



My Y5 General Home Learning Pack & answers

My Name is: _____

My Mathletics log on is: _____

My Mathletics password is: _____

My Education City log on is: _____

My Education City password is: _____

Dear Parents and Carers

With the government now asking all schools to shut, we have put together a pack of activities to enable your child to continue their learning at home. In the first instance, the pack is designed to last for approximately two weeks. We will also try, as far as possible to post further ideas and suggested websites, on our own school website, that you can use with your child.

If your family is currently self-isolating, wherever possible, could you arrange for another parent to collect your child's pack or arrange for someone else to collect it from the school by 12noon on the first day of closure at the latest.

As it is likely that children will be spending more time online than they would normally at school, it is important that as parents you remind children about **the importance of online safety**. In the parents' section of our website (How to help your child) we already have an online safety section with a variety of activities as well as links to websites.

<https://www.st-marys-jun.hants.sch.uk/page/?title=Online+safety&pid=68>

General Activities

- Reading with your child – a list of suggested questions is included in the pack
- Times tables practice – there are lots of websites available including:
<https://www.timestables.co.uk/> <https://www.topmarks.co.uk>
- Years 3/4 - Education City
- Years 5/6 – Mathletics
- Writing activities – a story related to books they read, diary entry, really detailed description of an object or place
- Art – still life pencil drawing of a toy, flower, other household item or even a trainer. The following website will give you further ideas - <https://www.artforkidshub.com/>
- Indoor PE activities – keep active indoors – www.gonoodle.com
- Cooking
- Gardening

If you do have a query about the work, you can email the teachers - please copy all the teachers for your child's year group into your email – someone will endeavour to get back to you, but with the rapidly changing circumstances we cannot guarantee this.

Teacher Emails

Year 3

n.eckett@st-marys-jun.hants.sch.uk

e.sherlock@st-marys-jun.hants.sch.uk

a.whincup@st-marys-jun.hants.sch.uk

Year 4

d.mcgregor@st-marys-jun.hants.sch.uk

a.gibbs@st-marys-jun.hants.sch.uk

s.gill@st-marys-jun.hants.sch.uk

Year 5

m.rundle@st-marys-jun.hants.sch.uk

e.candy@st-marys-jun.hants.sch.uk

h.parsons@st-marys-jun.hants.sch.uk

f.pressner@st-marys-jun.hants.sch.uk

Year 6

e.king@st-marys-jun.hants.sch.uk

c.cosgrove@st-marys-jun.hants.sch.uk

p.rimmel@st-marys-jun.hants.sch.uk

Further information can be found in the Parents section – ‘How to help your child’, on our website:

<https://www.st-marys-jun.hants.sch.uk/page/?title=How+to+help+your+child%2E%2E%2E&pid=67>

- On the year group pages
- Maths section
- English section
- Emotional Well-being
- Music
- French

Whilst we don't want to dictate a timetable, as every family's circumstances will be different, all children will benefit from continuing to have a structured day, which you could agree as a family. In the packs that you have been, given each year group has a timetable suggestion about time that you should be spending on each subject.

The Year 5 Learning pack

Advice and suggestions – below are a slightly random list of helps and hints for how to help your child with their learning at home, it is only advice and suggestions and it is aimed to help:

- At school learning is a social activity as well as just getting on individually so “get on with what you’ve got to do” won’t work – children will become demotivated very quickly. Talk through regularly with your child what they are doing / learning. More than 10 minutes of individual, silent learning is hard to sustain for children unless they are really into it. So make it a fun family activity.
- Hear your child read, even if they are very good at reading already
- Have an agreed routine and timetable for your day that your child and you can refer to (at school we have written up what we will do / be learning and when). This will help your child not to be anxious, know what to expect is coming up in the day and also help you know what’s going on for the day. It might just be a list of times and what learning you/they will be doing at that time.
- We are suggesting that you spend 20 minutes on mathematics, 20 minutes writing (see later on for suggestions about this), 20 minutes reading and then 20 minutes other subjects. This timetable below has been found online – you might find it helpful but you might not, it is just an example & the eagle eyed will notice it contains more academic time than suggested above!

Before 9:00am	Wake up	Eat breakfast, make your bed, get dressed, put PJ's in laundry
9:00-10:00	Morning walk	Family walk with the dog Yoga if it's raining
10:00-11:00	Academic time	NO ELECTRONICS Sudoku books, flash cards, study guide, Journal
11:00-12:00	Creative time	Legos, magnetics, drawing, crafting, play music, cook or bake, etc
12:00	Lunch	
12:30PM	Chore time	A - wipe all kitchen table and chairs. B - wipe all door handles, light switches, and desk tops C - Wipe both bathrooms - sinks and toilets!
1:00-2:30	Quiet time	Reading, puzzles, nap
2:30-4:00	Academic time	ELECTRONICS OK load games, Prodigy, Educational show
4:00-5:00	Afternoon fresh air	Bikes, walk the dog, play outside
5:00-6:00	Dinner	
6:00-8:00	Free TV time	Kid shows x3
8:00	Bedtime	All kids

- Hear your child read to you
- Screen time (gaming or watching stuff) is hard to break off from because of the different brain chemicals it causes to be released – so save it until after more formal paper based learning has been done
- Have a family story that you are reading together and perhaps at the end of a mealtime or on the run up to bedtime you read some together which all the children are enjoying
- Praise the learning behaviours you want to see, e.g. “I love how you have persevered at your handwriting today” or “I am so impressed that you have tidied up your junk modelling so well today”
- Read your child’s book to them for a bit
- Chat about new and unusual words in your child’s book and write them in their reading record
- Read together – a page each
- Be outdoors where and when you can
- Read something unusual like a seed packet or some cooking instructions / recipe together
- Low mood = food, we see a real dip in attention and interest in learning from 10.30am and just before lunch and towards the end of the day because often low mood = need food. Healthy snacks can quickly change the mood.

Other Suggestions from some children in year 5 and some from their teachers

- Write a diary each day – 3 to 5 sentences where you capture a best moment, a funny moment and something that you discovered new or surprising
- Junk Modelling – some have suggested turning cereal boxes inside out first so that you can then decorate them!
- Science experiments - <https://www.stem.org.uk/resources> and then click “primary” has some lovely experiments you could do, it is a website for teachers and the language is for grown-ups so we suggest you look ahead of time and decide what to do
- Another useful website is <https://www.bbc.co.uk/teach/primary/zd7p47h> or search “bbc teach primary” which has some fun short videos in subject areas as well as other resources that you might like to look at
- Create and play a board game
- Art topic – create a collage
- Use Mathletics - see front covers for log on details
- Use Education city – see front cover for log on details
- Do some exercise! Joe Wicks on youtube does a 5 minute work out for children – search “Joe Wicks 5 minute move”
- Create a garden sculpture
- Create a poster about anything you like, perhaps about your favourite thing to do
- Write a letter to a relative, photograph it and email it through to prevent the spread of germs
- Create a photo montage of picture you make then share it with a loved one you can’t visit at present, perhaps turn a few pictures you draw into an animation
- Have a daily checklist of what you need to do and tick them off each day
- Do some cooking or baking together and use the experience to inspire you to write a short story or perhaps a recipe
- Draw a symmetrical pattern using a ruler and then add colour
- Create a comic strip
- Have some time sat quietly and calmly listening to the sounds around you
- Write a book review – what would people want to know or need to know to be persuaded to read that book
- Write a film review - what would people want to know or need to know to be persuaded to watch the film
- Make a time capsule (search online for more information)

PACKS – We have created these packs, there is a Maths pack and a general pack that includes answers to all we have set where answers are required.

