**Inspire Computing Year 1 Workbook Answers**

# Unit 1

## Lesson 1

**1** Examples: laptop, tablet, interactive whiteboard, desktop computer, camera.

Labels might include the on/off button, speaker, wires, plug, screen, keyboard, mouse, touchpad

**2** Answer will depend on the student's choice of device for question 1.

**3** They are all digital devices apart from the bicycle.

**4** They all have microchips.

**5 input devices**: mouse, keyboard; **output devices**: monitor/screen, speakers

**Extra activity** Examples: An input is when we give the microchip instructions to follow. An output is what the microchip does when it follows the input instructions.

## Lesson 2

**1** Clockwise: Software, hardware, hardware.

**2** Examples: TV, PC monitor/screen, keyboard, speaker, laptop, tablet, phone

**3** Student's own answer

**4** Examples: Paint, Word, games, or any other software/applications

**5** Examples: Paint – draws pictures, Word – creates documents

**6** Examples: pencil, zoom, paint, eraser

## Lesson 3

**1 computer**: things we use at school and at home; **whiteboard**: things we use at school; gaming **console**: things we use at home; **TV remote**: things we use at school and at home

**2** Examples: At home: TV, gaming console, washing machine, microwave, tablet, laptop, smartphone; At school: whiteboard, desktop computer, printer, tablet, laptop, calculator, camera

## Lesson 4

**1** 1 Type something using your keyboard, or paint a picture. 2 Click 'File' and 'Save As'. 3 Type a good filename. 4 Click 'Save'.

**2** 1 Click 'File' and 'Open'. 2 Find the file that you want. 3 Click 'Open'.

**3** house drawing; Dolphin picture.

## Lesson 5

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

## Lesson 6

**1 a)** Click this tool to draw a rectangle. **b)** Click this tool if you make a mistake.

**2 a)** draw a triangle **b)** shape fill **c)** undo action
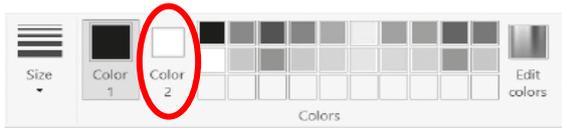
## Lesson 7

**1 a)**



**b)**



**c)**



**2** Student's own answers

## Lesson 8

**1** 1 Top middle 2 Bottom left 3 Bottom right 4 Top right 5 Top left 6 Bottom middle

**2** Examples:

Same: they both make calls and send messages, they both have a battery

Different: the modern mobile is smaller, lighter, has a colour touch screen, has more functions, takes photos, the battery lasts longer; the older mobile can only make calls and send text messages (but no pictures/photos), small screen that just shows text

## Lesson 9

**1 a)** It tells the time. **b)** It helps us to travel to places. **c)** We use it to talk to people. **d)** We use it to watch a film.

**2** Student's own answer

## Lesson 10

**1, 2, 3 and 4** All students' own ideas and thoughts from Lesson 10 presentations.

## End-of-unit assessment

**1** C, D

**2 input**: keyboard, mouse; **output**: speakers, screen/monitor

**3** B

**4** C

**5** It tells the time.

# Unit 2

## Lesson 1

**1 digital device**: a device that uses electricity and stores information; **single-role device**: a device that can do one job; **multi-role device**: a device that can do more than one job

**2** Examples:

alarm clock: tells the time, wakes you up, plays music

tablet: takes photos, streams films and television shows, plays music, plays games, accesses the internet, sends emails, creates documents, edits images, records videos

