

PRACTICE WORKSHEET + FULL ANSWER KEY

Observe, sort and investigate

Primary science. Work through the sections in order, or choose the one that matches this week's topic.

QUESTIONS	SECTIONS	ANSWER KEY	WORKING SPACE
102	10	At the back	Ruled

Name _____ Class _____ Date _____

Before you start

Begin with something a child can observe safely. Ask what changed, what stayed the same and how they know. Drawings and spoken explanations are useful evidence of understanding.

WORKED EXAMPLE

Which material absorbs water: a paper towel or a plastic sheet?

- 1 Place equal drops of water on each material with adult supervision.
- 2 Observe whether the water soaks in or stays on top.
- 3 The paper towel usually absorbs water; plastic generally does not.

Use this method as your model. Set out your own working the same way.

Common mistakes to avoid

- Guessing without observing
- Calling a test fair when several things change

There are 102 questions across 10 sections. Write in the ruled space, then mark your work against the answer key at the back. Topics covered: Materials, Living things, Fair comparisons.

SECTION A Materials and their properties

Look and touch safely, then describe exactly what you notice.

1 Name one transparent material.

2 Name two materials that are waterproof.

3 Which material absorbs water: a paper towel or a plastic sheet?

4 Sort into hard and soft: sponge, brick, wool, stone.

5

Name a material that can be bent easily.

6

What happens to ice when it becomes warm enough?

7

What happens to water when it is heated until it boils?

8

Name a material used for windows and say why it is chosen.

9

Why are saucepan handles often made of plastic or wood?

10

Name one material that can be recycled.

11

Is the change from water to ice reversible? Explain.

SECTION B Living things

Living things need certain conditions. Look at what each part actually does.

12

Name two things a plant needs in order to grow.

13

State the job of a plant's roots.

14

State the job of a plant's leaves.

15

Sort into once-living and never-living: a spoon, a leaf, a stone.

16

Name three things every animal needs to stay alive.

17

Name one animal with a backbone and one without.

18

Describe two ways a butterfly changes as it grows.

19

Why do we wash our hands before eating?

20

Name two foods that help a body grow and stay healthy.

21

What is a habitat?

22

Name one pond animal and one way it suits that habitat.

SECTION C Earth, space and weather

Watch, record and look for patterns that repeat over time.

23

Name the four seasons in order.

24

Name two types of weather that you could record.

25

Why is it darker at night?

26

How long does Earth take to spin around once?

27

Name the star that is closest to Earth.

28

Why should you never look straight at the Sun?

29

Name one way to stay safe in very hot weather.

30

Where does rain come from?

31

Name two things you could measure to describe today's weather.

32

Why do many trees lose their leaves in autumn?

SECTION D Forces, light and sound

A force is a push or a pull. Test carefully and record what happens.

33

Is opening a door by pushing it a push or a pull?

34

Name one thing that slows a rolling ball down.

35

Which surface lets a toy car roll farther: carpet or smooth wood?

36

What makes a shadow?

37

Name a source of light.

38 How does sound travel to your ear?

39 How can you make a drum sound louder?

40 Name two objects that a magnet attracts.

41 Why do we wear a helmet when cycling?

42 Draw a shadow and label what is blocking the light.

SECTION E Working scientifically

Change only one thing at a time and keep everything else the same.

43 How can you fairly compare which of two toy cars rolls farther?

44 Name one thing to keep the same when testing paper towels.

45 Why should you repeat a test?

46 Name a tool for measuring length.

47 Name a tool for measuring temperature.

48

Why should you record results in a table?

49

Write a question about plants that you could investigate.

50

Write a prediction for that question and give a reason.

51

Name one safety rule for a science lesson.

52

Explain the difference between a guess and a prediction.

SECTION F Plants and life cycles

Think about what each part of the plant does for the whole plant.

53

Name the part of a plant that takes in water.

54

Name the part of a plant that holds it upright.

55

Which part of a plant becomes a fruit with seeds inside?

56

Put in order: seed, adult plant, seedling, flower.

57

Name two things a seed needs to start growing.

58

Describe one way seeds are spread.

59

What do leaves need in order to make food?

60

Name two animals that help flowers make seeds.

61

Draw a plant and label the roots, stem and leaves.

62

Why do plants near a window lean towards it?

SECTION G The human body and staying healthy*Name the body part, then say the job it does.*

63

Name the organ that pumps blood around the body.