Best wishes,

The Year 5 team

Practice ①

marvellous

mischievous

muscle

necessary

neighbour

Practice ②

nuisance

occupy

occur

opportunity

parliament

Practice (3)

persuade

physical

prejudice

privilege

profession

Practice (4)

programme

pronunciation

queue

recognise

recommend

Practice ⑤

relevant

restaurant

rhyme

rhythm

sacrifice

Practice ⑥

secretary

shoulder

signature

sincere

sincerely

Practice ⑦

soldier

stomach

sufficient

suggest

symbol

Practice ⑧

system

temperature

through

twelfth

variety

Practice (9)

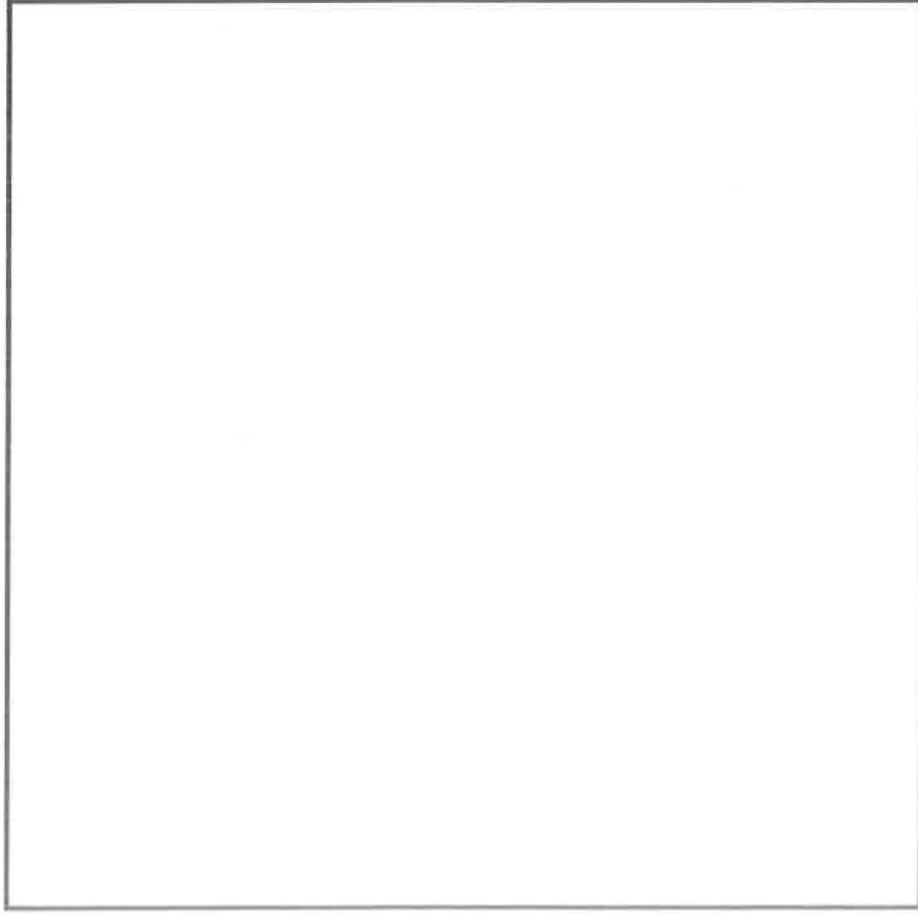
vegetable

vehicle

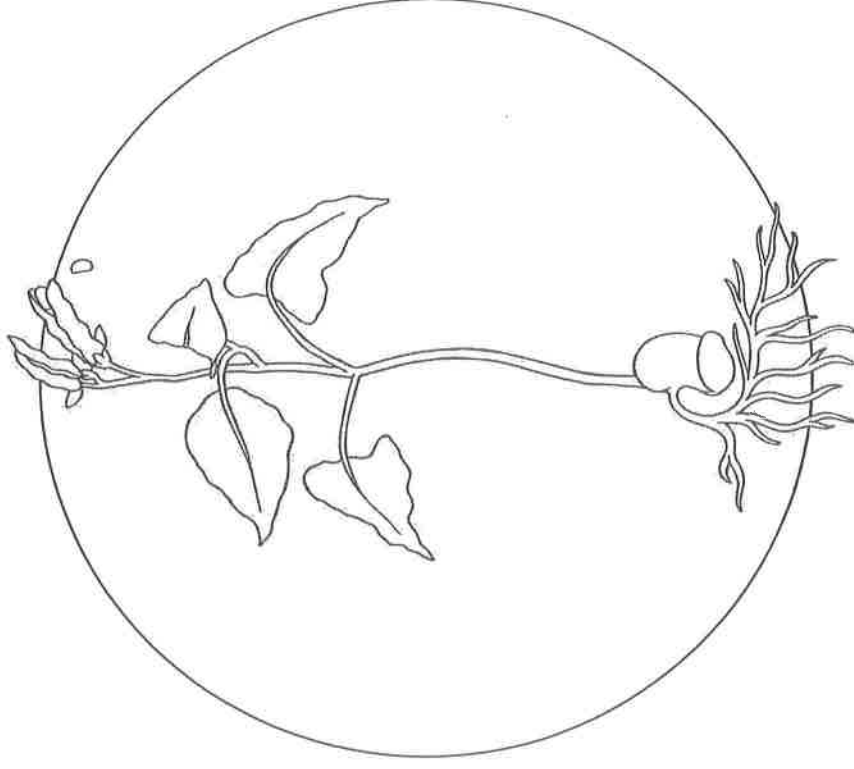
yacht

Date: _____

**Plants need these things
to grow healthily:**



Bean Plant Diary

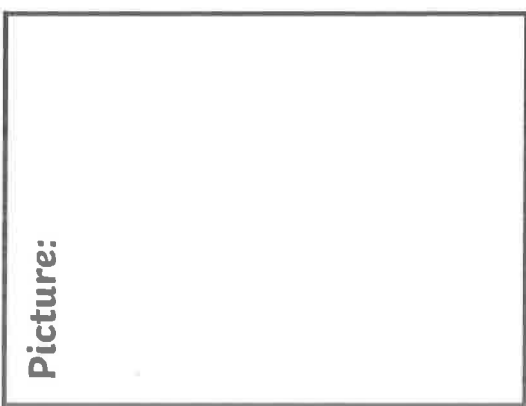


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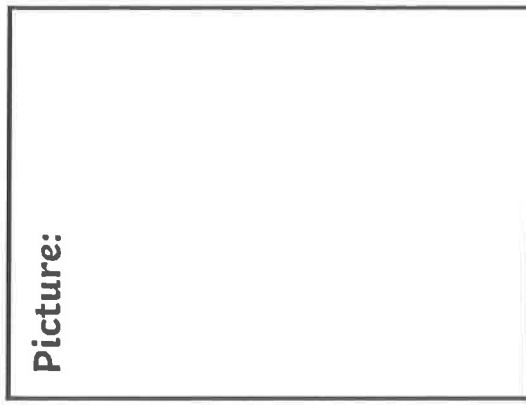


