

Inspire Computing Year 4 Workbook Answers

Unit 1

Lesson 1

1

my first name	✓	my first and last name	✗
the school I go to	✗	the city or town I live in	✗
the country I live in	✓	my road name and house number	✗
my telephone number	✗	my favourite colour	✓
a photo of me in my school uniform	✗	my favourite hobbies	✓
my email address	✗	the name of my pet	✗
the name of somewhere I have visited	✓	my eye colour	✗
the title of my favourite book	✓	the name of my favourite band	✓
my parents' or carers' names	✗	the colour and make of my family car	✗

Extra activity: Student's own answer

Lesson 2

1 a) Examples: being mean to other people, mocking people for being different **b)** Example: being mean to others on the internet or using messaging apps **c)** Example: Cyberbullying is bullying that happens online or through messaging apps.

2 Examples for how it might make someone feel: it could make someone feel sad, it could make someone feel like they have no friends and nobody likes them, it could make someone not want to use the internet anymore, it can make someone not trust others, it can make someone very stressed and nervous about talking to others

Examples for how you could help that person: You could encourage them to tell a trusted adult about what is happening.

Lesson 3

1 Cyberbullying is when someone uses an internet connected device to be unkind to another person. This might be to send hurtful emails, photos or messages through messaging apps or online games.

2 a) Example: Huifen feels afraid and lonely that people are being mean about her and some of these might be people she thinks are her friends. **b)** Examples: smartphones, laptops, messaging apps, emails, social network websites

Lesson 4

1 Example mind map words: hurtful, apps, social networks, smartphones, bullying, mean, rude, upsetting, scary, messages, emails, trusted adult

2 Examples: Have you told a trusted adult? Have you left the messaging app for a while? How can I help you?

Lesson 5

1 Example: Green screen videoing is recording in front of a coloured background. The green background can then be replaced with another one on the computer.

2 a) b) c) Student's own answers

Lesson 6

1 Examples: to remove unwanted parts of the video, to remove mistakes or long pauses, to remove practice versions, to add sound effects, to crop or resize parts of the film

2 a) Example: the noisy bird will distract from the people in the video. b) Examples: the sound could be re-recorded or the bird cropped out if it can be seen.

3 **Cropping**: is cutting something out of a picture or video; **Merging**: is a word that means joining two things together; **Importing**: means to bring something into the application.

Lesson 7

1 and 2 Student's own answers. Part of an example script:

Scenario: Adam is practicing what he will say in his bedroom in front of his smartphone.

Characters: Adam

Setting: Adam's bedroom

Adam: [upset] "I've seen the video you posted and all the comments of people laughing."

"Do you know how hurtful this is? How would you feel if someone did this to you?"

"I've spoken to school and, unless it is removed, I will be going to report the meme to the app and ask it is removed."

Lesson 8

1 Examples: Backdrop needed: bedroom wall, school playground, party room; Where will you get this from: take my own pictures, download photos from a website with free pictures

Lesson 9

1 and 2 Student's own answers

Lesson 10

1 and 2 Student's own answers

End-of-unit assessment

1 C

2 B

3 C

4 D

5 C

Unit 2

Lesson 1

1 Examples:

Who wrote it?	Is the writer an expert? How old are they? A student or person who has a hobby does not know as much as an expert.
On which date was it written?	Is the web page recent or old? An old web page might show information that is out of date.
Do the facts sound realistic?	Does the web page show facts or opinions? Do the facts match other sources?
How is the spelling and grammar?	Is the spelling and grammar correct? Poor spelling and grammar might mean the person is not an expert.
Is the design clear?	Is the information easy to follow? Are the pictures and photos appropriate to the subject? Silly or unrealistic pictures might mean the information is not reliable.

2 Student's own answers

Extra activity: Examples: check your sources are correct, keep the information up to date, make sure the design is clear, check your spelling and grammar are correct

Lesson 2

1 Examples: the date on the site, an unknown author, the site looks unprofessional, information doesn't match any other websites

2 Examples: a reliable source that everyone trusts, uses facts rather than opinions, information is well presented and links to other sites that agree, the author is an expert and has written other information on the subject

3 Examples: Is the author an expert / well known? Are facts supported and realistic? Is it well presented? Is the same information available elsewhere?