**3** microwave: cooks food; single-role device

washing machine: washes clothes; single-role device

desktop computer: creates documents, used for schoolwork, watches films and television shows, listens to music, edits photos, creates images, sends emails, accesses the internet, etc.; multi-role device

headphones: listen to music/podcasts; single-role device

## Lesson 2

**1**



frame

in frame

record button
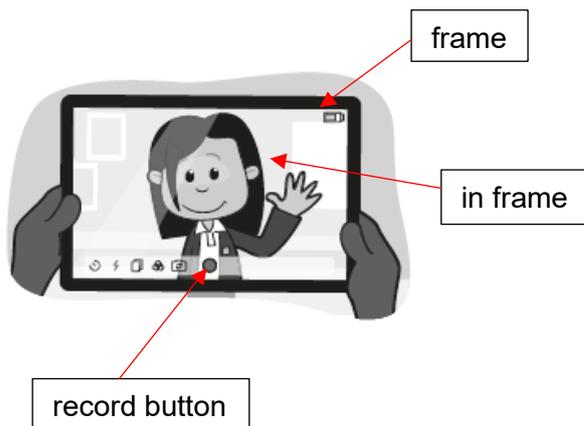
**2** The video on the right looks the best.

**3** Things you should do: ask someone if you want to record them, record somewhere that is quiet

Things you should not do: record in a dark place, move the camera up and down a lot

**4** Student's own answer
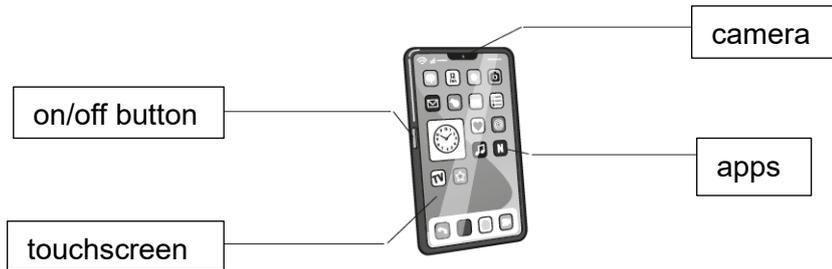
## Lesson 3

**1** Take a photograph.

**2** Examples: tablet, smartphone, desktop computer, laptop, smart television, games console

**3** Examples: tablet, desktop computer, laptop, smart television, interactive whiteboard

**4, 5 and 6** Student's own answers

## Lesson 4

**1**



**2** Examples**:** tablet, laptop, smart TV

**3** Multi-role devices can be used as a phone but also as a <u>camera</u>.

You can use a multi-role device to shop online but also watch a <u>video</u>.

I have played games on a multi-role device but I have also used it to <u>listen</u> to music.

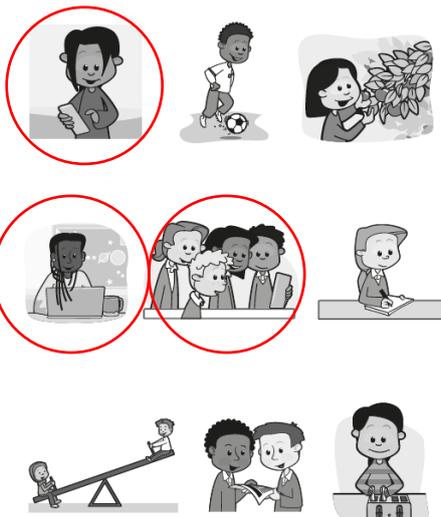A multi-role device can be used to <u>pay</u> for stuff.

**4 and 5** Student's own answers

## Lesson 5

**1 online world**: You are connected to the internet; **offline world**: The world that you can see around you. You are not connected to a computer.

**2** Examples: read a book, play football, go for a walk, eat a meal with family or friends, arts and crafts

**3**



## Lesson 6

**1** Tell a trusted adult.

**2** Examples: mum, dad, teacher, aunts, uncles, grandparents

**3** Examples: don't reply to a message from someone you don't know, tell an adult you trust if you see something that upsets you, don't show your friends

**4** Student's own answer

## Lesson 7

**1** stranger

**2** C

**3** Examples: No, because you can't see her face to face, so you can't be sure. People can easily pretend to be someone else online. They can use a photo of someone else and pretend to be that person.