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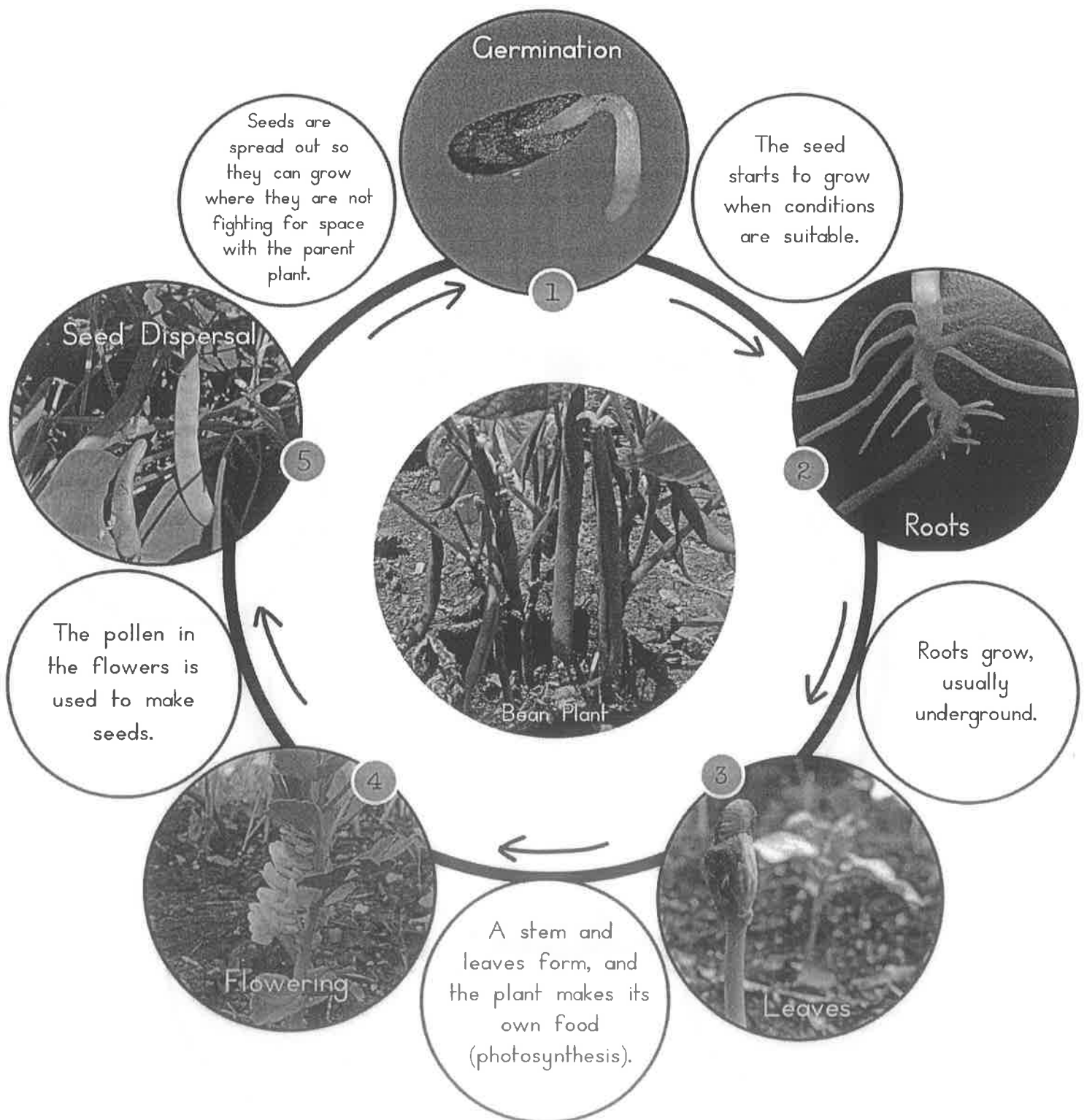
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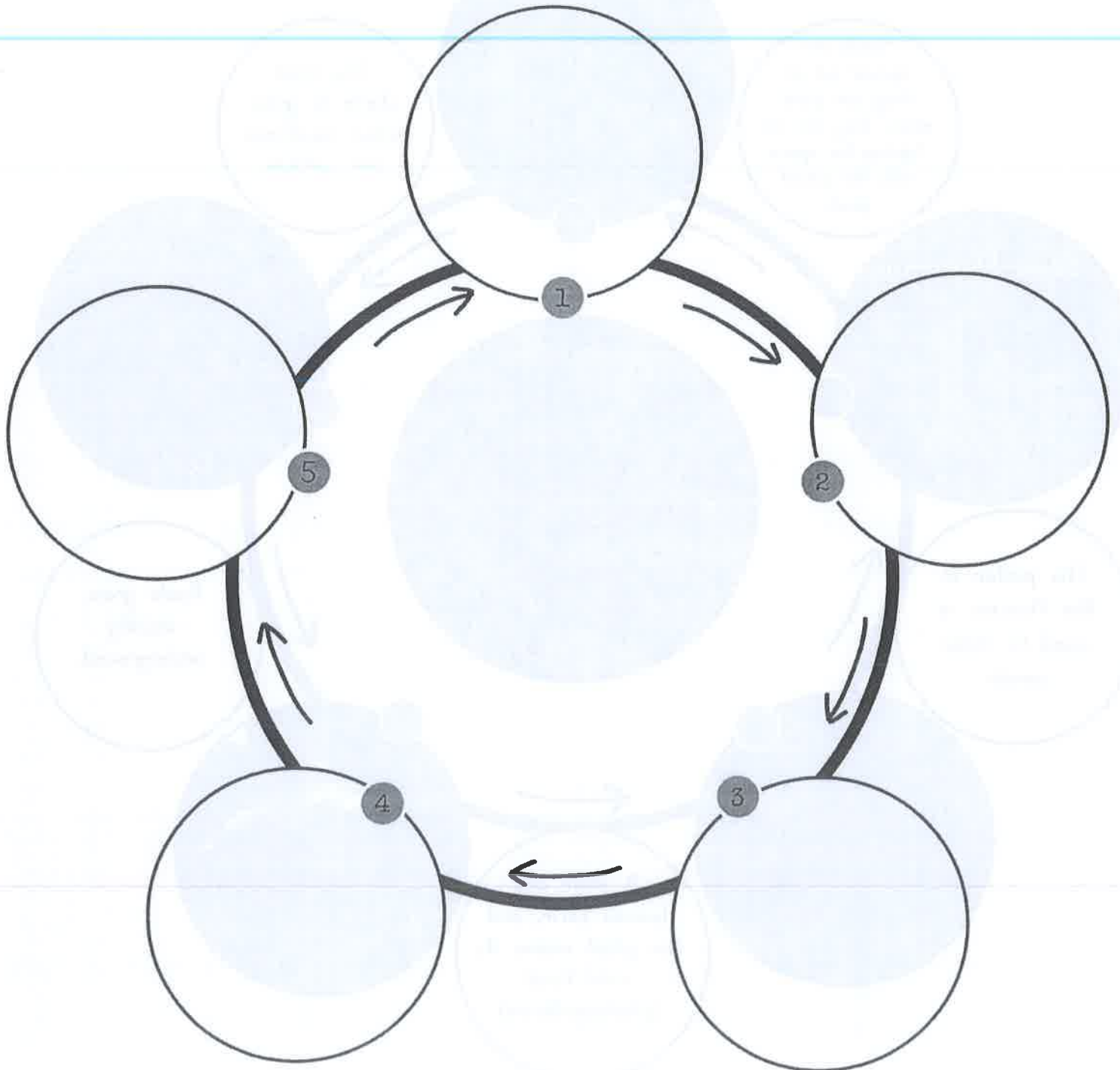
The Flowering Plant Life Cycle



Life cycle images courtesy of: Royal Tasmanian Botanical Gardens, OakleyOriginals, Tony Austin, BlueRidgeKitties, ilovebutter, Faria, Noel Pennington, Incountryfan and kayanwong223 all @iStock.com granted under creative commons licence - attribution

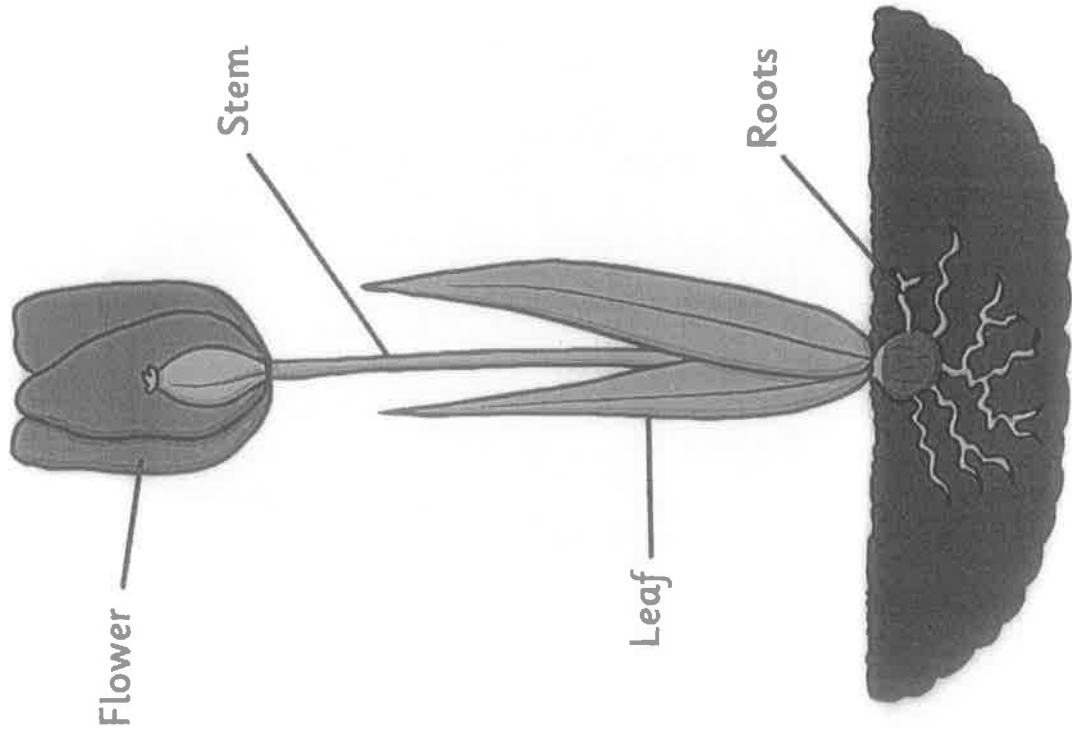
The Flowering Plant Life Cycle

Complete by drawing a picture and writing a title / explanation for each stage.

