



# Science Summer Term 1 Weeks 3-5

BBC website has some useful links to support learning in this topic. This can be found at https://www.bbc.co.uk/bitesize/topics/zgssgk7.

# Sexual reproduction in flowering plants

The children can watch this video which introduces sexual reproduction in flowering plants(https://www.youtube.com/watch?v=HLYPm2idSTE). It would be useful for the children to write a keyword list as it goes so that they can correctly spell them during their labelling or dissection. I have included a labelling sheet and answers in the pack if you choose not to complete the dissection and labelling the parts of a real flower.

## Dissection of a flowering plant

The children can dissect a flower and label it with its main parts including reproductive parts. A good flower to use for clarity is a lily however other flowers will work. An example of a dissection can be found here https://www.youtube.com/watch?v=493WeySyf-8.

# Comparing sexual and asexual reproduction in plants

Flowering plants reproduce sexually but plants such as spider plants reproduce asexually as well. The first 2 minutes of this video show asexual reproduction <a href="https://www.youtube.com/watch?v=fcGDUcGjcyk">https://www.youtube.com/watch?v=fcGDUcGjcyk</a>. After 2 minutes, it compares a variety of other reproductions after this at quite a high level, however, feel free to explore reproduction further with greater explanation of the differences. I have included a comparison alley for the children to compare asexual and sexual reproduction. There is a sheet after this that shows what you should expect them to include in their alley, if they are finding it difficult you could cut the statements out for them to place in the alley.

### Investigating seed dispersal

How does length of the wing affect Sycamore seed dispersal?

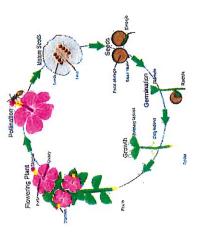
The children should follow the sheet with your guidance. Help them to determine what they need to keep the same to allow for a fair test and what length seeds they are going to create. They should choose 5 different lengths so that they can hopefully observe a trend.

The children will need to create a template on some card and change the length of the wings. They should do this so they have 5 different lengths to test. This can then be tested following the guidance sheets included. The children should record their results in a table ( if they need it, support them to draw their

own) it should look Seed wing length (cm)	Distance from	Average distance from centre point		
	Repeat 1	Repeat 2	Repeat 3	(cm)

# Comparing reproduction in plants

Asexual Reproduction



Sexual Reproduction

3oth

# Ideas of what they should include

# Asexual

Genetically identical plant grows – no variation

One parent needed

No gametes

# Both

Create new plants (offspring)

# Sexual

Two parents needed

Male and female gametes needed (ovule and pollen grain)

Fertilisation occurs

Seeds are made

Pollination needed

Offspring are genetically different to parents – mixture of features from male and female



# Growing food : Helicopter seeds

# Description

Many species of plants take to the air to disperse their seed and germinate away from their parent plant.
Understanding how seeds disperse helps agriculturalists propagate self-dispersal crops and manage weed populations.



Rulers / tape measures, metre rules, scissors, selection of paperclips and blu-tac to use as weights, large pieces of paper (A1 or A0 sheets taped together to create a large recording area for each group), set of digital scales, card for the template.

# **Activity 1: Flight testing**

Flight testing models and investigates the 'helicopter' method of seed movement. Begin with a whole class discussion about how seeds like those of the sycamore are dispersed. In practice, wind plays a big part in spreading the seed. In these activities the wind factor is fixed and its effect is not investigated so you will need to ensure the experiments are not conducted near draughts or open windows.

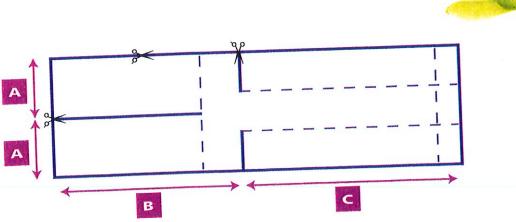
Demonstrate the movement of the seeds modelled from card using the **Template cards** by dropping the seed from a height of one metre onto a large sheet of paper. Draw attention to the importance of a specified release point directly over a central marker. Discuss how the land point may be marked and how its distance from the central marker can be measured.

Pupils work in small groups of four or five with each pupil testing their helicopter seed model by dropping it ten times from the standard height of one metre. The groups work together to draw lines from the central marker to the land point and measure and record each distance on their **Data recording sheet**. Each group then calculates the mean, median, minimum value, maximum value and range from their combined data. This is the control data for the next part of the activity.



Draw the whole class together to discuss how the basic helicopter seed could be modified so that the seeds spread further. Engage your pupils in a discussion of possible parameters that could be modified: wing width (A), wing length (B), tail length (C) or mass. (Use blu-tac and paperclips to modify the mass of the helicopter.)

Page 1





# Growing food: Helicopter seeds

Each group investigates a parameter, repeats the experiment and compares the results with the control data, reporting the optimum value for their parameter to the class. It may be, of course, that changing the parameter has no effect.

Finally, each group designs what they consider to be the optimal helicopter based on the data available. Then the groups compete to investigate who has the best design – this will involve discussion on the criteria to be used for "best". For example, is the maximum value or the highest average value or a feature of the range the most important aspect? Each model will be tested ten times. This can be made more engaging by dropping the helicopters from a greater height than in the experiments to date – from, say, two or three metres.



An extension activity is to collect further data to explore the relationship between the height of the drop and the average distance travelled. Scatterplots can be used to explore this relationship with predictions made from these leading to questions like "How tall does the tree need to be for the seed to travel a specified distance?"

# The mathematics

The second secon

Flight testing involves the pupils in data collection and recording, measurement and the calculation of averages. It also gives good first-hand experience of the mathematical idea of range.

# to **scatter** their seed.

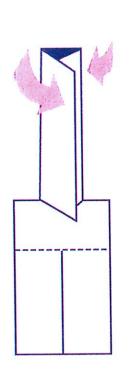
# Understanding how seeds spread can be important for growers.

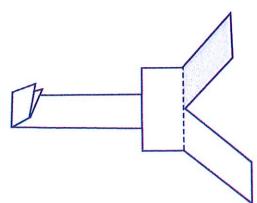
# Carefully

- cut out the helicopter template
- cut along the solid black lines
- fold along the dotted lines as shown below.

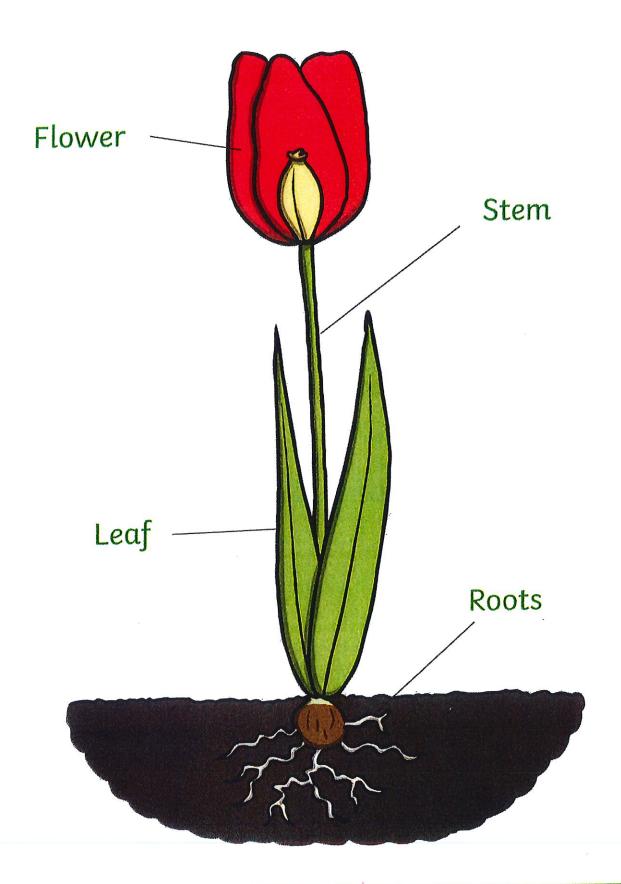
**Helicopter leaves. nlitement** *Permission is granted to copy, distribute under the terms of the GNU Free Documentation License.* 

- Test your helicopter ten times each.
- Record the results and calculate the data for the group.