4 Checklist examples: date, author, source, quality, realistic, design, spelling and grammar

Lesson 3

1 **cell:** a single rectangle block; **row:** a group of cells going horizontally across the table; **column:** a group of cells going vertically down the table

2 **a)** 5 rows, 2 columns **b)** 2 rows, 3 columns **c)** 3 rows, 5 columns

3 Merge cells

4 **a)** Split cells

b)

	Monday			Tuesday			Wednesday			Thursday			Friday		
Time spent															

Lesson 4

1 Examples: presenting data from a survey, recording results from an experiment, calendars, planning a project

2 **border**: a line added around the edge of a table or cell; **alignment**: the position of text inside a cell; **format text**: used to change the font, style and colour of text in a table

3 **a)** bold **b)** centre aligned **c)** left aligned **d)** right aligned

Lesson 5

1 **a)** Football Report 1 **b)** They are very positive about Redtown FC. **c)** wonderful, amazing, top goal scorer, superb **d)** very weak, lucky, poor management **e)** It makes them feel like they were lucky and only won because the other side wasn't very good. **f)** fans of Redtown FC **g)** people who don't like Redtown FC **h)** Example: the score

2 Scenario 1 examples:

	Layla	Abu
What do they think happened?	they won race fairly	they lost because they fell
How are they feeling?	happy	sad
How do they see the events differently?	they won by finishing first	they would have won if they had not have fallen

Scenario 2 examples:

	Sofia	Yusuf
What do they think happened?	Yusuf didn't want to come	the bus broke down and they missed lunch
How are they feeling?	sad or annoyed that Yusuf didn't turn up	sad he missed lunch and his friend, worried that he hasn't been able to tell Sofia
How do they see the events differently?	Yusuf didn't make an effort to turn up	it was an accident

Lesson 6

1 Example: an online tool used to search for websites using key words

2 Student's own answers

Lesson 7

1 Any two from: keywords, inverted commas, define command

2 inverted commas: used to search for an exact phrase or multiple word search; **minus symbol:** excludes any particular word from search results when using more than one word; **tilde symbol:** used to search for a synonym of any search term

3 a) Examples: animals tigers: an online encyclopaedia page about tigers; animals -tigers: a website about the animals in a museum; International Space Station: NASA website about ISS; "International Space Station": similar websites; adventure: dictionary definition of 'adventure'; ~adventure: synonyms for adventure **b)** Student's own answers

Lesson 8

1, 2, 3 and 4 Student's own answers

Lesson 9

1 a) paraphrasing **b)** multitasking **c)** plagiarism

2 Description; Website address; Website creator; Reliability

Lesson 10

1 Examples: report, poster, presentation, flyer, video, audio recording, video recording

2, 3 and 4 Student's own answers

End-of-unit assessment

1 C

2 D

3 a) C **b)** A

4 several cells become one

Unit 3

Lesson 1

1 A “The great four-day cat rescue” **B** “Local area brought to a halt...” **C** Rukmini Anand **D** May 30 **E** image of cat **F** “Tense moments...” (under picture) **G** either column of text **H** Example: “People living...”

2 Chronological order means the article is organised in the order that the events happened.

3 caption

Lesson 2

1 Student’s own answers

Lesson 3

1 What happened? Pet animals escaped. Where did it happen? The Plaza shopping arcade. When did it happen? Last Sunday. Why did it happen? Door left open by cleaning staff. Who was there? Cleaning staff and security. Who was affected? Security staff and customers, delayed from shopping.

2 a) Example: first: animals escaped; second: location - Plaza shopping arcade; further: when it happened - Sunday; other: types of animals that escaped; extra: what the security guards did; end: result - animals all caught but the shopping arcade had to open late. **b)** Example: Animal riot in shopping arcade!

Lesson 4

1 a) text size increase **b)** rotate text direction **c)** text box colour change

2 Text boxes can be moved around the page easily, allowing a more interesting design.

3 Student’s own answer

Lesson 5

1 a) To help visualise the story in the article. **b)** To show images of real people in the story. To help with things that are difficult to describe. To keep the reader interested.

