

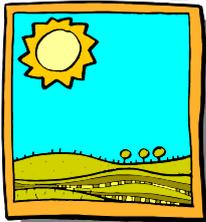
Regional Climate Construction



Home and building construction varies throughout the country and the world because there are different climates.



In colder regions, the buildings need to be warm and have strong roofs to hold snow.



In warmer regions, the buildings need to breathe to allow for air circulation, cooling and protection from the sun.



In rainy regions, the buildings need to be protected from kept dry.



While in mountainous regions, the buildings need to be protected from both rainwater intrusion and cold winds and are often placed near lakes or open valleys.

Where are the different regions in Spain?

Can you identify them by the temperatures shown?

What kinds of houses or buildings do you see in these areas?

How are they protected from the climate?

How should those houses or buildings be built?

Electricity

Electricity is a form of energy that lights our towns, heats our homes and moves machines. Primary electricity sources like coal, natural gas, oil, nuclear power, wind water and the sun produce electricity. Electricity is a secondary energy source. We use electricity every day.

Electricity produces:	light	For example:
	heat	For example:
	movement	For example:

Energy usage

We use appliances in our homes everyday to heat, eat and make our lives more comfortable. Have you every wondered how much energy you use?

Energy usage is dependant upon the appliance and the time of usage, for instance:

$$\text{Daily Kilowatt-hour (kWh) consumption} = \text{Wattage} \times \text{Hours Used Per Day} \div 1000$$

For a year, multiply by the number of days per year used.

Estimations

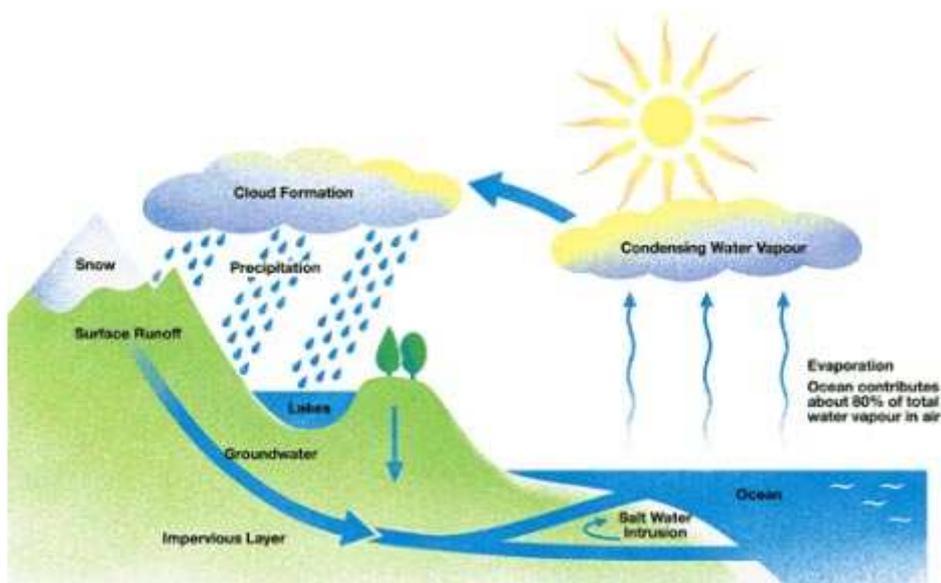
Use the following table to figure out the energy usage for these common appliances, then rank their usage from most to least:

appliance	wattage	hours of use per day	Number of days per year	consumption
Window fan 	200	4	120	

Personal computer and monitor 	120 + 150	4	365	
Personal computer and monitor (asleep) 	30 + 30	20	365	
Hairdryer 	1200-1875	0.5	365	
Portable Heater 	750-1500	6	90	
Refrigerator 	725	24	365	
Toaster Oven 	1225	1	365	
Microwave Oven 	750-1100	0.5	365	