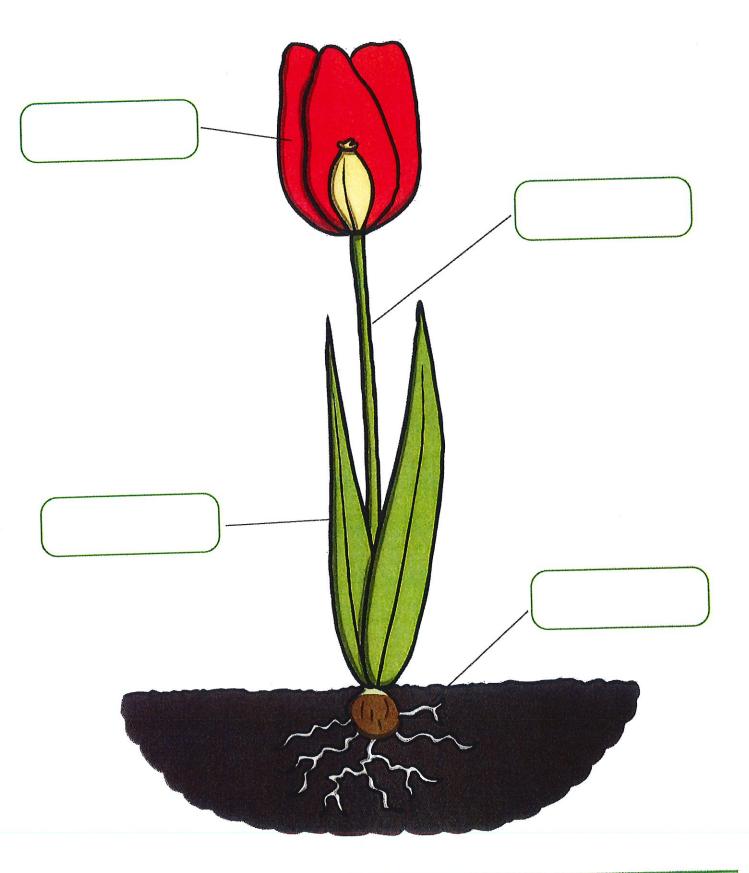


# Parts of a Plant





# Parts of a Plant

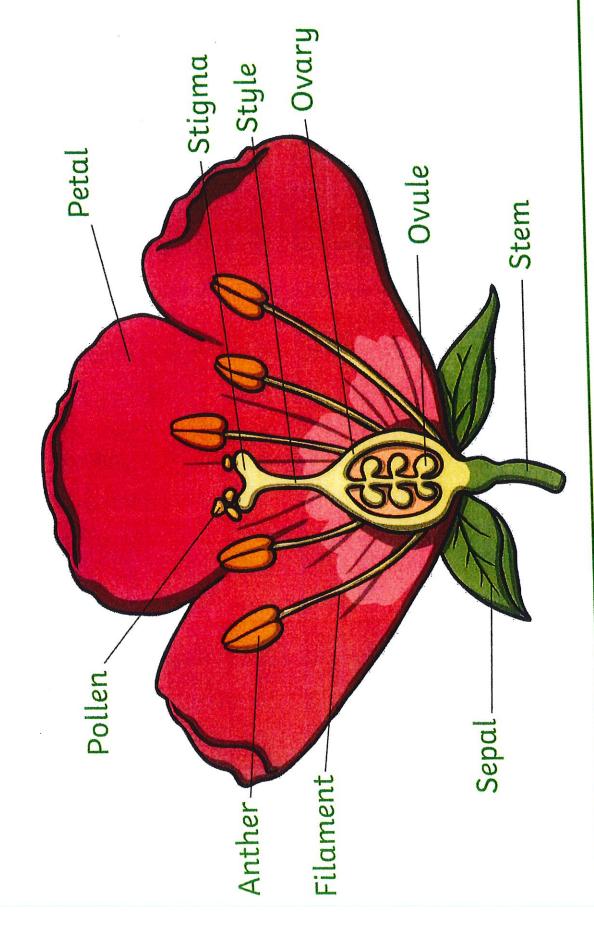








# Parts of a Flower











# Examples and a guide to writing Mini Sagas

## For pupils

### DISCOVERY

The last of the dirt was cleared and there it was, a beautiful rare mosaic. 'I've finally found it,' he whispered, joyfully. Suddenly, the earth shook. Dirt rained back in the hole slowly before turning into an avalanche, covering the discovery of the century and McGregor. The secret remained safe.

## THE VIKINGS ARE COMING

Shapes on the horizon. Excitedly, I ran to the shore, shouting the news. A crowd gathered as the fierce-looking ships landed. Then the terror began. I fell then ... darkness. I woke to death and despair. The ships were back on the horizon, the devil's soldiers laughing as they sailed.

### A GUIDE TO WRITING MINI SAGAS HELP SHEET

- A mini saga must be no more than 50 words. (This doesn't include the title.)
- A mini saga must be a proper story. This can be a challenge in only 50 words, but make sure your saga has a beginning, middle and an end.
- Be original! You can retell other famous stories, but it must be in your own words. Trust your imagination and have a go at creating your very own mini saga!
- Remember you can abbreviate words too changing 'it is' to 'it's' saves a word!
- Write your mini saga in the grid below, one word per square. It only has 50 spaces so you know your mini saga is the right length!

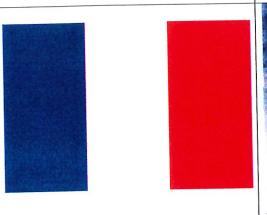
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Tel: (01733) 890066 Fax: (01733) 313524 Email: info@youngwriters.co.uk Website: www.youngwriters.co.uk





# **Paris**





# Athens





# Berlin



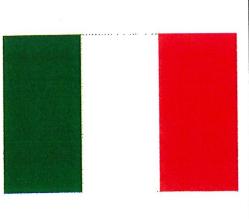


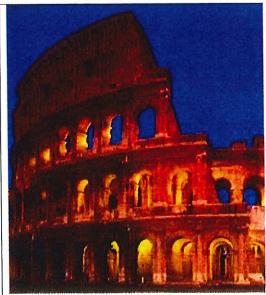
Brussels





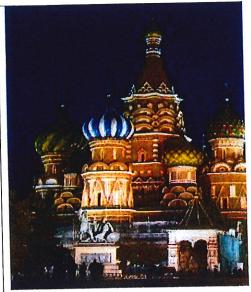
Rome





# 1oscow



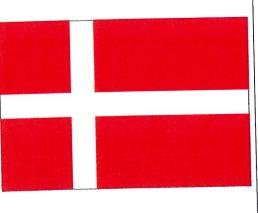


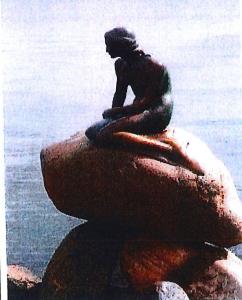
# Madrid



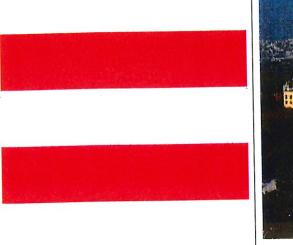


Copenhagen



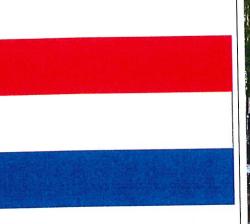


# Vienna





msterdam





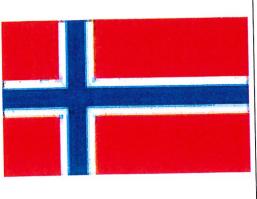
Lisbon







# Oslo





# Kiev





# Bern





# The Story of Baucis and Philemon Play Script

### Cast List and Costume Ideas

Zeus - long cloak with hood, white robe and a golden crown

Hermes – long cloak with hood, white robe, golden winged sandals and a golden winged hat

Baucis (wife) - old and ragged long dress

Philemon (husband) - old and ragged tunic

Greek man - tunic

Narrator

### Scene 1

Lights go up to show a track road with homes along one side. It is beginning to get dark.

Outside one of the houses, Zeus and Hermes are stood on the track road. They are dressed in disquise.

Hermes: Father, I'll knock on the next door.

(Hermes knocks on the door and the men wait for a response.)

Zeus: (disappointed) Let's try another door.

The men move to the house next door. Zeus knocks.