2 Examples: first: pictures of parrots, mice and cats; second: picture of Plaza shopping arcade; further: picture of calendar showing Sunday; other: picture of one of the animals close up; extra: picture of the security guards; end: picture of the animals back in the pet shop

3 a) Examples: animals, pet shop **b)** Examples: Animals running wild! Shop now back to normal.

Lesson 6

1 Example: to make the image fit into the layout of the page and text

2 Insert from file allows the user to insert an image saved on their computer into a document. Insert online image will search from internet-based image libraries and add the image straight into a document.

3 a) They are used to resize the image or stretch it either horizontally or vertically. **b)** It allows the image to be rotated.

4 They allow the image to be cropped, dragging any edge of the image in or out without changing the scale of the image.

5 Examples: lines, rectangles, basic shapes, arrows

6 Examples: the layout and position of text and images, headings, annotation describing thoughts and decisions made, font and style ideas, colour choices

Lesson 7

1 Examples: headlines, authors, standfirst text, date, images, captions, labels, paragraphs

2 The purpose of creating a plan is to agree on the focus of an article before writing or creating the actual content.

3 Student's own answers

Lesson 8

1 Examples: stretch, crop, merge, resize, rotate, shade/fill, outline, group, layer

2 **merge**: combining two or more shapes into a single shape; **group**: linking separate shapes so they can be moved together; **layering**: placing one shape in front or behind another

3 The fill tool has been used to colour in the shapes. The bring to front tool has been used on the triangle. The send to back tool has been used on the circle.

4 Bring to front will put a shape in front of all other shapes but bring forward will only move it up one layer.

Lesson 9

1 A draft version of any document is a plan that can be developed to create a final version from. It might not contain the final content but can help spot any early design problems.

2 Examples: the layout and position of text and images, annotation describing thoughts and decisions made, font and style ideas, colour and image suggestions

Lesson 10

1 and 2 Student's own answers

3 **insert a text box**: to be able to move writing around the page; **rotate a shape**: to turn a shape when creating a logo; **add shading and borders**: to create a coloured background for a page; **group objects together**: to move several objects at once

4 Student's own answers

End-of-unit assessment

1 B

2 outline, fill

3 text boxes

4 B

5 B

Unit 4

Lesson 1

1 An algorithm is a specific set of step-by-step instructions.

2 sequence

3 **a)** Stand up. Raise left leg. Wave. Spell out first name in letters. **b)** Countdown from 10 to 0. Jump up and down 5 times. Sit down. Close eyes. **c)** Forward 3 steps. Turn right 90 degrees. Wait 5 seconds. Backward 5 steps.

Lesson 2

1 Examples: instructions, sequence, actions, results

2 Shape 1: Forward 10 steps, Turn to the right, Forward 10 steps, Turn to the right, Forward 10 steps, Turn to the right, Forward 10 steps. (Any number acceptable as long as they are equal).

Shape 2: Forward 30 steps, Turn to the left, Forward 10 steps, Turn to the right, Forward 10 steps, Turn to the Right, Forward 30 steps, Turn to the right, Forward 10 steps, Turn to the right, Forward 10 steps, Turn to the left, Forward 30 steps, Turn to the right, Forward 10 steps. (Value of longer length should be three times short length).

3 **a)** It is used to add an extension to your program, such as the pen tool. **b)** It is used to add a new sprite to your program.

Lesson 3

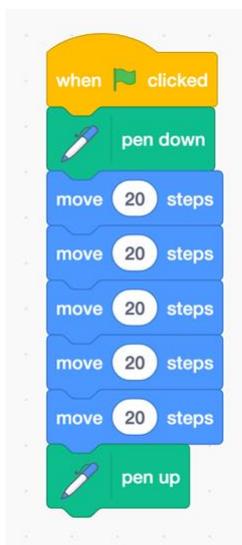
1 **a)** A polygon is a 2D shape with three or more straight sides. **b)** Examples: square, rectangle, triangle

2 **a)** triangle, 3 sides **b)** square, 4 sides **c)** rectangle, 4 sides

Lesson 4

1 **a)** 120 degrees **b)** 90 degrees

2



3 a) Spotting and correcting errors in a program. **b)** Examples: using an incorrect step distance, using an incorrect angle, using the wrong block

4 Square: The bug is incorrect angles, they should be 90 degrees instead of 91 degrees.
Triangle: The bug is a missing block, there should be a third block to move 50 steps to draw the third side of the triangle.