**4** Dijah should not reply, and should tell a trusted adult.

**5** Student's own answer

## Lesson 8

**1 positive ways**: inviting a friend for lunch, sending a picture of a flower; **negative ways**: sending a picture of a person without asking, sending a scary video

**2 a)** No **b)** Example: It might upset the other person

**3** Student's own answer

## Lesson 9

**1** Student's own answer

## Lesson 10

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

## End-of-unit assessment

**1** C

**2** A, C

**3** A

**4 a)** A **b)** B

# Unit 3

## Lesson 1

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

## Lesson 2

**1 and 2** Answers will vary according to the application used.

**3** Student's own answer

## Lesson 3

**1 director**: This person is the leader of the team. They make sure that everyone knows what to do; **camera person**: This person controls the camera. They know how to use the device very well; **animator**: This person moves the props and the models to make the stop motion animation; **props manager**: This person looks after the props, models and costumes.

**2** Examples: toy car, model cat, doll, cuddly toy, action figure

**3 and 4** Student's own answers

## Lesson 4

**1** Example ideas: a tool, used when creating/editing stop motion animations, lets you see the last frame, helps you to make sure the camera is in the right place, helps you to see the best way to move your models

**2, 3, 4 and 5** Student's own answers

## Lesson 5

**1** 1 Walk to the seesaw. 2 Sit on one end of the seesaw. 3 Another person sits at the other end. 4 Push up from the ground. 5 The other person pushes up from the ground. 6 Get off when your seat is low to the ground.

**2** Student's own answer

## Lesson 6

**1** top background: city; middle background: park; bottom background: sea

**2 and 3** Student's own answers

## Lesson 7

**1** Student's own answer

**2** pipe cleaners, modelling clay, cardboard

**3** The one on the right.

The size is better because the model is just the right size for the balloon. It doesn't look too big or too small so that we can't see it properly.

### Lesson 8

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

### Lesson 9

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

### Lesson 10

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

### End-of-unit assessment

**1** Stop motion animation is where objects are photographed using lots of frames. This makes it look like a moving picture.

**2** The person who is in charge of the stop motion animation and who makes sure that everyone knows what they are doing is the director.
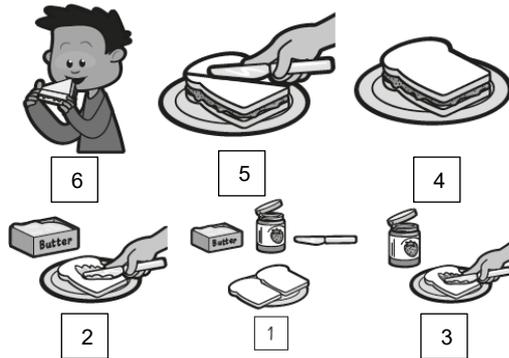
**3** A, C

**4** B

# Unit 4

## Lesson 1

**1** B

**2 and 3** Student's own answers

## Lesson 2

**1**



**2** Examples:

Step 1: Get two pieces of bread, some butter, some jam and a knife

Step 2: Put the butter on the bread

Step 3: Put the jam on the bread

Step 4: Put the two pieces of bread together to make a sandwich

Step 5: Cut your sandwich in half

Step 6: Eat your sandwich!

**3** The algorithm will not work if the instructions are in the wrong order.

## Lesson 3

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

## Lesson 4

**1 debug**: to find and fix an error in an algorithm; **bug**: an error in an algorithm

**2** Steps 4, 5 and 6. Step 6 should go between step 3 and step 4.

**3 and 4** Student's own answers

**5** (Changes in **bold**):

Step 1: Draw a square body.

Step 2: Draw a square head.

Step 3: Add **2** eyes.

Step 4: Add **3** legs.

Step 5: Add **1** spike.

Step 6: Add 2 buttons.