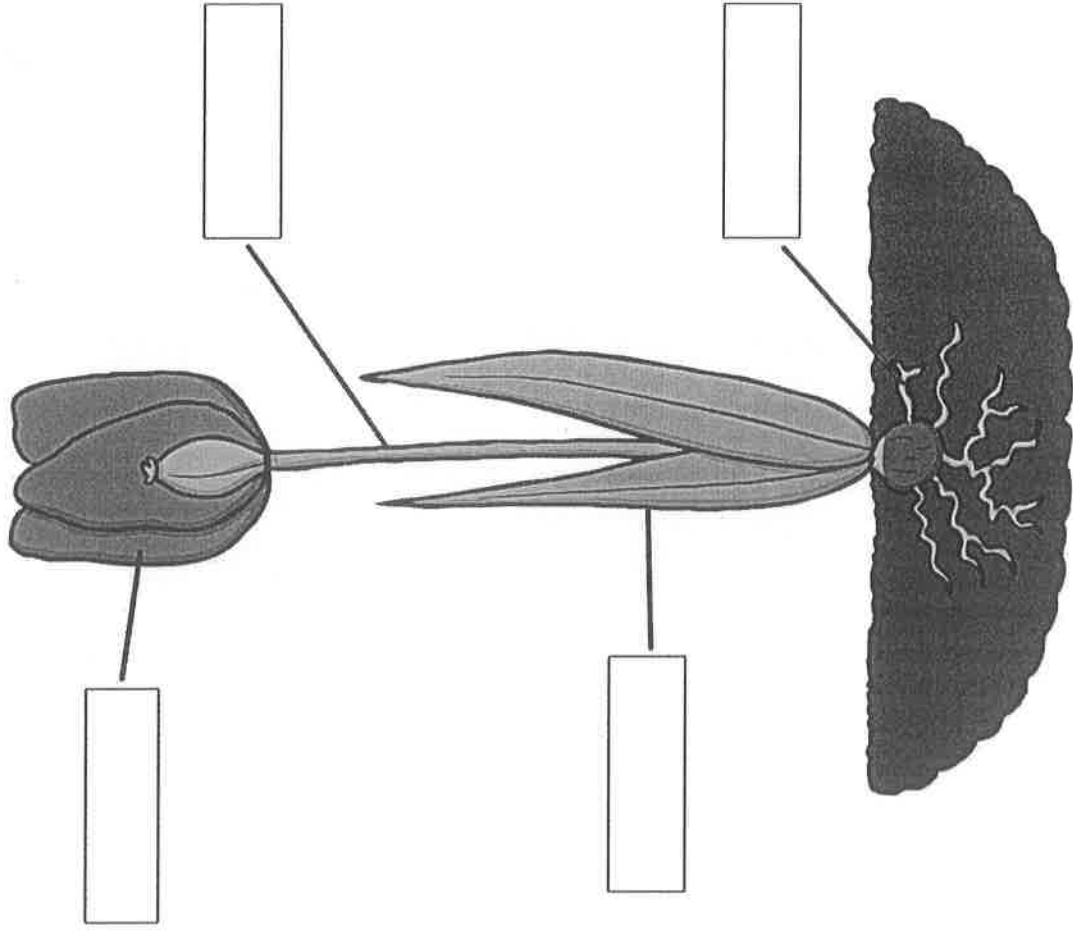


Life cycle images courtesy of: Royal Tasmanian Botanical Gardens, OakleyOriginals, Tony Austin, BlueRidgeKitties, ilovebutter, Farial, Noel Pennington, Incountryfan and karyanwong223. All ©iStock.com. Granted under creative commons licence - attribution.

