fish	flower	frog	geese	grass
green	group	habitat	insect	leaves
light	litter	path	picnic	plant
pond	protect	root	rubbish	safe
spoil	swan	tree	water	wildlife

Poster 6: At last the seaside!

Prompts for science and literacy

1. Name three materials that float in water.
2. What material is the baked beans tin made of and what material is the bottle made of?
3. What is formed in the picture by the deckchair when the sunlight cannot pass through it?
4. Talk about why it is harder to walk on sand than on a pavement.
5. What is the name used for how things can be used again?
6. Write about all the energetic things you can do and play at the seaside.
7. Talk about summer holidays in general and how people like to be out in the sunshine (also discuss sun safety and wearing sun cream).
8. Discuss how important it is to throw rubbish away safely and the dangers it can pose to wildlife and people, if just left lying around.
9. List all the things you might find at the seaside – natural and man-made.
10. Play a game,- adding items in turn, e.g. "I looked into the rock pool and what did I see - a ball," next person says "I looked into ... and saw a ball and a crab..." It continues until someone can't remember the list or add a new thing.

Useful words

ball	beach	boot	bottle	build
bury	catch	crab	damp	dig
float	high	jump	material	metal
natural	ocean	paddle	plastic	polystyrene
recycling	re-use	rock	rubbish	run
safety	sand	sandcastle	sea	seaweed
shadow	shine	shore	sink	sponge
sun	water	wave	wet	wood

Poster 7: One more treat

Prompt for science and literacy

1. What word is used to make things go faster, change direction, slow down, stop?
2. What happens to ice-cream in the heat of the sun?
3. What do all the fairground machines and motors use to move the equipment or rides?
4. What must the surface of the slide on the helter-skelter be like, as mum is shown sliding down easily?
5. What sort of litter could you get at the fairground and where should it be put?
6. Describe all the different fairground rides in the picture.
7. Talk about how any movement needs forces to stop or start and that pulling and pushing are forces – try to give some examples of each.
8. Discuss friction as a force between two surfaces, that can slow things down or stops things – give some examples of friction.
9. List as many things as possible that are powered by electricity – outside the home.
10. Play 'I Spy' with a difference. Look at the picture but describe the 'thing' rather than give the beginning letter.

Useful words

adult	balloon	big wheel	bottom	children
down	electricity	environment	fairground	family
force	friction	fun fair	heat	helter-skelter
high	hot	ice cream	laugh	light
low	melt	merry-go-round	movement	music
people	pull	push	ride	rough
roundabout	slide	slippery	smooth	sound
start	stop	turn	twist	up

Poster 8: The journey home

Prompts for science and literacy

1. What is our planet Earth a part of?
2. What do we use to see things?
3. What word is used when light bounces back off a material?
4. The moon has no light of its own. Where is 'its' light reflected from?
5. What do cars have on at night to help the driver see in the dark?
6. Describe all the different uses of lights in the picture.
7. Talk about all the energy needed to provide all the lights in all the cities and towns, offices and homes around the world.
8. Discuss how the earth rotates, spinning on its axis, and how the light from the sun forms daytime and when part of the earth is in shadow, it forms night time.
9. Make lists of opposites, e.g. black/white, dark/light, day/night.
10. Play 'What's the time Mr Wolf?' with the answers describing events that happen at specific times of the day.

Useful words

careful	car	dangerous	dark	day
driver	electricity	energy	eyes	factory
fast	headlight	lamppost	light	light beam
moon	movement	night	office	passenger
reflected	road	safe	safety belt	senses
shadow	shop	sleep	slow	solar system
star	street	sun	supermarket	tower block
traffic light	train	wheel	window	world

Some terms explained

Electricity - Electricity is a form of energy (electrical energy). A flash of lightning in the sky is electricity formed naturally.

We can get electricity from batteries, but most of our electricity is made in generating stations, then carried along cables, either underground or overground (often held up by pylons). These cables bring the electricity into our houses – to our lights and sockets in the wall.

Energy - Makes everything work – even you. There are lots of different kinds of energy, e.g. light energy, chemical energy and electrical energy.

Environment - Is where something lives with all the things around it – the people, the animals, the plants, the air above, the weather, even the soil beneath.

Another word is **habitat** – which means somewhere that gives food, water, air (oxygen) and shelter for the living thing to be able to stay alive.

Forces - Forces make things move, change direction, speed up, slow down and stop – in simple terms, pulls and pushes. Forces are easy to feel, but we can't see a force.

Stretching things are pulls, squeezing or squashing things are pushes.

Fossil Fuels - Coal, oil and gas are energy stores, called fossil fuels. They are formed from the remains of ancient animals and plants, that received their energy to grow from the sun!

Light - Most of the light we get in the day comes from the sun. At night, there is a little moonlight, which is the light reflected from the sun. At home we get most of our light from "artificial" light – from light bulbs, which use electricity to work.

Light travels in straight lines. If something gets in the way of the light, a shadow is formed.

Materials - Everything in our world is made of some kind of material - many are natural, like stone, or wood, but some are man-made or manufactured, like plastic. Different materials have different uses, because of their different properties (characteristics) including texture, appearance, flexibility, etc.

Wind Energy - Wind is air with movement (kinetic) energy. It can be harnessed to turn things around. Windmills used big sails to catch the wind to turn the millstone to grind corn. Today, large wind turbines have propeller-type blades to catch the wind (movement energy) and turn it into electrical energy.

Solar Energy - Most of the Earth's energy is from the Sun, but a lot is wasted, bouncing back into space. The sun's energy can be used by solar cells and solar panels (lots of solar cells joined together) to make things work – from calculators, radio beacons, to satellites – and even all the appliances in homes or businesses!

Pollution - Waste products that go into our environment (air, soil or water) that are dirty and harmful to us, other animals or plants, e.g. poisonous gases, chemicals and rubbish.

Recycling - When we save something so it can be used again – either as it is, or in another production process.

Sound - Is made when something moves forward or backwards very quickly – 'vibrates', making the air around it 'vibrate'. These vibrations travel through the air to our ears and make the inside of our ears vibrate.

Loud sounds have big vibrations. Soft sounds have small vibrations.