Greek man: (narrowly opening the door and peeking out) Can I help you?

**Zeus**: Good evening. Please can you help us? We are two very weary travellers who need shelter for the night.

(Greek man shuts the door without responding.)

Hermes: (looking at Zeus) I'm disappointed. That was the eighth house to turn us away.

(The men walk further down the track, heading for an old, wooden hut. They stand by the front door.)

Hermes: Let's try this door.

(Hermes knocks on the door. An old lady answers dressed in old clothes.)

Baucis: Yes?

Hermes: We are two very tired travellers that are in need of shelter and food. Please can you help us?



Baucis: Of course. We don't have much, but what we have, we will share with you.

Zeus: Thank you. You will be rewarded for your kindness and generosity.

Baucis: Think nothing of it. Please, come this way...it is getting dark. Come and meet my husband. (Baucis welcomes the men into the house and the men walk inside.)

Lights down

### Scene 2

Lights go up to show inside Baucis and Philemon's home. Zeus and Hermes are sat at a small, wooden table. Baucis and Philemon are standing.

Baucis: Let me introduce you to my husband, Philemon.

**Philemon**: You are most welcome in our home. You have been walking and must be thirsty, would you take some wine?

(Philemon points to the only jug on the table.)

Hermes: We couldn't drink your last jug of wine.

Baucis: You are our guests and we will offer you whatever we have. Please, take some wine.

(Zeus and Hermes nod in acceptance. Philemon pours the wine out for the men whilst Baucis disappears into the kitchen area, returning with a platter of meat and bread, placing it down on the table.)

Baucis: It isn't much, but please enjoy this bread and meat.

Zeus: This is a wonderful feast, thank you.

(The two men begin to eat and drink as Philemon and Baucis sit down at the table. Once they are seated, there is a freeze frame as the lights go down.)

Lights down

### Scene 3

Lights go up and give the impression that time has passed. Seated around the table, Baucis, Philemon, Zeus and Hermes are talking, laughing and enjoying each other's company.

**Philemon**: I apologise but we have no more wine for you gentlemen. It is late and you have been walking all day. You must be very tired. Baucis has prepared a comfortable space for you to sleep by the fire.

(Philemon points at where the men will be sleeping.)



Zeus: That is more than we require, thank you.

Hermes: Philemon, did you say there was no wine left? Why, there's plenty! Look for yourself...

(Baucis and Philemon look inside the jug which has been refilled. They have a look of disbelief on their faces.)

Baucis: (surprised) But this can only mean one thing. You must be....

Philemon: (loudly) GODS!

Hermes: I am Hermes. (Stands and removes his cloak to reveal his true identity.)

Zeus: I am Zeus. (Stands and removes his cloak to reveal his true identity.)

You have shown us great kindness tonight. We must rest now.

Lights down

### Scene 4

Lights go up and it is a new day. Baucis, Philemon, Zeus and Hermes are stood on the track road next to the homes of the people that turned them away.

Hermes: The people in this valley were happy to think we would be sleeping in the road. They must be punished.

Philemon: We plead with you that you show mercy on the people. They know no better.

Zeus: The people turned us away while we were tired and hungry. My word is final.

(Zeus raises his hands and a torrent of water washes away every house except Baucis and Philemon's home. Baucis and Philemon look on in horror until the flooding stops.)

Zeus: That will teach the people a lesson. Now, Baucis and Philemon, we must repay you.

Philemon: Zeus, we have all that we need. However, you are all powerful. We wish never to be parted.

Zeus: I shall grant your wish. You also have a new home. Look towards the hills... (pointing)

Baucis: I only see a white temple.

**Zeus**: That is your new home and you are now the priest and priestess. You can live out your final years in comfort, together.

Baucis/Philemon: (shocked) Thank you!

Hermes: Go to your new home.

(Baucis and Philemon leave the stage.)



Lights down.

### Scene 5

Lights go up and the narrator enters the stage. Baucis and Philemon walk on stage together as the narrator begins speaking. They stop in the centre of the stage, looking out into the audience, wearing fine clothes.

Narrator: Baucis and Philemon lived out their days as priest and priestess and enjoyed a happy life together. When they died, they became oak and linden trees, and their branches were entwined forever.

(Baucis and Philemon link arms and close their eyes.)

The End

# Fluent in Five

Daily Arithmetic Practice Week 16

Year 6

### Year 6 - Week 16

Please note, we always recommend reading 'Your Guide to Using Fluent in Five' before using these resources with your class.

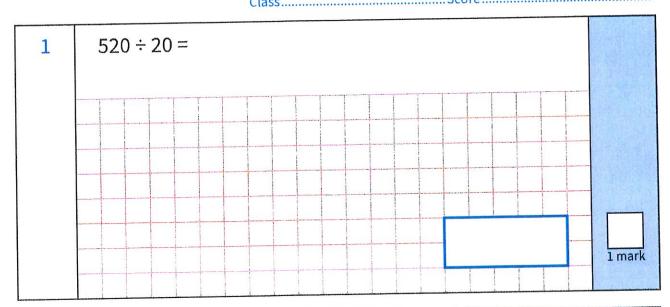
### This week in a nutshell

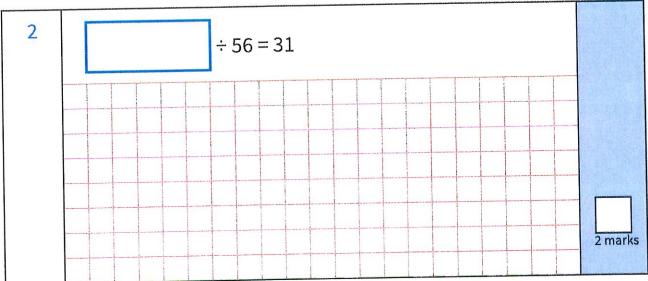
- Mental multiplication focuses on multiplying and dividing by 25 and 50.
- Mental addition and subtraction questions include adding and subtracting multiples of 10, 100 and 1000.
- Written methods for multiplication and division focus on short multiplication and short division.
- Written methods for addition and subtraction feature the addition and subtraction of large numbers (with 5 or more digits) but where each number has the same number of digits.
- Fraction questions require pupils to add and subtract proper fractions with different denominators.

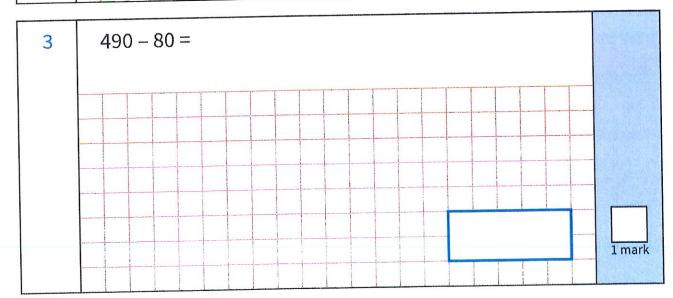
Fluent in Five - Year 6
Week 16 - Day 1

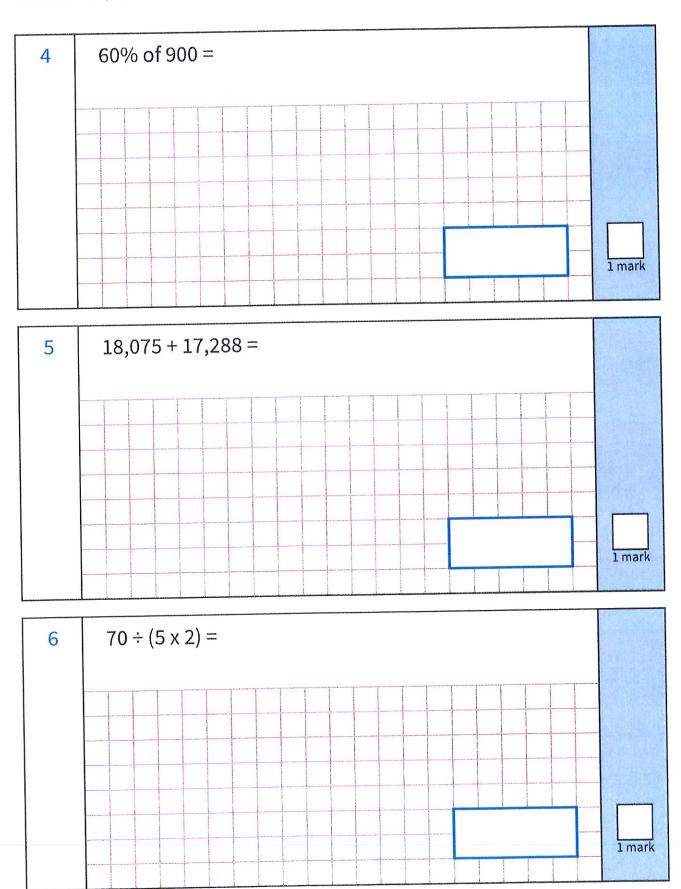
Name.....School......