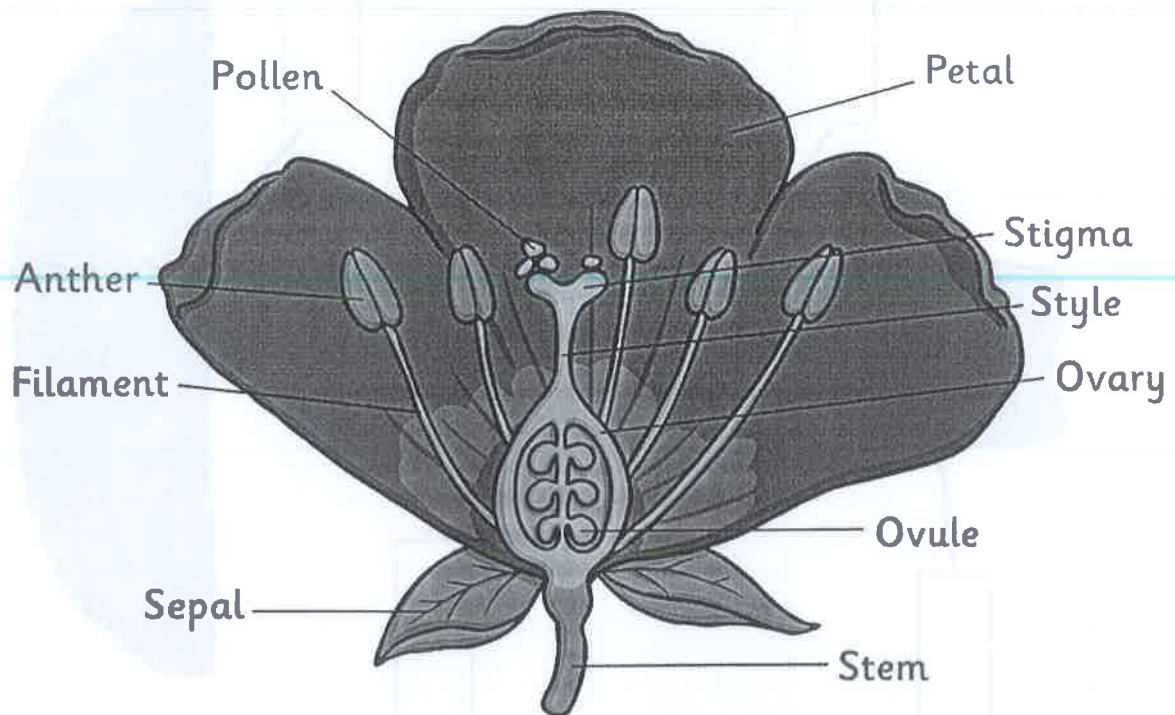
Parts of a Plant



Parts of a Plant

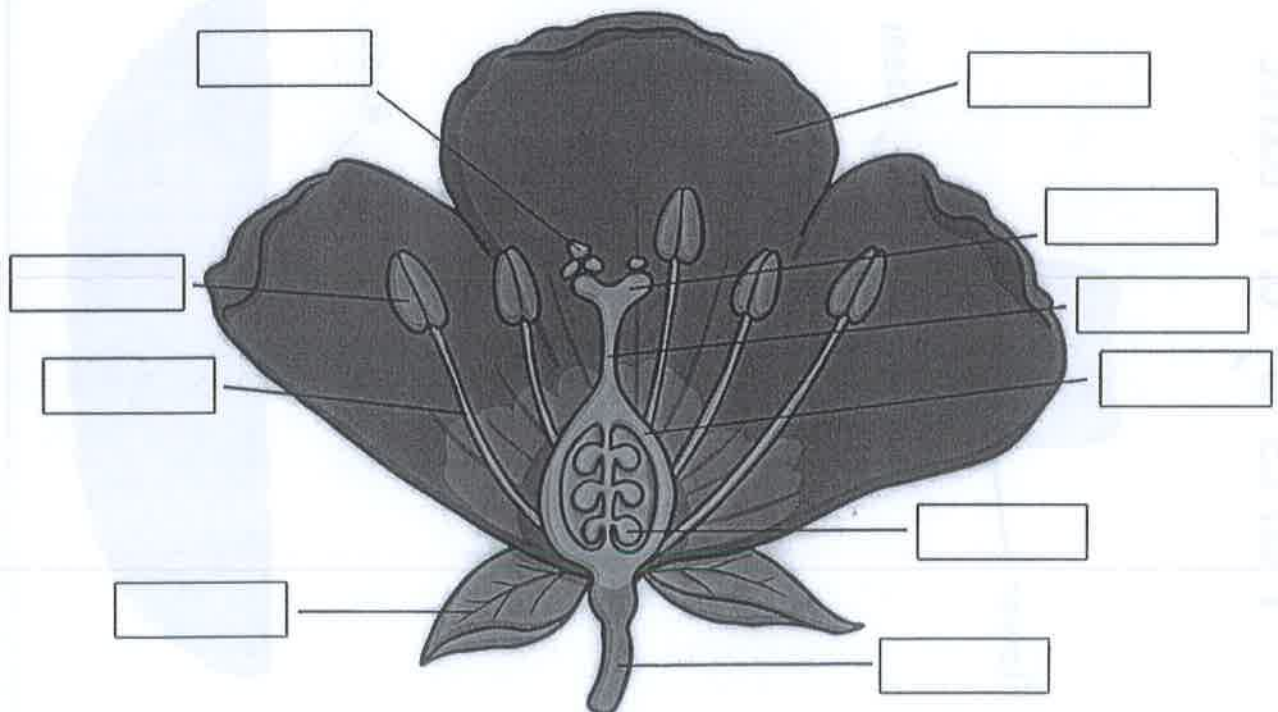


Parts of a Flower



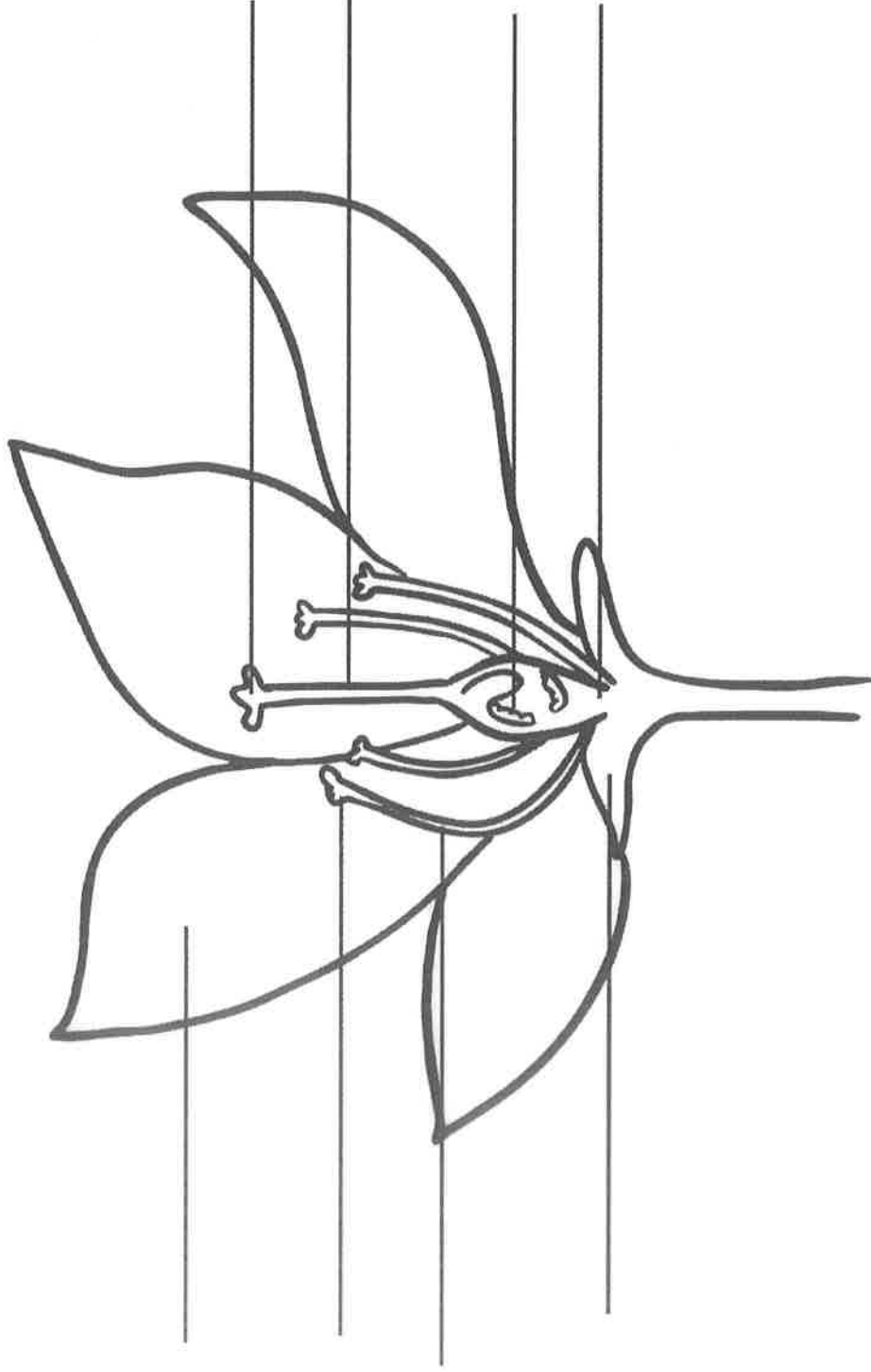
Label up and learn the names

Parts of a Flower



Parts of a Flower

Label the different parts of the flower and colour



Seed Dispersal Worksheet



Name:

Date:

A plant produces many seeds. If all the seeds fell to the ground not many would germinate. The area would become over crowded and there would not be enough water or minerals for all the seeds. Plants have developed so that seeds can be transported in a number of different ways: by the wind, by animals eating them, by water or by sticking to animals.

Write how each seed is dispersed.



sycamore



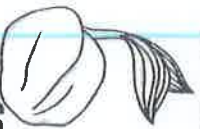
poppy



burdock



berries



coconut

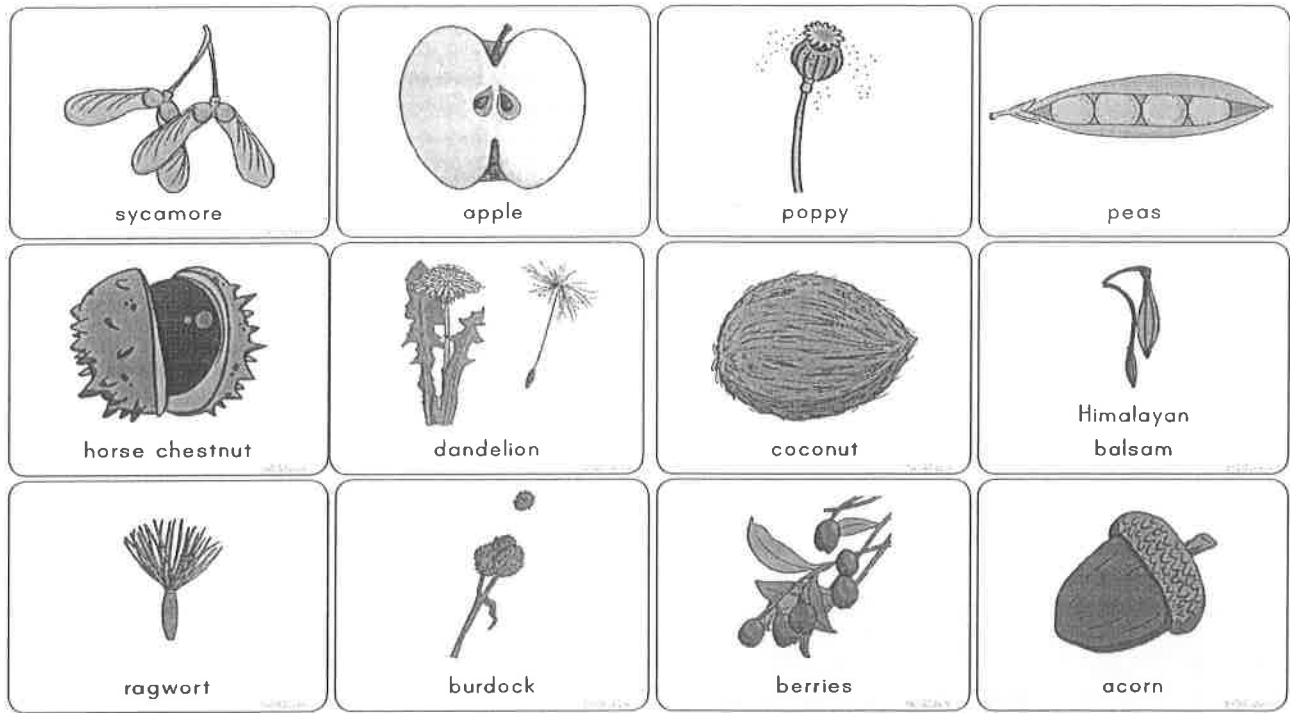


acorn

Describe how an apple seed could be dispersed by water.