Lessons 5 and 6

1 It will be quicker to write and create the same output using less code.

2 Repeat: is an action which is done more than once.; **Loop:** is a sequence that starts from the beginning once it finishes.

3

a)

```
Loop 3 times
  Stand
  Jump
  Touch toes
```

b)

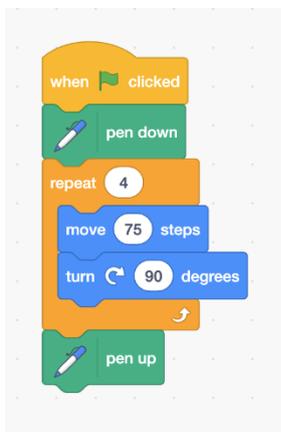
```
Stand
  Loop 4 times
    Click fingers
Clap
Sit down
```

4 a) Should include: when green flag clicked, pen down, repeat 3, move 75, turn left or right 120, pen up **b)** Should include: when green flag clicked, pen down, repeat 4, move 125, turn left or right 90, pen up

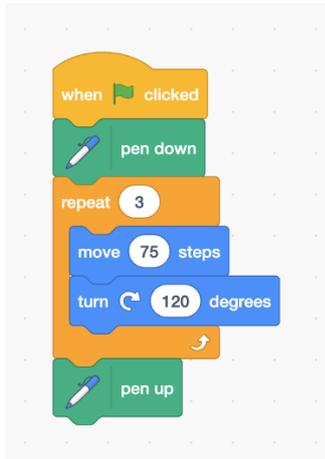
Lesson 7

1 360 degrees

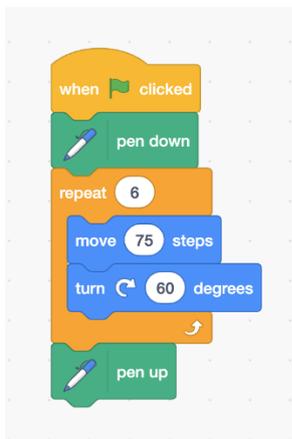
2 a) The 75 steps and 90 degree turn; 4 sides;



b) The 75 steps and 120 degree turn; 3 sides;



c) The 75 steps and 60 degree turn; 6 sides;



Lesson 8

1 loop: a sequence that starts again from the beginning once it finishes; **nested loop:** a loop within another loop

2 a) 24 b) 24

3 loops

4

Stand
 Jump
 Crouch
 Click fingers
 Click fingers
 Click fingers
 Sit down
 Stand
 Jump
 Crouch
 Click fingers
 Click fingers
 Click fingers
 Sit down

5

```

Loop 2 times
  Crouch
  Reach up high
  Arms to the side
Loop 2 times
  Clap
    
```

Lesson 9

1 a) Built from triangles, 60 degree turn after each shape, Loops 6 times **b)** Built from squares, 20 degree turn after each shape, Loops 18 times **c)** Built from squares, 90 degree turn after each shape, Loops 4 times

2

Clockwise turn	Number of sides
45	8
60	6
90	4
120	3

3 Pen size, Pen colour

4 drawing over the top of an already drawn shape

Lesson 10

1 Examples: **a)** a sequence of instructions to make something happen **b)** a sequence that starts again from the beginning once it finishes **c)** a loop within another loop

2 and 3 Student's own answers

End-of-unit assessment

1 A

2 1 Wet hands. 2 Add soap to hands. 3 Rub hands together. 4 Rinse hands. 5 Dry hands.

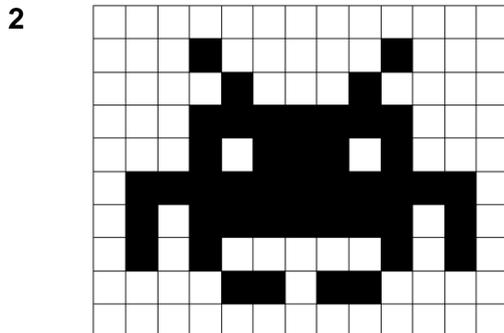
3 D

4 forward 50 steps, turn right, forward 50 steps, turn right, forward 50 steps, turn right, forward 50 steps

Unit 5

Lesson 1

1 Images are made up of tiny dots called pixels. Each image is represented by a sequence of 1s and 0s, which is called binary. Images which are made from a grid of pixels are called bitmaps.