Class.....Score...









# Challenge yourself!



## **Answer Sheet**

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. 
$$520 \div 20 = 26$$
 (M)

2. **1,736** 
$$\div$$
 56 = 31 (W)

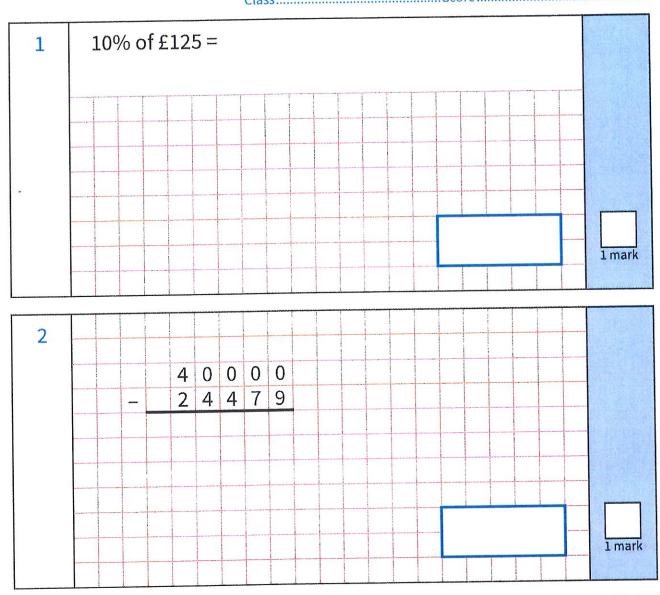
3. 
$$490 - 80 = 410 (M)$$

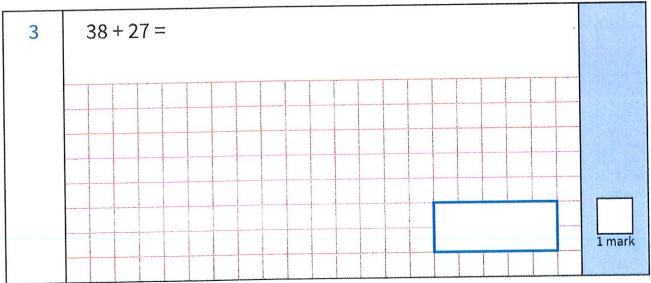
6. 
$$70 \div (5 \times 2) = 7 \text{ (M)}$$

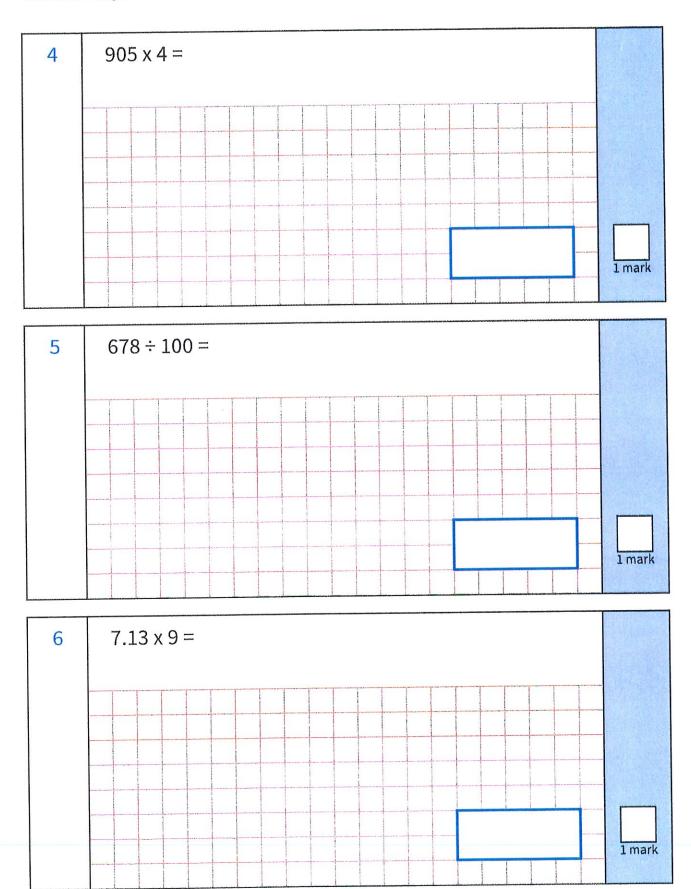
7. 
$$2.3 \times 5 = 11.5$$
 (M)

Fluent in Five - Year 6
Week 16 - Day 2

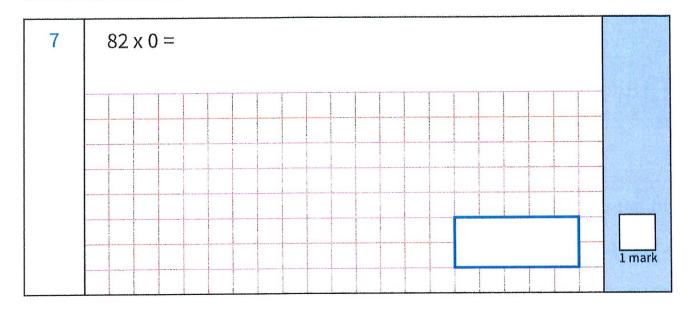
Date......School........Score....







# Challenge yourself!



## **Answer Sheet**

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. 
$$10\%$$
 of £125 = **£12.50** (M)

3. 
$$38 + 27 = 65$$
 (M)

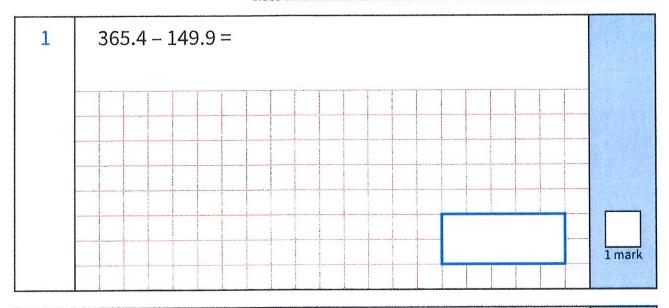
**4.** 
$$905 \times 4 = 3,620 (W)$$

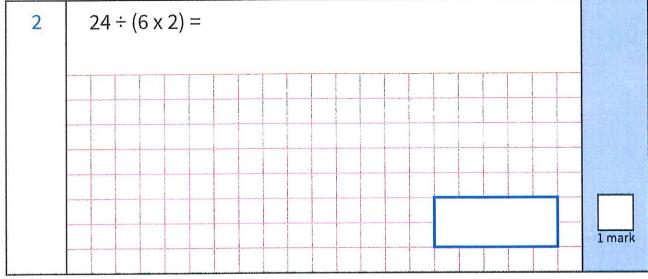
5. 
$$678 \div 100 = 6.78$$
 (M)

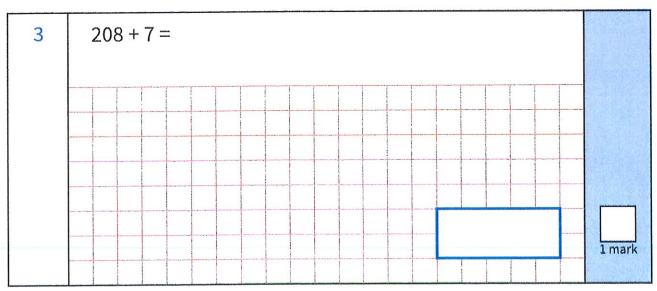
6. 
$$7.13 \times 9 = 64.17$$
 (W)

