

By the end of Summer 1 you will know:

Molecules and matter

1. What are the three states of matter?
2. How are the particles arranged in each?
3. What is a scientific model?
4. What is the behaviour of particles like in a solid?
5. What is the behaviour of particles like in a liquid?
6. What is the behaviour of particles in a gas?
7. Which state of matter can be compressed?
8. What is a fluid?
9. What is Brownian motion?
10. What is required for a theory to be accepted?
11. Name 5 changes of state.
12. What is a physical change?
13. What is the difference between a physical change and a chemical reaction?
14. What is boiling?
15. What is condensation?
16. What is melting?
17. What is freezing?
18. What is sublimation?
19. What happens to the energy of the particles during evaporation?
20. What happens to the energy of the particles during condensation?
21. What happens to gas particles when they are heated?
22. What is the difference between boiling and evaporation?
23. What is density?
24. What are the units for density?
25. What is the area of a square 2cm wide x 2cm tall?
26. What is the volume of a cube 2 x 2 x 2 cm?
27. What is the equation for calculating density?
28. Put these in order of densities: Liquid, Gas, Solid.
29. What is used to measure mass?
30. What is the unit of mass?
31. What is used to measure volume of a liquid?
32. What is the unit for volume?

33. How is density of regular shaped objects worked out?
34. How is the density of an irregular object worked out?
35. What is accuracy?
36. What is precision?

Energy

1. What is a thermal conductor?
2. What is a thermal insulator?
3. Name an example of a good conductor.
4. Name an example of a good insulator.
5. What is conduction?
6. Which state does conduction occur in?
7. What happens to particles during conduction?
8. What is accuracy?
9. What is precision?
10. What is the independent variable?
11. What is the dependent variable?
12. What is the control variable?
13. What is convection?
14. What are fluids?
15. What happens to particles during convection?
16. What is radiation?
17. What is meant by emitting radiation?
18. What is meant by absorbing radiation?
19. Name two sources of infrared radiation.
20. What type of object is a good emitter of radiation?
21. What type of object is a good absorber of radiation?
22. What happens when infrared radiation hits a shiny surface?
23. What is reproducibility?
24. What is repeatability?
25. What is the independent variable?
26. What is the dependent variable?
27. What is the control variable?
28. What is temperature?
29. What is temperature measured in?
30. What is thermal energy?
31. What is energy measured in?

32. What happens to particles when you heat substances up?
33. State three things that affect the thermal energy of an object.

By the end of Summer 2 you will know:

Energy continued

1. Name the 8 energy stores.
2. What is an example of each energy store?
3. State the three ways energy is transferred between stores
4. What is meant by the conservation of energy?
5. What are the units for energy transfer?
6. If a hairdryer has 100J of input energy and 25J is useful output, how much is wasted?
7. What is efficiency?
8. What is the equation for calculating efficiency?
9. What does dissipation mean?
What are two ways to reduce the amount of dissipated energy in a device?
10. What is power?
11. What is power measured in?
12. What is the equation to calculate power?
13. *What is a kilowatt?*
14. What does finite mean?
15. What are 3 examples of non-renewable energy sources?
16. What is the difference between renewable and non-renewable energy sources?
17. What is a fuel?
18. Name 3 different fuels?
19. What are fossil fuels?
20. How are fossil fuels formed?
21. What is combustion?
22. What is the equation for complete combustion?
23. What is the equation for incomplete combustion?
24. What are the reactants of complete combustion?
25. What are the products of complete combustion?
26. What is a renewable resource?
27. Give 4 examples of renewable resources.

28. Give an advantage of all renewable resources.
29. Give a disadvantage of renewable resources.

Healthy Holidays

1. What is health?
2. Give 3 different factors that can cause ill-health.
3. What is a correlation?
4. What is a non-communicable disease?
5. Give 3 examples of non-communicable diseases
6. What is a carcinogen?
7. What are the names of two types of tumour?
8. Give a risk factor for; lung cancer, type 2 diabetes, obesity, cirrhosis
9. What is a microorganism?
10. What is a pathogen?
11. Give 3 examples of pathogens
12. List 3 ways in which pathogens spread.
13. List 2 ways in which the spread of pathogens can be reduced
14. Draw and label a bacterium
15. What do bacteria do to make us ill?
16. Give 2 examples of diseases caused by bacteria.
17. What are the symptoms of some bacterial infections?
18. What is used to treat bacterial infections?
19. What is antibiotic resistance?
20. What is a virus?
21. Give 3 examples of diseases caused by viruses
22. What are the symptoms of measles?
23. What are the symptoms of HIV?
24. What is a vaccination?
25. Give an example of a disease caused by fungi.
26. Give an example of a disease caused by a protist.
27. Give 3 ways that your skin acts to defend us against pathogens.
28. What is the function of white blood cells?