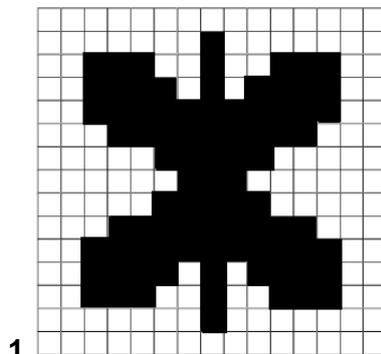
3 Pixels are small dots that make up digital images.

4 Student's own answers

Lesson 2

1 Student's own answers

Lesson 3



2 **JPEG**: A website needs an image for their social media profile; **GIF**: A blogger wants to create an animation for their website; **TIFF**: A publisher wants a picture for their latest magazine cover.

3 Student's own answer

Lesson 4

1 **Lossless compression**: reduces a file's size by keeping the data, but stores it differently to make it smaller. This takes up less space and is faster to read; **Lossy compression**: reduces a file's size by removing some of the data. It also reduces the quality of the image.

2 **a)** Examples: birthday, wedding day **b)** Examples: cake, candles, balloons, fireworks, presents **c)** Examples: Happy Birthday, Congratulations!

3 Student's own answers

Lesson 5

1 Copyright is protection for people that make any sort of content.

2 Student's own answer

Extra activity: **BY:** It can be copied, changed, shared and displayed but you must give credit to the owner; **NC:** It can be copied, changed, shared and displayed but you can't make money from it; **ND:** It can be copied, shared and displayed but you can't make changes to it; **SA:** It can be changed and shared but you must keep the original licence.

Lesson 6

1 Example: A colour splash is a black and white image with one part of it in colour that stands out.

2 Student's own answers

Extra activity: Example: Make sure to use a website that allows image downloads. Check the website provides usage rights for each image. Check the usage rights for your chosen image. Make sure it matches your need. If required, credit the original owner.

Lesson 7

1 Examples:

What do you think of filters?	filters are good for changing an image to make it stand out
What might you see a filter being used on?	social media sites, photography sites
Why might you use filters?	making a dull image look brighter or making it match a type of scene
What kinds of filters are there?	brightness, contrast, colour effects

2 any of the pieces of fruit

3 a) duplicate layer b) adjust and filter c) eraser tool

Lessons 8 and 9

1 The layout for a magazine that is used in every edition is known as the house style. How a company is viewed by the public is known as its corporate image.

2, 3, 4 and Extra activity Student's own answers

Lesson 10

1 and 2 Student's own answers

End-of-unit assessment

1 E

2 True, False, False

3 B

4 **a)** desktop publishing application **b)** word processing application **c)** desktop publishing application

5 Lossless compression reduces the size of a file without losing quality. Lossy compression also reduces file size but will reduce the image quality.

Unit 6

Lesson 1

1 Examples:

What is an algorithm?	a series of step-by-step instructions
What can algorithms be used for?	writing computer programs
What does 'repeat' mean?	carrying out the same instruction a number of times
What does 'loop' mean?	repeating an algorithm a number of times
What is a nested loop?	a loop inside another loop
What else can I remember?	student's own answers

2 **If** a whistle is blown **then** the game begins.

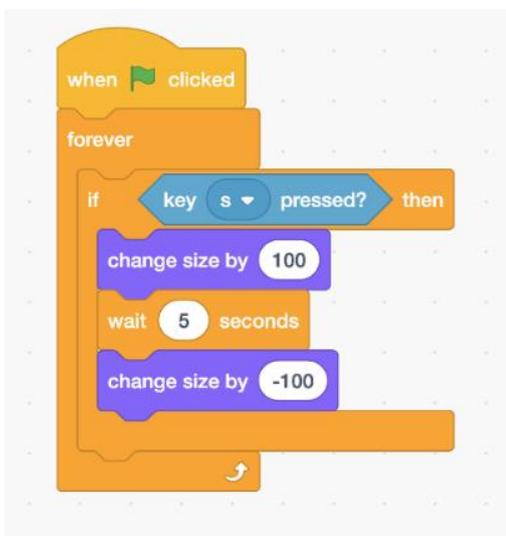
3 Examples: **a)** get a snack or a meal **b)** charge it up **c)** do your homework

Lesson 2

1 Conditional actions are actions which start if a condition happens. Examples: If you are cold, put on a jumper; If you are tired, go to bed.