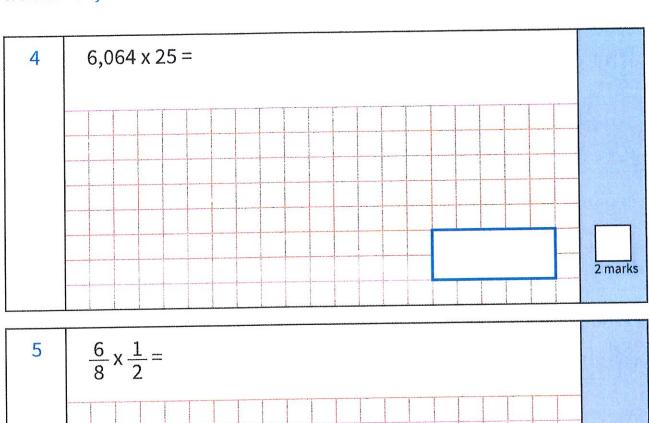
7. 
$$82 \times 0 = 0$$
 (M)

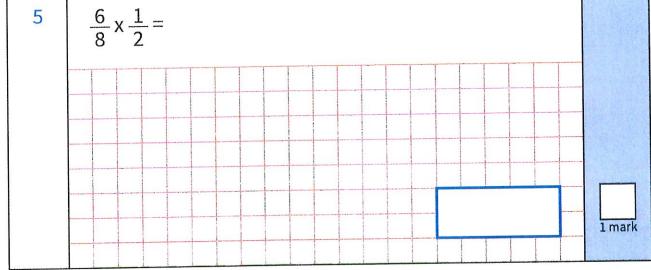
Fluent in	Five - Year 6
Week 16	- Day 3

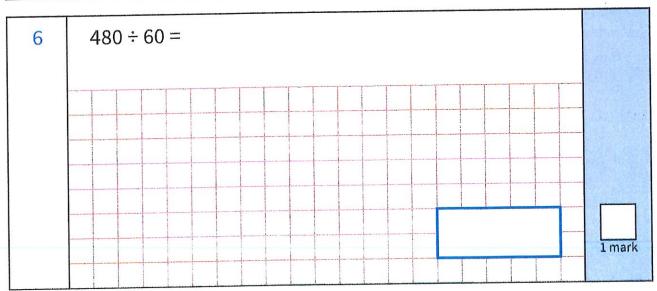


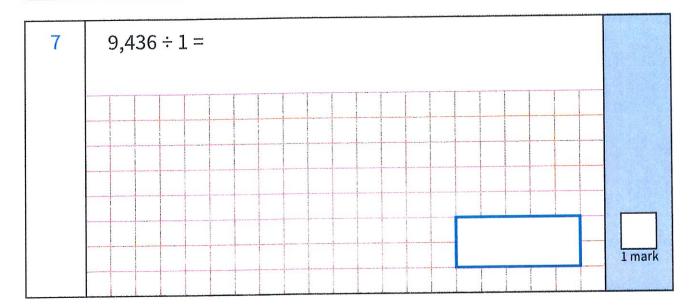












#### **Answer Sheet**

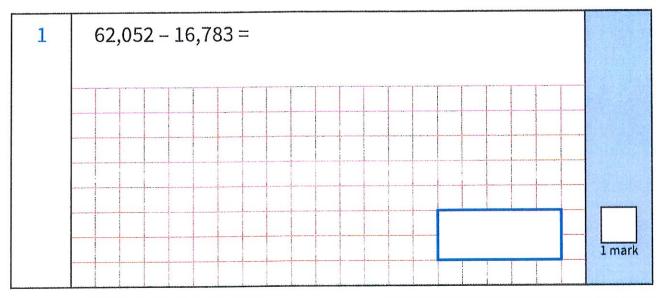
2. 
$$24 \div (6 \times 2) = 8 \text{ (M)}$$

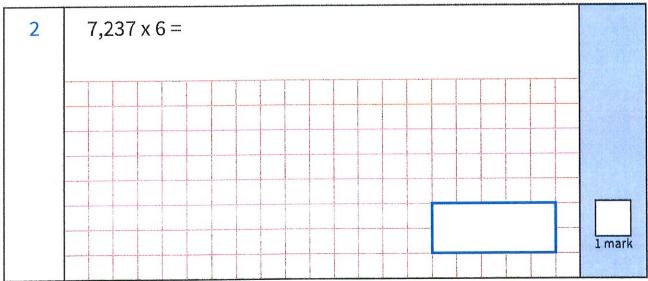
3. 
$$208 + 7 = 215$$
 (M)

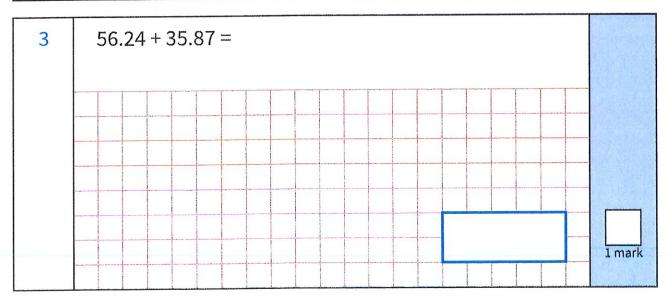
5. 
$$\frac{6}{8} \times \frac{1}{2} = \frac{6}{16}$$
 or  $\frac{3}{8}$  (M)

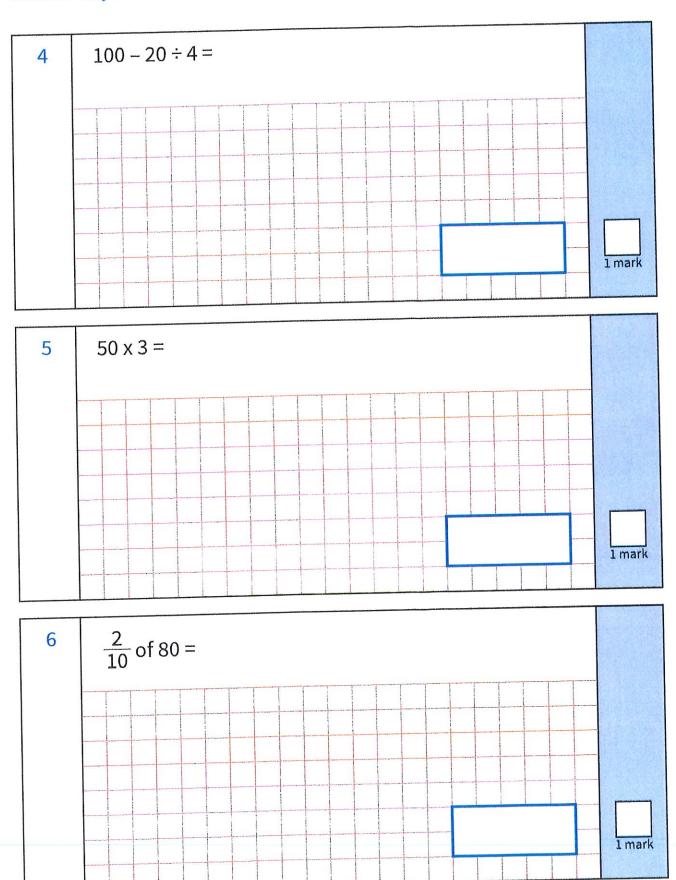
6. 
$$480 \div 60 = 8 \text{ (M)}$$

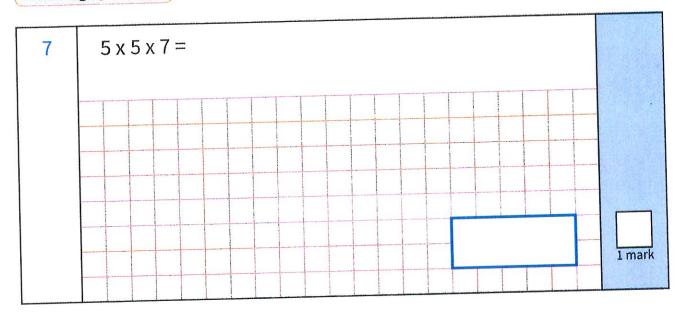
7. 
$$9,436 \div 1 = 9,436 \text{ (M)}$$