<p>Television, color, 33"</p> 	<p>133</p>	<p>6</p>	<p>365</p>	
<p>Clothes Dryer</p> 	<p>1800-5000</p>	<p>1</p>	<p>175</p>	
<p>Clothes Washer</p> 	<p>350-500</p>	<p>1</p>	<p>175</p>	
<p>Water heater, 40 gallon</p> 	<p>4500-5500</p>	<p>2</p>	<p>365</p>	

Water Cycle

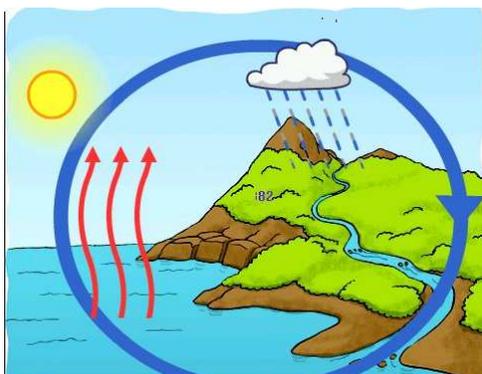


The water cycle describes the continuous movement of water of the Earth. There is no beginning and no end to the cycle. There are six stages to the water cycle:

1. The sun heats the water in the ocean and causes evaporation.
2. Clouds form from the water vapour.
3. The wind then blows the clouds over land to the mountains.
4. When the clouds cool down, they become dense and heavy and start to precipitate.
5. When it precipitates, the water is collected in lakes and rivers.
6. The rivers then flow downhill and back to the ocean.

Activity

Take the following chart and place the clouds, arrows and descriptions in the correct places. The final picture should describe the full water cycle.



to be amplified

Recycling

Recycling is a continuous loop that takes used materials and uses them again. Sometimes we recognize the materials, such as paper or glass, and sometimes the materials are used for completely different applications, such as building materials. Did you know that your old pair of jeans can be made into insulation for new buildings?

Recycling only works if the materials are collected and sent back to the manufacturer to be used again. Re-using materials saves us from taking more raw materials from the land and keeps unnecessary waste from the landfills.

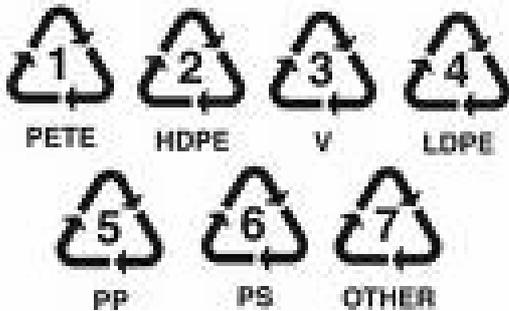
What can you recycle?

Glass		Glass never wears out -- it can be recycled forever	Recycling one glass bottle saves enough electricity to light a 100-watt bulb for four hours
Plastic			Single-use bags are a waste of trees (paper) or fossil fuels (plastic). Recycling 2 tons of plastic is equivalent to saving a ton of oil. Re-usable cloth or paper bags reduce these problems.
Metals		In Spain more than 300,000 tons of metals are wasted.	Aluminum can recycling saves 95% of the energy needed to make aluminum from bauxite ore.
Paper		Recycling 1 ton of paper saves 17 trees.	Paper made from recycled paper instead of virgin fiber requires 70% less energy

What are the symbols?



When a percentage is indicated within the symbol, that percentage of the product has been made from recycled materials.



Different plastic materials.

Match the old and new products:

Old scrap paper of all kinds can be used		new mail wrappings for magazines and catalogs, new dog food bags as well as new grocery bags.
Old printing and writing paper can become		to make new paper towels and tissues, egg cartons, fruit trays and flower pots.
Old corrugated boxes can become		new newspapers.
Old newspapers can become		new cereal and soap boxes, soft drink cartons and pizza boxes.
Old grocery bags can become		new printing and writing paper, wrapping paper, and paper used for magazines, books and brochures.
Old toy boxes or shoe boxes can become		new corrugated boxes.

Why recycle?

Recycling conserves our valuable natural resources.

Recycling saves energy.

Recycling saves clean air and clean water.

Recycling saves landfill space.

Recycling can save money and create jobs