2 Forever block: loop an action continuously; Repeat block: loop an action a specific number of times. IF... THEN... block: carry out an action if a condition is met.

3



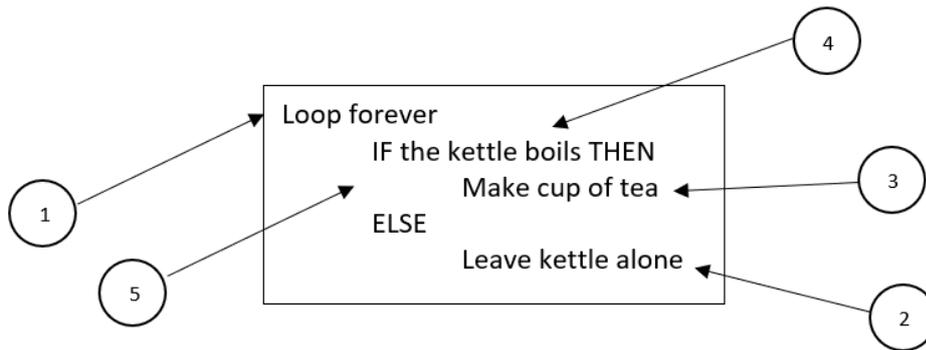
Lesson 3

1 What will the program do? If the space key is pressed, then the sprite will say 'Colour Change!' for two seconds, wait one second and then change colour by 25.

Which part is the condition? The space key is pressed.

Which part is the action? The sprite changes colour.

2



3 Student's own answers

Lesson 4

1 a) A repeating block that runs forever. b) Used to carry out an action if a condition is met and if it is not met. c) It is a nested loop – it is used to make b) run forever.

2 Student's own answers

Extra activity: If the condition (the sprite touching the edge) is met then the sprite will change colour by 25. If the condition is not met, the sprite will meow.

Lesson 5

1 What is the condition? Your partner touches your shoulder.

What are the actions? Standing up or waving.

What blocks could you use to make the program repeat? Repeat or Forever.

2 Student's own answers

Extra activity:

Conditional loops are really useful if you want something to continue for a long time until it is stopped.

It is more useful than a forever loop because it can have an end point and uses less commands.

An ELSE look requires too actions, a conditional loop only needs one.

Step 1: Decide on the condition that will stop the loop.

Step 2: Indent the repeated action below the condition.

Lesson 6

1 When the program is run, the sprite will turn towards the mouse cursor and keep moving towards it until it touches it. When it touches it will say 'Gotcha!'.

2 Student's own answers

Extra activity: What will happen when this program is started? The sprite will move towards the mouse cursor, and when it touches the mouse cursor the meow sound will play.

How will the program be stopped? When the space key is pressed.

Lesson 7

1 a) move to $x = -184$, $y = 108$ **b)** it will say 'Game Over!' **c)** forever loop **d)** block 4 **e)** the sprite turns to face the left (-90 degrees).

2 A 3 B 1 C 5 D 4 E 2 F -

3 a) touching Mouse1 **b)** say 'Game Over!' for 2 seconds and stop the program **c)** when flag clicked **d)** go to $x = -194$ $y = 108$ and turn to the right (90 degrees)

Lesson 8

1 Examples: age-appropriate challenge, be appealing, have a variety of solutions

2 a) C b) right-arrow: 90; left-arrow: -90; up-arrow: 0; down-arrow: 180 **c)** The sprite will return to the point $x = -184$ and $y = 108$ if it touches the white area.

Lesson 9

1 and 2 Student's own answers

Lesson 10

1 and 2 Student's own answers

End-of-unit assessment

1 a) your partner passes you a pencil **b)** start writing, twiddle your thumbs

2 B

3 C

4 a) space key being pressed **b)** Say 'Wow I'm dizzy!' for 2 seconds or turn 25 degrees

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