# **Answer Sheet**

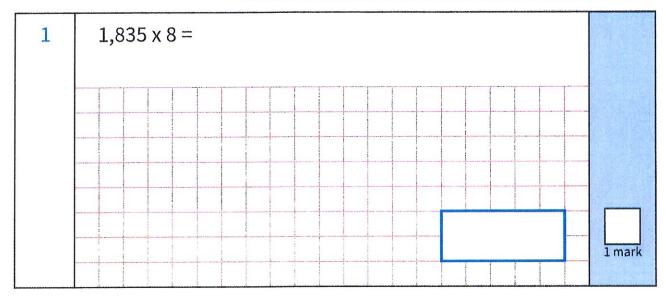
4. 
$$100 - 20 \div 4 = 95$$
 (M)

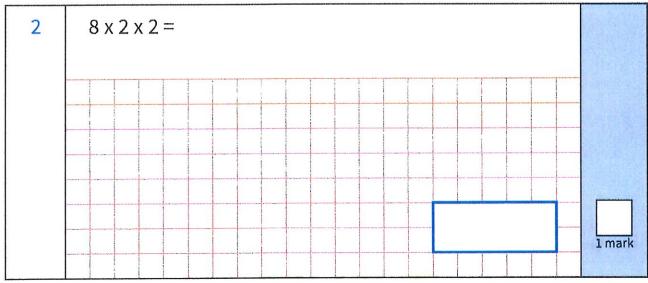
5. 
$$50 \times 3 = 150 (M)$$

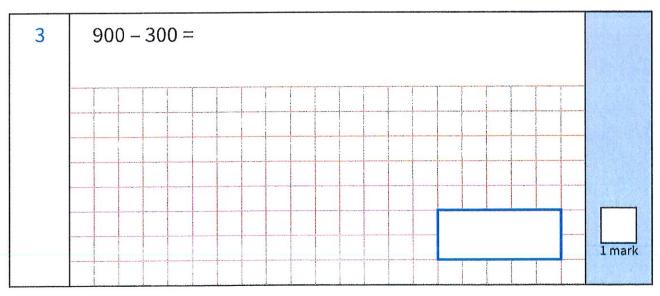
6. 
$$\frac{2}{10}$$
 of 80 = **16** (M)

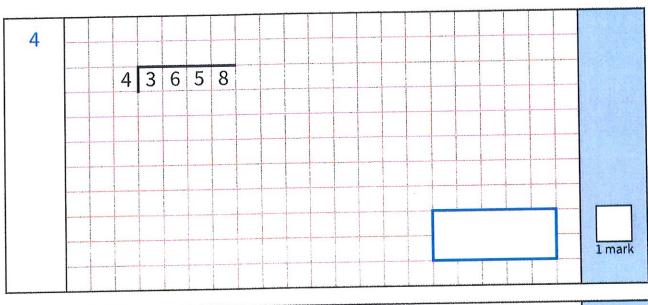
7. 
$$5 \times 5 \times 7 = 175$$
 (M)

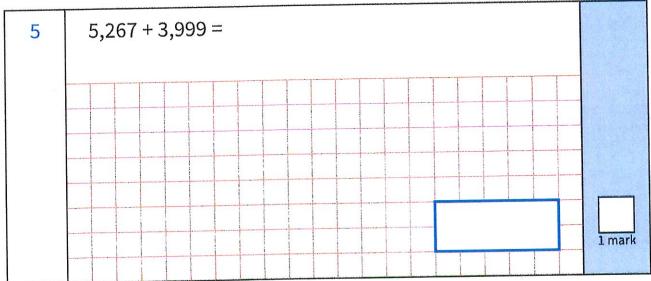


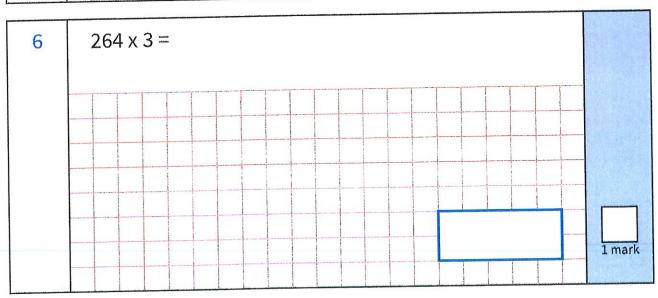


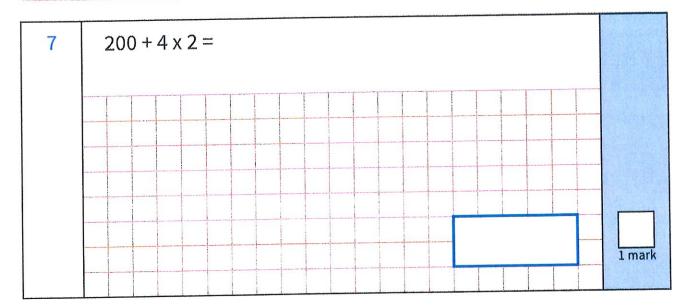












#### **Answer Sheet**

1. 
$$1,835 \times 8 = 14,680$$
 (W)

2. 
$$8 \times 2 \times 2 = 32$$
 (M)

3. 
$$900 - 300 = 600$$
 (M)

4. 
$$3,658 \div 4 = 914 \text{ r 2}$$
 or  $914\frac{2}{4}$  or  $914\frac{1}{2}$  or  $914.5$  (W)

6. 
$$264 \times 3 = 792 (W)$$

7. 
$$200 + 4 \times 2 = 208$$
 (M)

# Fluent in Five

Daily Arithmetic Practice Week 17

Year 6



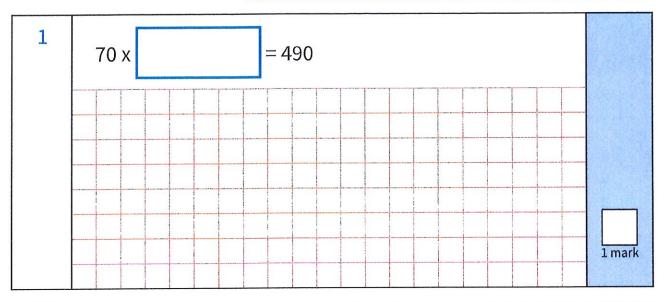
#### Year 6 - Week 17

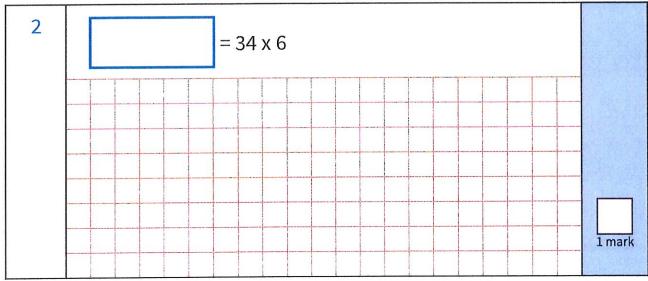
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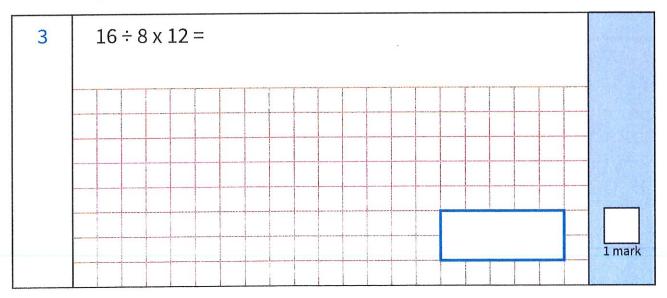
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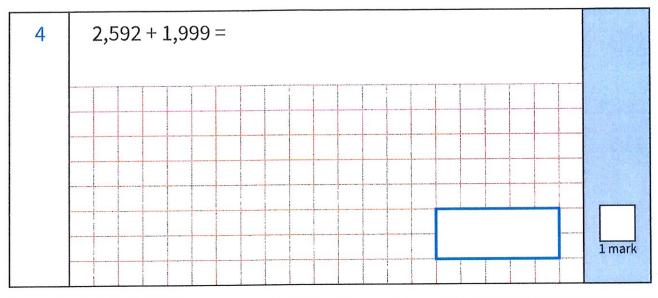
- Mental methods focus on questions which involve the application of the order of operations.
- Pupils will continue to recap on short multiplication and short division in the questions that require written methods.
- Written methods for addition and subtraction focus on large numbers (numbers with 5 or more digits) where each number has a different amount of digits.
- Fraction questions focus on adding and subtracting mixed numbers with different denominators.