Seed Dispersal Sorting

Cut out the squares and sort them into the correct page



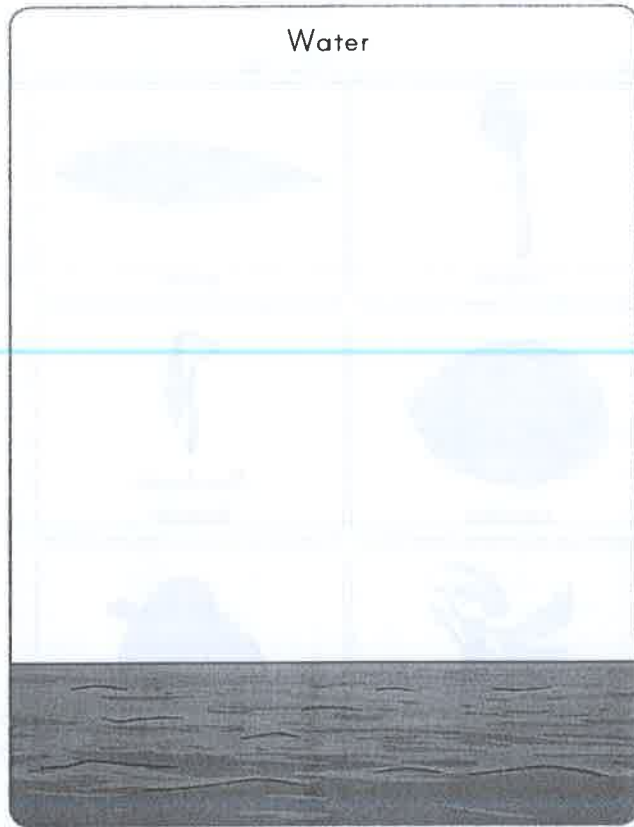
Seed Dispersal Sorting

Some seeds can be dispersed in more than one way so some seeds can be put on more than one sheet,

<div data-bbox="140 1332 359 1433"></div> <div data-bbox="414 1332 502 1377">Wind</div>	<div data-bbox="973 1332 1228 1377">Eaten by Animals</div> <div data-bbox="1276 1982 1404 2128"></div>

Seed Dispersal Sorting

Some seeds can be dispersed in more than one way so some seeds can be put on more than one sheet.



visit [twinkl.com](https://www.twinkl.com)



Seed Dispersal Sorting

Some seeds can be dispersed in more than one way so some seeds can be put on more than one sheet.





visit [twinkl.com](https://www.twinkl.com)



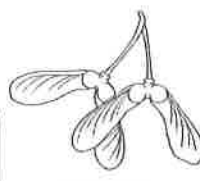
Answers

Wind







dandelion



sycamore




poppy

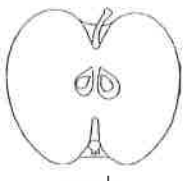


ragwort


Eaten by Animals




ragwort




apple




peas




acorn




berries




horse chestnut




Water




Himalayan
balsam

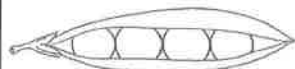


coconut




Exploding






peas



poppy



Himalayan
balsam

Answers

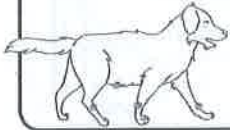
Catching a Lift



horse chestnut

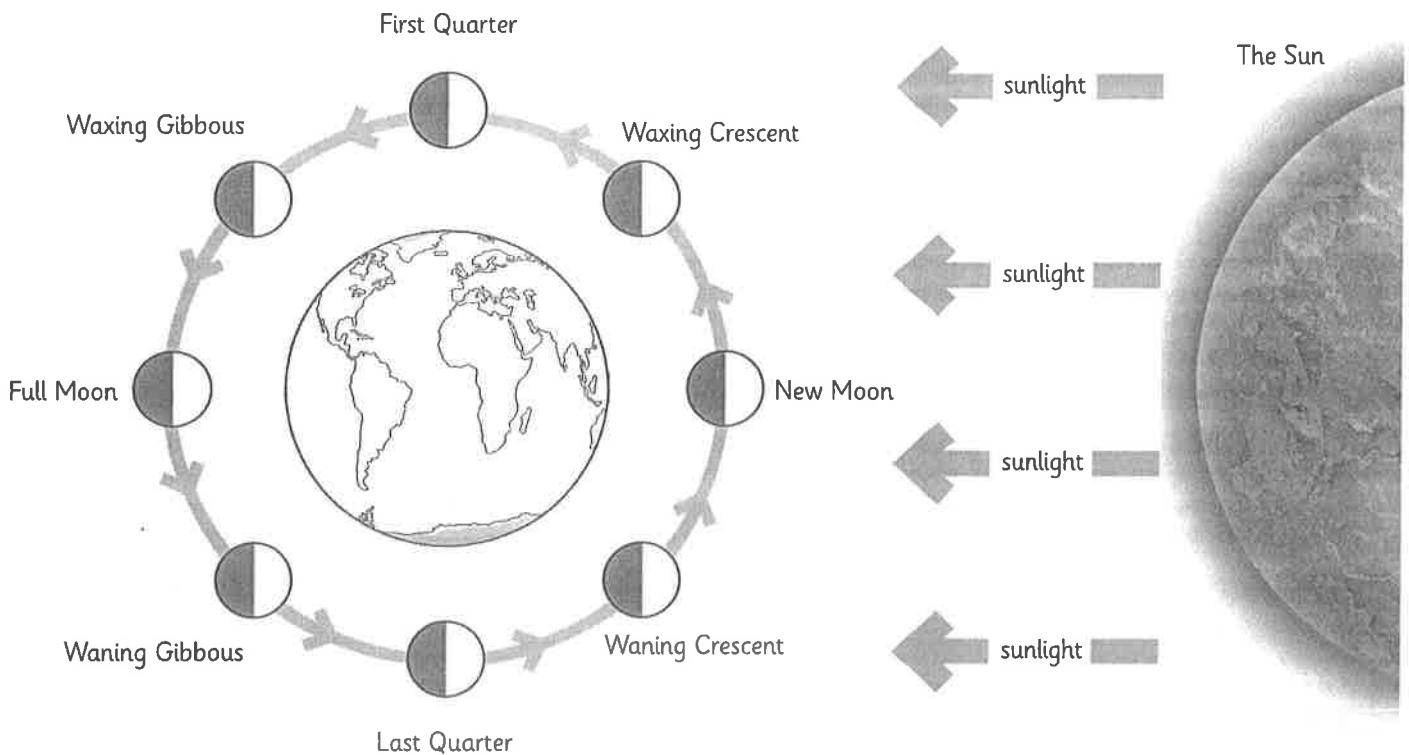


burdock



Waxing of the Moon

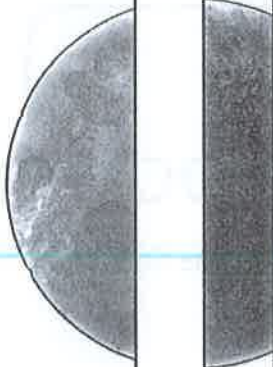
As the Moon travels around the Earth, we see different parts of the Moon that are lit by the Sun. These are called phases of the Moon.



Draw a line from each of the phases of the moon to the correct position in the sequence from new moon to new moon.











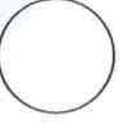

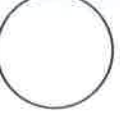



















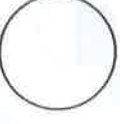

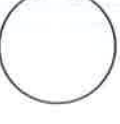
New Moon	Waxing Gibbous	Full Moon	Waxing Crescent	Waning Crescent	Waning Gibbous

My Moon Diary



Time to check Moon each night:	Month of diary commencement:
--------------------------------	------------------------------

Shade the circle so that the section of the Moon that is illuminated remains. Draw clouds over it if you can't see it!