64

Name the organs you use to breathe.

65

List the five senses.

66

Name the part of the body that protects the brain.

67

Why should you exercise regularly?

68 Name two foods from the fruit and vegetable group.

69 About how many hours of sleep does a young child need each night?

70 Why do we brush our teeth twice a day?

71 What happens to your heartbeat when you run, and why?

72 Name one way to stop germs spreading when you cough.

SECTION H Water, weather and looking after the Earth

Watch what happens over time and record what you see.

73 Name the three states of water.

74 What is evaporation?

75 What is condensation?

76 Where does the water in a puddle go on a sunny day?

77 Name one way to save water at home.

78

Why is litter a problem for animals?

79

Name two things that can be recycled.

80

Name one way plants help the air.

81

Record the weather for one week. Which day was wettest?

82

Why do we wear different clothes in winter and summer?

SECTION I Choosing the right material

Match the property of the material to the job it has to do.

83

Why are bicycle tyres made of rubber?

84

Why is a window not made of wood?

85

Name a material that conducts electricity.

86

Name a material used to keep drinks warm and say why.

87

Would you make a raincoat from cotton or plastic? Say why.

88

Name a strong material used for building.

89

You test three materials to find the best sponge. What would you measure?

90

Why are some spoons made of wood?

91

Name one property that makes glass useful for a jar.

92

Sort into natural and made by people: wool, plastic, wood, glass.

SECTION J Mixed review and science skills

A good investigation can be repeated by someone else and give the same result.

93

Write a title for an investigation about paper towels.

94

Name the one thing you change in a fair test.

95

Name two things to keep the same in that paper towel test.

96

You measure 12 cm, 13 cm and 12 cm. What would you report?

97

Draw a bar chart of 4, 6 and 2. Which bar is tallest?

98

Name a safety rule for handling hot water.

99

Why is a labelled diagram useful in science?

100

Which can be reversed: melting ice or burning paper?

101

Name one way scientists check each other's work.

102

Write one question you would like to investigate this term.

Answer key

Work each section before you check it. These are model answers: an equivalent method, or a different well-supported interpretation, can be just as correct.

SECTION A - MATERIALS AND THEIR PROPERTIES

1. Clear glass or clear plastic.
2. For example plastic and metal.
3. The paper towel.
4. Hard: brick and stone. Soft: sponge and wool.
5. For example a pipe cleaner, paper or thin plastic.
6. It melts and becomes liquid water.
7. It evaporates and becomes water vapour, seen as steam.
8. Glass, because it is transparent and lets light through.
9. Those materials do not conduct heat well, so the handle stays cooler.
10. For example paper, glass, aluminium or some plastics.
11. Yes. Warming the ice turns it back into liquid water.

SECTION B - LIVING THINGS

12. Water and light; plants also need warmth and nutrients.
13. They take in water and hold the plant in the soil.
14. They make food for the plant using light.
15. Once-living: the leaf. Never-living: the spoon and the stone.
16. Food, water and air.
17. For example a cat has a backbone; a worm does not.
18. It hatches from an egg as a caterpillar, then forms a chrysalis before emerging as a butterfly.
19. To remove germs that could make us ill.
20. For example milk and vegetables; a varied diet matters most.
21. The place where a plant or animal lives and finds what it needs.
22. For example a frog, which can swim and breathe at the surface.

SECTION C - EARTH, SPACE AND WEATHER

23. Spring, summer, autumn and winter.
24. For example rain and wind; temperature and cloud cover also count.
25. The part of Earth you are on has turned away from the Sun.
26. About one day, which is 24 hours.
27. The Sun.
28. The bright light can seriously damage your eyes.
29. For example stay in the shade, wear a hat and drink water.
30. Water vapour cools high in the air, forms clouds and falls as rain.

31. For example temperature and rainfall.
32. Less light and lower temperatures mean the tree saves water and energy for winter.

SECTION D - FORCES, LIGHT AND SOUND

33. A push.
34. Friction with the ground; air resistance also slows it.
35. Smooth wood, because there is less friction.
36. An object blocking the light.
37. For example the Sun, a lamp or a torch.
38. As vibrations that travel through the air.
39. Hit it harder, so the vibrations are bigger.
40. Objects containing iron or steel, for example a paper clip and a nail.
41. It spreads out the force of an impact and protects the head.
42. A labelled drawing showing an opaque object between the light and the surface.