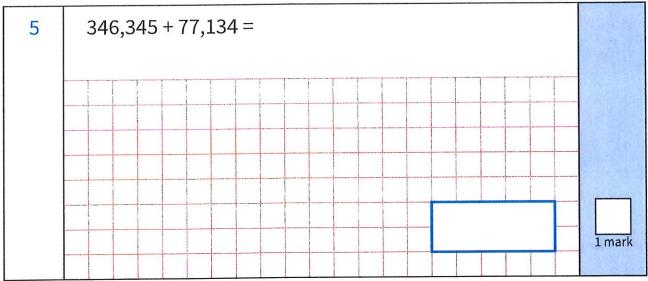


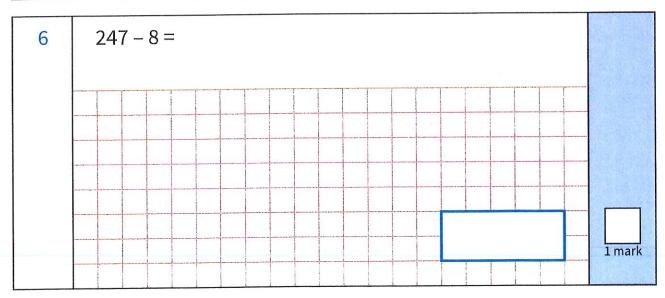


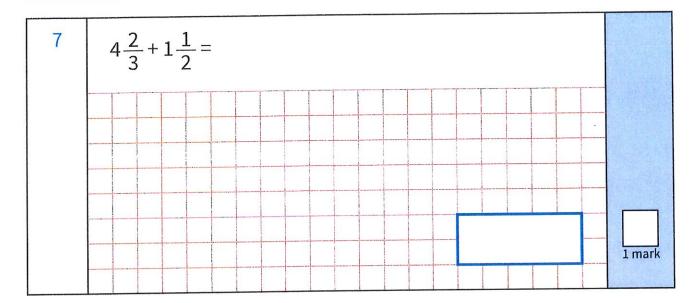












## **Answer Sheet**

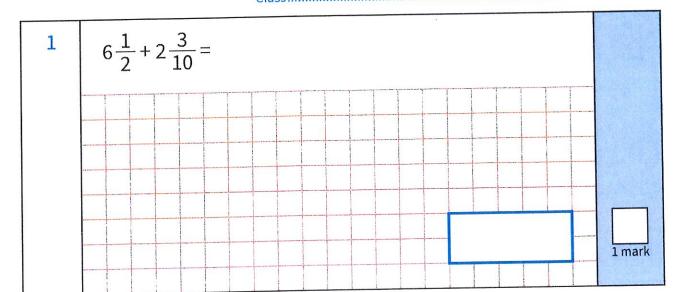
1. 
$$70 \times 7 = 490 (M)$$

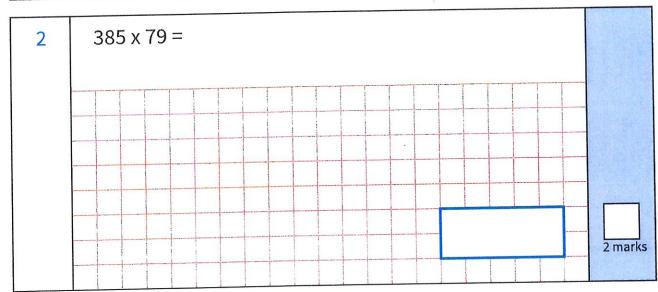
3. 
$$16 \div 8 \times 12 = 24 \text{ (M)}$$

6. 
$$247 - 8 = 239$$
 (M)

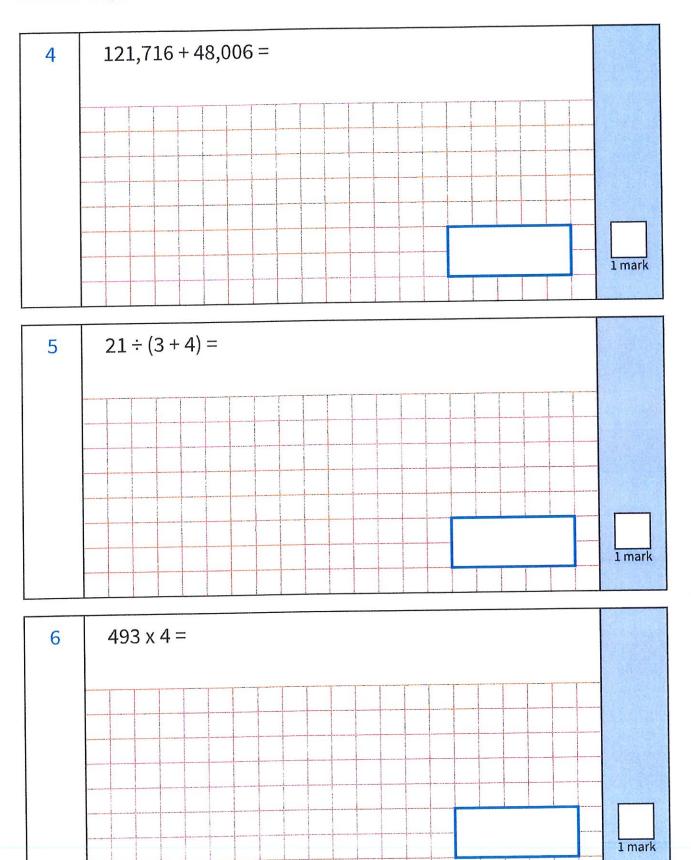
7. 
$$4\frac{2}{3} + 1\frac{1}{2} = 6\frac{1}{6}$$

Name	
Date	.School
Class	.Score











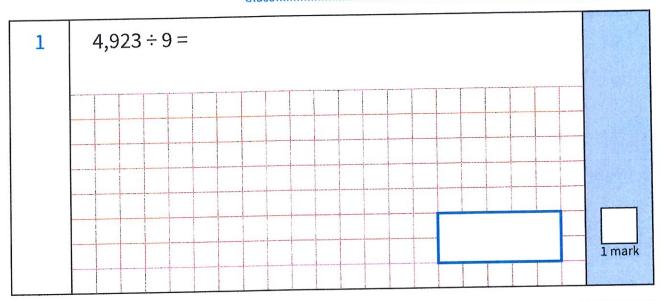
## **Answer Sheet**

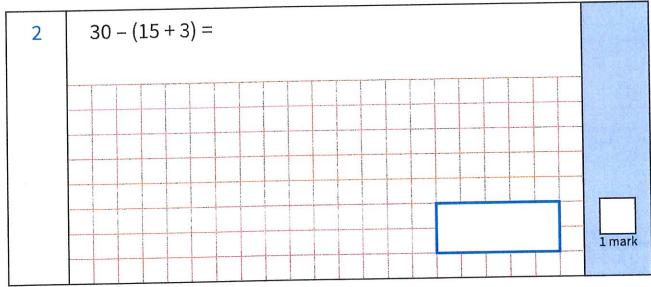
1. 
$$6\frac{1}{2} + 2\frac{3}{10} = 8\frac{8}{10}$$
 or  $8\frac{4}{5}$  (M)

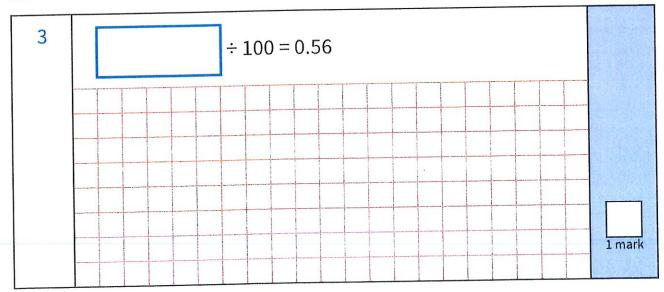
3. 
$$361 + 20 = 381$$
 (M)