## Lesson 5

**1**

⬆️  forward

⬇️  backward

➡️  quarter turn right

⬅️  quarter turn left

**2** Top right:

```
quarter turn right
forward
```

Bottom left:

```
forward
forward
quarter turn right
forward
forward
```

Bottom right:

```
forward
quarter turn left
forward
forward
quarter turn right
forward
```

**3** Example:

```
forward
```

```
forward
```

```
quarter turn left
```

```
forward
```

```
forward
```

**4** Student's own answer

## Lesson 6

**1**

```
forward
```

```
forward
```

~~**forward**~~

```
quarter turn left
```

```
forward
```

```
forward
```

**2** Example:

```
forward
```

```
quarter turn right
```

```
forward
```

**3** You need to debug algorithms otherwise they won't work correctly and the instructions won't be followed.

## Lesson 7

**1**

Examples:

zoo:

```
quarter turn right
```

```
forward
```

pyramids:

```
quarter turn right
```

```
forward
```

```
quarter turn left
```

```
forward
```

```
forward
```

```
forward
```

```
quarter turn left
```

```
forward
```

theme park:

```
quarter turn right
```

```
forward
```

```
quarter turn left
```

```
forward
```

```
forward
```

```
forward
```

```
forward
```

**2 a)** Yes **b)** pyramids

**3 and 4** Student's own answers

## Lesson 8

**1 and 2** Student's own answers

**3** Examples: skip 5 times, do 3 star jumps, step in and out of a hoop

## Lesson 9

**1** Examples: run, skip, jump, hop, walk, step, squat, bend

**2** Student's own answer

## Lesson 10

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

## End-of-unit assessment

**1** C

**2** 1 Turn the tap on. 2 Wet your hands. 3 Put soap on your hands. 4 Rub your hands together. 5 Rinse the soap off your hands. 6 Turn off the tap. 7 Dry your hands.

**3** Example:

```
forward
```

```
quarter turn left
```

```
forward
```

```
forward
```

**4** You only need two forward steps at the end, so could remove any one of the three forward steps after the turn.

# Unit 5

## Lesson 1

**1 a)** They are both messages from Sam to Adam and they say the same thing.

**b)** The one on the left is tidier, easier to read and quicker to send. The one on the right will take longer to get to Adam as it will need to be handed to him or posted. It also needs paper and a pen.

**c)** The text on the left is easier to read because the letters/words are clearer and evenly spaced.

**2** Examples: software/application, creates documents, edits documents, writes text, writes letters, makes posters, is typed in to

**3** We use a word processor to <u>type</u> and <u>edit</u> text. The <u>keyboard</u> is an input device. The <u>screen</u> is an output device. If we print our text, the printed paper is an output.

## Lesson 2

**1** Missing keys = 6, E, P, return/enter, A, G, J, X, B, M, control/ctrl

**2 Caps Lock**: Press this key to make a capital letter; **. (full stop)**: Press this key to add a full stop; **Backspace**: Press this key to delete an error.

**3** Caps Lock, Shift

**4** Student's own answer

**5**

| s | k | e | y | b | o | a | r | d |
|---|---|---|---|---|---|---|---|---|
| d | a | g | c | a | p | s | l | e |
| l | b | t | e | x | t | d | f | r |
| o | f | u | l | l | s | t | o | p |
| b | a | c | k | s | p | a | c | e |
| s | s | e | n | n | i | u | g | a |
| e | n | n | a | x | o | r | v | i |

## Lesson 3

**1** Student's own answer

**2 format**: to make text easier to read; **edit**: to correct errors such as spellings

**3**



## Lesson 4

**1**



(Any of the 3 buttons within the circle would be correct for changing font size.)

**2** 1 Click the mouse. 2 Drag the cursor over the text. 3 Let go of the mouse button.

**3, 4, 5, 6, 7 and 8** Student's own answers

## Lesson 5

**1**



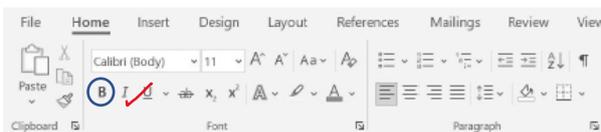Look, my ice cream is *melting*!