 Date: _____	 Date: _____	 Date: _____	 Date: _____	 Date: _____	 Date: _____	 Date: _____
 Date: _____	 Date: _____	 Date: _____	 Date: _____	 Date: _____	 Date: _____	 Date: _____
 Date: _____	 Date: _____	 Date: _____	 Date: _____	 Date: _____	 Date: _____	 Date: _____
 Date: _____	 Date: _____	 Date: _____	 Date: _____	 Date: _____	 Date: _____	 Date: _____
 Date: _____	 Date: _____	 Date: _____	 Date: _____	 Date: _____	 Date: _____	 Date: _____

Rainforest Deforestation

Rainforests are a very important part of our planet, giving us oxygen, absorbing carbon dioxide and giving a home to 50% of the animal and plant species of the planet. Not to mention the medicines and cures that are made from the plants that grow there.

Deforestation

Deforestation is the name given to the destruction of the rainforests and this is being done by burning them down, chopping down the trees or flooding the areas. This is happening so fast that an area the size of twenty football pitches is being destroyed every minute! If this carries on at this speed, it will take less than a hundred years to destroy all the rainforests on Earth.



Fact File in Numbers

- 20% of the world's oxygen is produced in the Amazon forest.
- 28,000 species of animals are expected to become extinct in the next 25 years due to deforestation.
- 50% of the tropical rainforests that we had have already gone.

Why are they being destroyed?

The biggest reason for clearing the rainforests is to make space for producing food, including cattle to be farmed for cheap beef and also growing large crops, such as soya beans and palm oil. In addition, other causes of deforestation, which are also related to making money include: chopping down and using the wood from the forest; building roads for mining metals, gold or diamonds; flooding areas to make dams to generate electricity and also digging for oil.

How can they be saved?

You could help by raising money for a deforestation charity. Also, you could think about the reasons that the forests are being destroyed and how you could help. For example, the cheap beef farmed in the areas that used to be rainforest land is often used in fast food chains. Could you avoid eating fast food from these outlets? You could also check on your supermarket food labels - was it farmed in an area where deforestation is taking place? You could also use rainforest friendly wood so you know it is not a product of deforestation. Finally remember, paper comes from trees so any paper saving you can do, as well as recycling, will help the environment.



Questions about Rainforest Deforestation

1. Name a reason not to destroy rainforests given in the first paragraph.

2. Name **one** of the three ways given that a rainforest can be destroyed.

3. What does 'deforestation' mean?

4. In the fact file, what does the word 'extinct' mean?

5. Why does saving paper help the rainforests?

6. Why has the author used an exclamation mark in paragraph two?

7. What **fraction** of the earth's plant and animal species live in the rainforests?

8. What is the main reason that rainforests are being destroyed?

9. Which rainforest produces 20% of the world's oxygen?

10. What is your opinion about deforestation? What could you do to try and help stop it?

Questions about Rainforest Deforestation

Answers

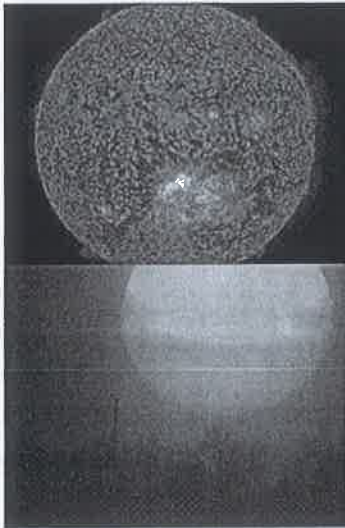
1. Name a reason not to destroy rainforests given in the first paragraph.
Any from: medicines, cure for cancer, 50% of animal and plant species live there, gives out oxygen, absorbs carbon dioxide.
2. Name one of the three ways given that a rainforest can be destroyed.
Any from: burning, chopping down, flooding.
3. What does 'deforestation' mean?
Clearing a forest area/ chopping, burning down trees/ getting rid of forests.
4. In the fact file, what does the word 'extinct' mean?
None of that animal/species existing ever again/ none left.
5. Why does saving paper help the rainforests?
Paper is made from wood (making it also causes more carbon footprint).
6. Why has the author used an exclamation mark in paragraph two?
The rate of destruction is surprising (discuss this).
7. What fraction of the earth's plant and animal species live in the rainforests?
1/2 (the text says 50%).
8. What is the main reason that rainforests are being destroyed?
Food: Cheap beef, or agricultural crops including soya or palm oil.
9. Which rainforest produces 20% of the world's oxygen?
The Amazon Rainforest.
10. What is your opinion about deforestation? How could you help to stop it?
Open ended for discussion. Answers could discuss raising money for charities, making different choices about food and conserving paper.

The Sun

The Sun is a star just like our other stars but much, much bigger. It is right at the centre of our solar system. That is why it is called a solar system. The word solar means 'relating to the Sun'. The planets in our solar system stay together because the Sun is so big its gravity keeps us all travelling round it in oval or circle-shaped orbits.

Making Energy:

- The Sun gives us almost all the energy, light and heat needed for us to live on Earth.
- It uses two gases for this: hydrogen and helium.
- Energy is made at its core right in the middle of the Sun.
- The next layer is the radiative zone which takes energy to the next layer – the convection zone. It takes about 170,000 years for the energy to move from the core to the convection zone!
- The photosphere is at the Sun's surface and the energy gets to there from the convection zone in big bubbles. From here, the energy escapes from the sun through the outer layers and some of it comes to Earth. It takes about 8 minutes for heat to reach us from the Sun.



Did you know?

Surface temperature: 5505°C

Distance to Earth: 149.6 million km

Radius: 696,342 km

Circumference: 4,366,813 km (2,713,406 miles)

Mass: 1,989,000,000,000,000,000,000,000,000kg

(About 1.3 million Earths could fit inside the Sun)

Lifespan:

The Sun is actually a yellow dwarf star and started about 4.6 billion years ago. It shall eventually run out of energy, but don't worry...not for over 4.5 billion years yet! Before the Sun dies, it will get bigger and turn into what is called a 'red giant'. In 1.1 billion years from now, the Sun will be 10% brighter than it is today. This will make Earth really hot and damp. 3.5 billion years from now, it will be even brighter than that, 40% brighter than it is today. This will be so hot that the oceans will boil and the ice will melt. There will be no life on Earth by then, but with astronauts and scientists already making new discoveries and exploring other planets, where do you think humans will be by then?

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Questions About The Sun

1. What gases is the Sun mainly made from?

2. How long does it take energy to reach Earth from the Sun?

3. How far away is the Sun from Earth?

4. What type of star is the Sun now?

5. List the 4 layers of the Sun from the centre to the outside.

6. What keeps our solar system of planets orbiting the Sun?

7. Solar means 'relating to the Sun'. Think of another example where we use the word 'solar'.

8. Will the Sun last forever? If not, why not?

9. Why has the author used an exclamation mark in this sentence to show surprise?

'It takes about 170,000 years for the energy to move from the core to the convection zone!'

10. Look at the final line - where do you think humans will be by then?

Questions About The Sun

Answers

1. What gases is the Sun mainly made from?

Hydrogen and helium

2. How long does it take energy to reach Earth from the Sun?

8 minutes

3. How far away is the Sun from the Earth?

149.6 million km

4. What type of star is the Sun now?

A yellow dwarf

5. List the 4 layers of the Sun from the centre to the outside.

Core, radiative zone, convection zone, the photosphere.

6. What keeps our solar system of planets orbiting the Sun?

The Sun's gravity

7. Solar means 'relating to the Sun'. Think of another example where we use the word 'solar'.

Any including: solar panels, solar energy, solar power, solar eclipse, solarium, solar cell, solar year

8. Will the Sun last forever? If not, why not?

No. It will use all its energy eventually.

9. Why has the author used an exclamation mark in this sentence to show surprise?

'It takes about 170,000 years for the energy to move from the core to the convection zone!'

Discuss around: 170,000 years is probably much longer than you would guess it would take for energy to move from the core to the next layer.

10. Look at the final line - where do you think humans will be by then?

Open ended for discussion.

There's every possibility we may be in other solar systems or galaxies by then.

Planet Earth

Why do we live on Earth? Well, Earth is the only planet in our solar system that has all the things we need to live: oxygen in the air to breathe, water to drink and all at just the right temperature warmed by the Sun.

The Blue Planet:

Earth is third planet from the Sun and is also called 'The Blue Planet' because of how it looks from space – blue. This is because over $\frac{2}{3}$ of the Earth's surface is covered in water.



Did you know?