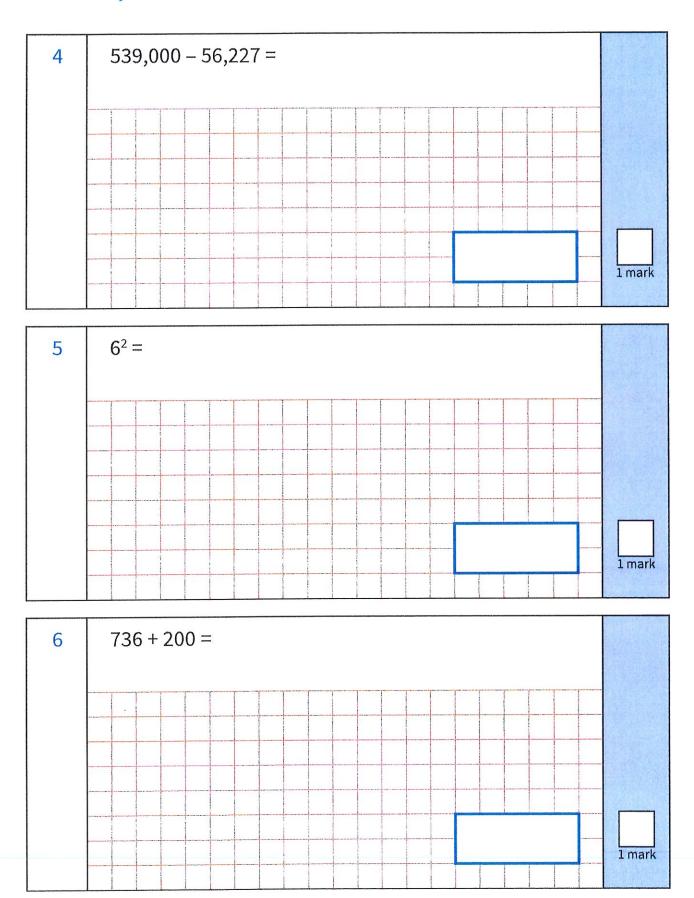
5. 
$$21 \div (3 + 4) = 3 \text{ (M)}$$

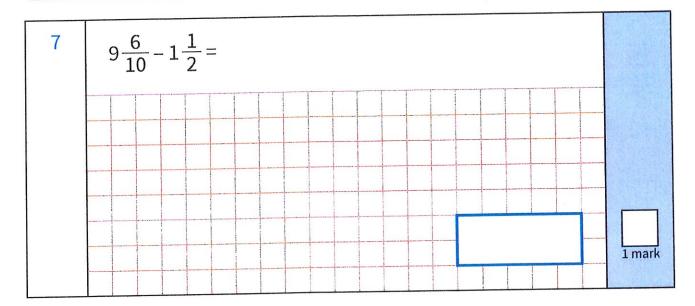
7. 
$$6 \times 3 \times 3 = 54 \text{ (M)}$$











# **Answer Sheet**

1. 
$$4,923 \div 9 = 547$$
 (W)

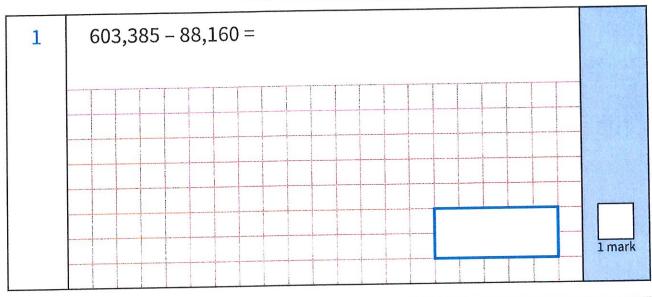
2. 
$$30 - (15 + 3) = 12 (M)$$

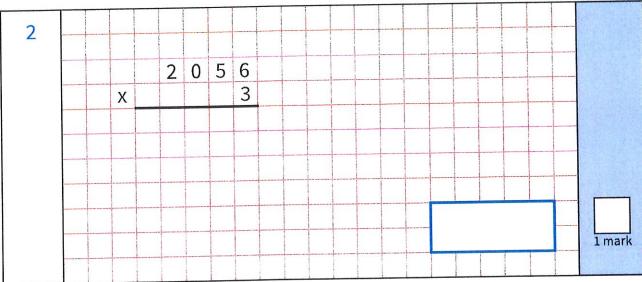
3. 
$$\mathbf{56} \div 100 = 0.56 \, (M)$$

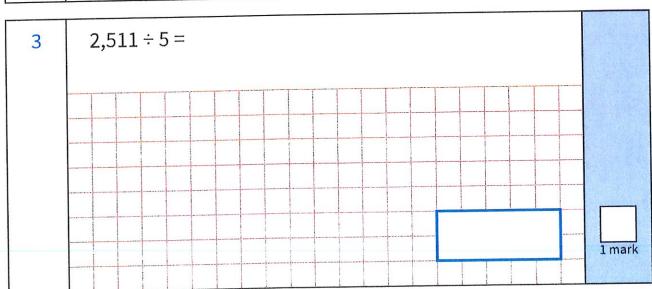
5. 
$$6^2 = 36 (M)$$

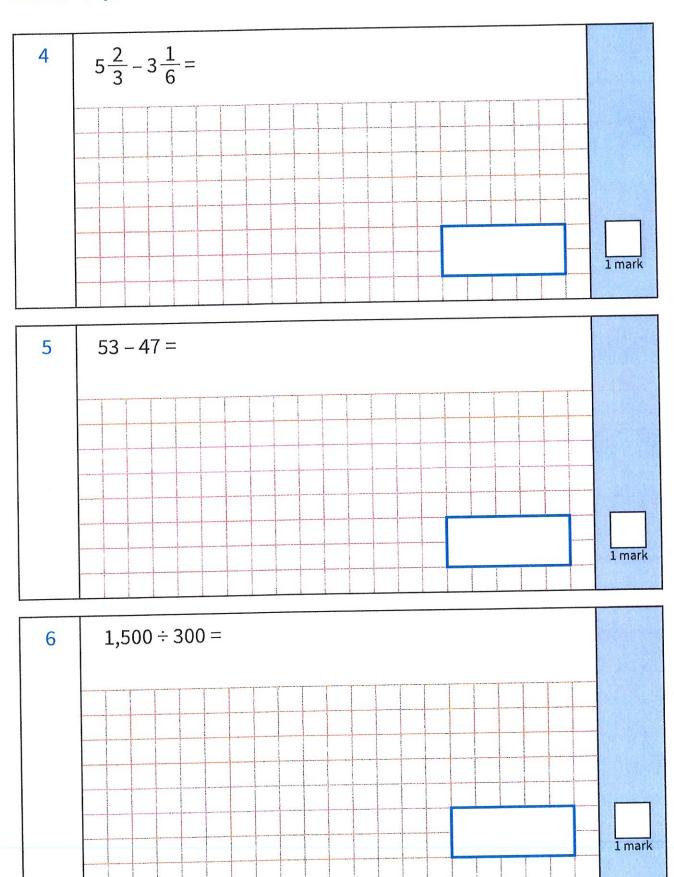
7. 
$$9\frac{6}{10} - 1\frac{1}{2} = 8\frac{1}{10}$$
 (M)

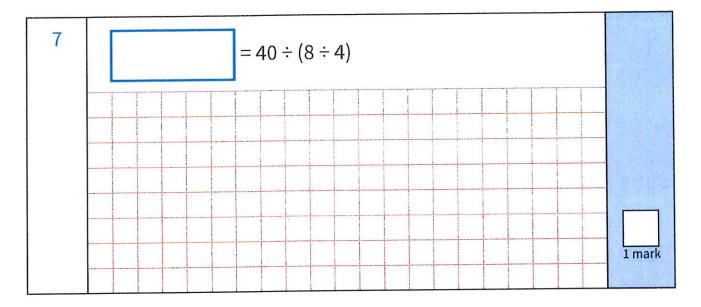
Fluent in Five - Year 6
Week 17 - Day 4











# **Answer Sheet**

2. 
$$2,056 \times 3 = 6,168 \text{ (W)}$$

3. 
$$2,511 \div 5 = 502 \text{ r 1}$$
 or  $502\frac{1}{5}$  or  $502.2 \text{ (W)}$ 

4. 
$$5\frac{2}{3} - 3\frac{1}{6} = 2\frac{3}{6}$$
 or  $2\frac{1}{2}$  (M)

5. 
$$53 - 47 = 6$$
 (M)

6. 
$$1,500 \div 300 = 5 \text{ (M)}$$

7. **20** = 
$$40 \div (8 \div 4)$$
 (M)