**2** Text in bold looks <u>bigger</u> and <u>darker</u>. Text in italics leans to the <u>right</u> so it looks a bit like <u>handwriting</u>.

**3** We use bold and italics to make words stand out, particularly if they are important. They are often used for titles and for special names or words.

**4, 5 and 6** Student's own answers

## Lesson 6

**1**



**2** Student's own answer

**3** Example: **Step 1:** First, click the mouse. **Step 2:** Next, drag the cursor over the text you want to change. **Step 3:** After that, let go of the mouse button. **Step 4**: Then, select the bold or italics button. **Step 5**: Finally, check that the text has changed as you wanted to.

**4** Student's own answer

## Lesson 7

**1** What kinds of dinosaurs are there?

- carnivores
- herbivores.

What do these dinosaurs look like?

- two legs
- short arms
- many teeth
- three horns

**2**

- theme park
- swimming pool
- museum
- park
- examples: zoo, farm, beach, seaside, cinema

**3 and 4** Student's own answers

## Lesson 8

**1**



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

## Lesson 9

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

## Lesson 10

**1, 2, 3, 4 and 5** Student's own answers

## End-of-unit assessment

**1 word processor**: software that lets you add and edit text.

**2** *Sofia*

**3 Backspace**: press this key to delete or rub out a mistake; **Caps Lock**: press this key to use a capital letter

**4**



**5 Edits are**: when we change things like spelling, punctuation, words or even the order of the text; **Formatting is**: when we make text look better using bold, underlining and size.

**6** Examples:

- to make certain words stand out
- to show that a word is important
- to help you read words in a list
- to show which words are headings
- to make it easier to read.

# Unit 6

## Lesson 1

**1** An algorithm is a set of instructions.

**2** Student's own answer

**3** Example: The arrows represent direction words, which are used to tell someone or something where to move. They show (from left to right): move forward, move backward, move left, move right, quarter turn right, quarter turn left.

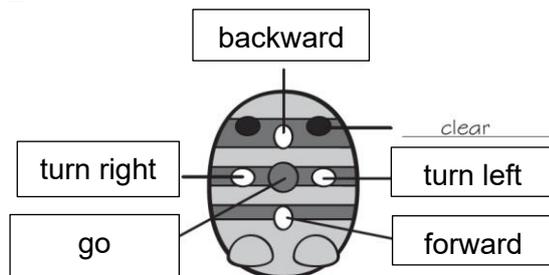**4** Example:

```
forward
forward
forward
quarter turn right
forward
forward
```

**5** Student's own answer

## Lesson 2

**1 hardware**: digital devices that we can touch; **software**: the tools that we use on digital devices

**2**



**3** Student's own answer

**4** Example:

```
clear
forward
forward
turn right
forward
```

**5** Student's own answer

## Lesson 3

**1** Examples:
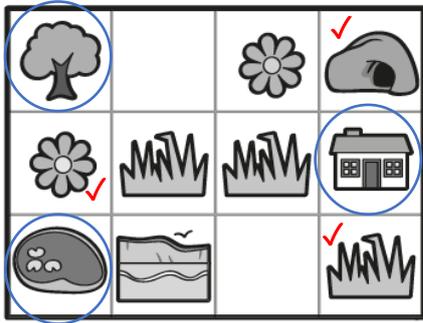


**2** Student's own answer

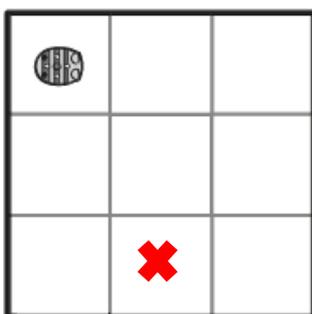**3** The one on the right because it has less obstacles.