SECTION E - WORKING SCIENTIFICALLY

43. Use the same ramp, height, surface and release method, then measure and repeat.
44. For example the amount of water, the size of the towel and the time allowed.
45. Repeats show whether the result happens again and reduce the effect of a mistake.
46. A ruler, tape measure or metre stick.
47. A thermometer.
48. A table keeps the results organised, so patterns are easier to see.
49. Any testable question, for example: does a plant grow taller in brighter light?
50. A prediction with a reason, for example: more light means more growth, because leaves use light to make food.
51. For example never taste materials, and wash your hands afterwards.
52. A guess has no reason behind it; a prediction uses what you already know.

SECTION F - PLANTS AND LIFE CYCLES

53. The roots.
54. The stem.
55. The flower, after it has been pollinated.
56. Seed, seedling, adult plant, flower.
57. Water and warmth; air is needed too.
58. By wind, by water, or by animals that carry or eat them.

- 59. Light, water and carbon dioxide from the air.
- 60. Bees and butterflies.
- 61. A labelled drawing showing all three parts.
- 62. They grow towards the light they need to make food.

SECTION G - THE HUMAN BODY AND STAYING HEALTHY

- 63. The heart.
- 64. The lungs.
- 65. Sight, hearing, smell, taste and touch.
- 66. The skull.
- 67. It keeps the heart, lungs and muscles strong.
- 68. For example an apple and a carrot.
- 69. About 9 to 12 hours.
- 70. To remove food and germs that would cause tooth decay.
- 71. It gets faster, because your muscles need more oxygen.
- 72. Cover your mouth with your elbow or a tissue.

SECTION H - WATER, WEATHER AND LOOKING AFTER THE EARTH

- 73. Solid ice, liquid water and water vapour, which is a gas.
- 74. Liquid water turning into water vapour.
- 75. Water vapour cooling and turning back into liquid water.
- 76. It evaporates into the air.
- 77. For example turn the tap off while brushing your teeth.
- 78. Animals can be trapped by it, or eat it and become ill.
- 79. For example paper and glass.
- 80. They take in carbon dioxide and release oxygen.
- 81. A completed weather chart with the wettest day named.
- 82. To keep warm in cold weather and cool in hot weather.

SECTION I - CHOOSING THE RIGHT MATERIAL

- 83. Rubber grips the road and can bend and squash.
- 84. Wood is not transparent, so light could not pass through.
- 85. A metal such as copper.
- 86. Plastic or foam, because they are poor conductors of heat.
- 87. Plastic, because it is waterproof.
- 88. Brick, concrete or steel.
- 89. The amount of water absorbed, or the mass gained.
- 90. Wood does not get hot quickly, so it is safer for stirring hot food.
- 91. It is transparent and does not react with the food inside.
- 92. Natural: wool and wood. Made by people: plastic and glass.

SECTION J - MIXED REVIEW AND SCIENCE SKILLS

- 93. Any clear title, for example: which paper towel absorbs the most water?
- 94. The independent variable, the single thing you deliberately change.
- 95. The amount of water and the size of the towel.
- 96. About 12 cm; repeat and take the most typical value or the mean.
- 97. The bar for 6.
- 98. Ask an adult for help and never carry it yourself.
- 99. It shows what you observed clearly, without needing lots of words.
- 100. Melting ice. Burning paper cannot be reversed.
- 101. They repeat the investigation to see whether they get the same result.
- 102. Any testable question with a way to measure the result.

Review and next steps

Mark your work against the answer key, record your score for each section, then answer the three questions below. Bring this page to your next lesson so your tutor can start from what actually blocked you.

Which question did you find hardest, and what exactly stopped you?

Rewrite the corrected working for that question here.

Which section do you want to practise again before your next lesson?

Score record

SECTION	QUESTIONS	NUMBER CORRECT	PRACTISE AGAIN?
A. Materials and their properties	11		
B. Living things	11		
C. Earth, space and weather	10		
D. Forces, light and sound	10		
E. Working scientifically	10		
F. Plants and life cycles	10		
G. The human body and staying healthy	10		
H. Water, weather and looking after the Earth	10		
I. Choosing the right material	10		
J. Mixed review and science skills	10		
Total	102		

Keep going with one-to-one support.

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