**4 and 5** Student's own answers

## Lesson 4

**1**
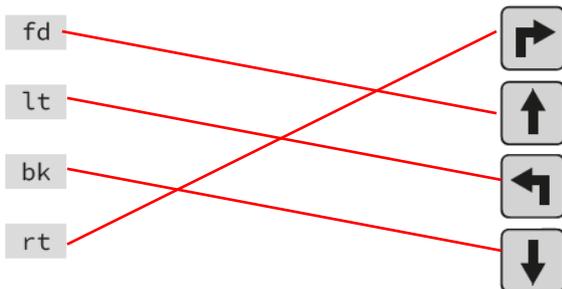


**2**



**3** Examples:

| **a)** | fd | **b)** | rt | **c)** | lt | **d)** | rt |
|---|---|---|---|---|---|---|---|
| | fd | | fd | | fd | | fd |
| | lt | | rt | | lt | | rt |
| | fd | | fd | | fd | | fd |

## Lesson 5

**1** Debugging is checking an algorithm for errors and fixing them.

**2** Correct algorithm:

```
X
lt
fd
lt
fd
go
```

**3** Example:

```
X
fd
fd
rt
fd
fd
```

**4** Example:

```
X
fd
fd
lt
fd
lt
fd
rt
fd
fd
go
```

## Lesson 6

**1 fd 10**: move forward 10 steps; **fd 20**: move forward 20 steps; **rt 90**: right turn; **bk 30**: move backward 30 steps

**2** Student's own answer

**3** The turtle should make a square.

**4** For a correct answer, the student needs to have understood that to keep the square shape the turns remain at 90 and they only change the forward number. For example:

```
fd 40
```

```
rt 90
```

```
fd 40
```

```
rt 90
```

```
fd 40
```

```
rt 90
```

```
fd 40
```

## Lesson 7

**1** `left 90` should be `right 90`

**2** Student's own answer

**3**

```
fd 40
```

```
lt 90
```

```
fd 40
```

```
rt 90
```

```
fd 40
```

```
lt 90
```

```
fd 40
```

**4** Example:

```
fd 40
```

```
rt 90
```

```
fd 80
```

```
rt 90
```

```
fd 40
```

```
rt 90
```
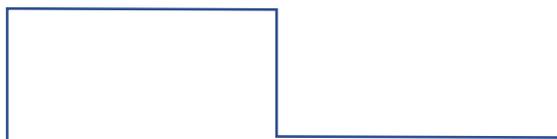
```
fd 80
```

## Lesson 8

**1** a square

**2** The shape created is:



Rewritten program:

```
fd 20
rt 90
fd 60
rt 90
fd 20
rt 90
fd 60
```

**3** Example (any forward number less than 60 is acceptable):

```
fd 20
rt 120
fd 20
rt 120
fd 20
```

## Lesson 9

**1** Draw a large rectangle with pen down, then pen up to move the turtle inside the rectangle, pen down to draw a smaller rectangle inside the first.

**2** First initial:

```
pen down
fd 120
pen up
```

Second initial:

```
pen down
rt 90
fd 60
lt 90
fd 60
lt 90
```

```
fd 60

rt 90

fd 60

rt 90

fd 60

pen up
```

**3** Student's own answer

## Lesson 10

**1 a)** Example answer:
pen down
bk 50
rt 90
fd 50
lt 90
fd 50
bk 50
rt 90
fd 50
lt 90
fd 50
pen up

**b)** student own answer

**c)** Example answer:

pen down

fd 100

bk 50

rt 90

fd 50

rt 90

fd 50

pen up

**d)** student own answer

**2 and 3** Student's own answers

## End-of-unit assessment

**1** Hardware is physical equipment. Software is using apps on a device.

**2** `fd`: forward; `bk`: backward; `rt`: right turn; `lt`: left turn

**3**

```
X
fd
fd
lt
fd
go
```

**4 a)** `lt`

**b)**

```
X
fd
rt
fd
fd
rt
fd
fd
go
```

**5** in programming, a program is a set of step-by-step instructions. You input it into software.