Age: about 4.54 billion years

Diameter: 13,000 km

Distance to Sun: 150,000,000 km

Surface Temperature: 15°C

Highest point: Mount Everest 8.8 km

Lowest point: Challenger Deep 10.9 km below sea level

I'm Spinning Around:

The Earth spins on its axis once every 24 hours – that's what gives us day and night as we spin to face the Sun and then away from it again. You wouldn't notice but the Earth's spin is actually slowing down by 17 milliseconds per hundred years. Eventually this will lengthen our days but it will take around 140 million years before our day will have increased from 24 to 25 hours. I wonder if children 140 million years from now will have an extra hour at school.

Whilst it is spinning, the Earth is also orbiting the Sun, which takes $365\frac{1}{4}$ days to do one full circuit. This gives us the length of our years. Our seasons are also dependent on the orbit of the Earth as our planet is tilted at an angle. This means that around one side of the Sun we are tilted towards it – giving us warmer temperatures and longer days...our summer. However, around the other side of the Sun we are tilted away from it giving us less light and cooler temperatures – so this is our winter. All in all, it's a pretty amazing planet and I, for one, am glad to call it home.

Photo courtesy of (Kevin M. Gill@flickr.com) - granted under creative commons licence - attribution

Questions About Planet Earth

1. How high is the highest mountain on Earth?

2. How long does it take the Earth to spin once on its axis?

3. Will the Earth always spin at this speed? If not, how will it change?

4. How many planets are between us and the Sun and can you name them?

5. Why do we experience summer around one side of the Sun?

6. Why is Earth also called 'The Blue Planet'?

7. What 3 things make it possible for us to survive on Earth?

8. Why do we need to add an extra day to our year every 4 years?

9. Which fact or piece of information has amazed you the most and why?

10. Find out more about Challenger Deep on the Internet.

[illegible]

Questions About Planet Earth

Answers

1. How high is the highest mountain on Earth?

8.8km

2. How long does it take the Earth to spin once on its axis?

24 hours/1 day

3. Will the Earth always spin at this speed? If not, how will it change?

No – it is slowing down

4. How many planets are between us and the Sun and can you name them?

2 (Mercury and Venus)

5. Why do we experience summer around one side of the Sun?

The Earth is tilted towards the Sun

6. Why is Earth also called 'The Blue Planet'?

Water makes up 2/3 of the surface so it looks blue from space.

7. What 3 things make it possible for us to survive on Earth?

Water, air (or oxygen), warmth

8. Why do we need to add an extra day to our year every 4 years?

Due to the fact we have an extra ¼ day every year we orbit the Sun

9. Which fact or piece of information has amazed you the most and why?

Open ended to discuss.

10. Find out more about Challenger Deep on the Internet.

Open ended to discuss. May want to do this as a class with the LA group presenting what they have found out.

The Moon

Do you ever look The Moon at night? Do you wonder what it would be like to visit the moon? Read on to find out more...

Moon and Sun:

The Moon shines very brightly, but it does not make its own light. It reflects the light of the Sun. When the Sun comes up for our daytime we think that the Moon goes away but it doesn't, it's just harder to see because the sky is so bright. Sometimes, if you look carefully, you can see the Moon in the sky during the day.



Did you know?

Day temperature: 107°C

Night temperature: -153°C

Distance from Earth: 238,857 miles

Diameter (from one side to the other): 2,160 miles

Length of Day: 708 hours

Orbit:

The Moon is the only thing that naturally goes round (orbits) the Earth – anything that does this is called a satellite. It takes the Moon about 28 days to go round the Earth once, we call this a lunar month.

Did you know we only ever see the same side of the Moon?

During its orbit the Moon is sometimes covered by a shadow of the Earth, this is what gives us the phases of the Moon, when it is waxing (growing bigger) and waning (getting smaller) with shapes including crescent and gibbous.

Moonwalking:

Only 12 people have ever walked on the Moon! The first person was Neil Armstrong on 20th July 1969. There were two other men on the mission: Buzz Aldrin and Michael Collins. Their space shuttle was called Apollo 11. It took them just over 3 days to get there.

You may have seen a film of people walking on the Moon and they bounce along. This is because the Moon's gravity is not as strong as the Earth's so people take longer to come back down when they go up in the air.

Photo courtesy of (shahbaskarat, Aurel___@jlicki.com) - granted under creative commons licence - attribution

Questions About The Moon

1. Who was the first man to walk on the Moon?

2. Where does the Moon get its light from?

3. How wide is the Moon?

4. How cold is the Moon at night?

5. What makes the shadow on the Moon to give it the different phases?

6. Why is the Moon warmer than Earth in the day?

7. Where does the Moon go in the daytime?

8. How long is a lunar month?

9. What is the distance from us to the Moon?

10. It took the astronauts just over 3 days to get to the Moon – how far could you travel in 3 days?

Questions About The Moon

Answers

1. Who was the first man to walk on the Moon?

Neil Armstrong

2. Where does the Moon get its light from?

It reflects the Sun's light/rays

3. How wide the Moon?

2,160 miles

4. How cold is the Moon at night?

- 153°C

5. What makes the shadow on the Moon to give it different phases?

The Earth

6. Why is the Moon warmer than Earth in the day?

It is nearer the Sun in the day.

7. Where does the Moon go in the daytime?

Nowhere – it stays in the daytime sky

8. How long is a lunar month?

About 28 days / 4 weeks / 27.3 days / 29-30 days

(The range is because it depends also on the position of The Earth)

9. What is the distance from us to the Moon?

238,857 miles

10. It took the astronauts just over 3 days to get to the Moon – how far could you travel in 3 days?

Open ended for discussion to put the journey into perspective and how fast they must have been travelling to get there in such a short time.

BACK TO EARTH WITH A BUMP!

Reported by Amanda Kelper, Media Correspondent, London

Last week, British astronaut Tim Peake returned home from an incredible six month stay aboard the International Space Station (ISS), alongside his crewmates Yuri Malenchenko and Timothy Kopra. He is the first British astronaut to have lived on the ISS.

The men were launched into space on 15th December 2015. The mission involved conducting experiments, testing out new technology and inspiring the next generation of space travellers. Peake told reporters that the best part of his mission was a spacewalk where he had to make a repair on the space station.

Having circled the planet nearly 3,000 times, the crew returned home to Earth in a capsule, which reached speeds of up to 28,000 kilometres per hour. The touchdown was bumpy due to high winds, however the astronauts landed safely in Kazakhstan. They all returned in good health. Having arrived back on solid ground, the astronauts were pulled out of the capsule and carried as their leg muscles were too weak to walk. Whilst sitting in their space suits, the men were checked over by medical staff. During these checks, Peake was asked how it felt to be home, 'The smells of Earth are so strong and it's wonderful to be back in the fresh air.'



Landing with a bump! Tim Peake lands safely in Kazakhstan.

Tim later flew from Kazakhstan to the headquarters of the European Space Agency in Germany where he is getting used to life back on Earth. Scientists are carrying out tests to see how his body has been affected by his time in space.

Peake recently commented on how he'd missed family and friends, and even the rain. Tim said he was now looking forward to spending some quality time with his family. When asked if he'd return to space in the future, he replied, '...in a heartbeat.'

Having been recognised by the Queen for his services to science, Tim is now a CMG, or companion of the order of St Michael and St George. He dedicated this award to his entire team.

Photo courtesy of NASA HQ PHOTO (@flickr.com) - granted under creative commons licence - attribution

Comprehension Questions

Answer questions in full sentences.

1. How long had Peake been living on the ISS?

2. Write down **one** job that Tim had to do on the mission.

3. Why were the astronauts carried out of the capsule?

4. What did Peake notice once he'd left the capsule?

5. What was hard about being on the ISS for so long?

6. Who wrote the article?

7. Give a reason why space travel is important.

Back To Earth With A Bump! Answers

1. How long had Peake been living on the ISS?

Tim Peake had been living on the ISS for six months.

2. Write down **one** job that Tim had to do on the mission.

Any one of; he conducted experiments, tested out new technology and did necessary repairs on the ISS.

3. Why were the astronauts carried out of the capsule?

They were carried as their leg muscles were too weak to walk.

4. What did Peake notice once he'd left the capsule?

He noticed the smells of Earth and the fresh air.

5. What was hard about being on the ISS for so long?

Tim said that being away from his family and friends for such a long time wasn't easy.

6. Who wrote the article?

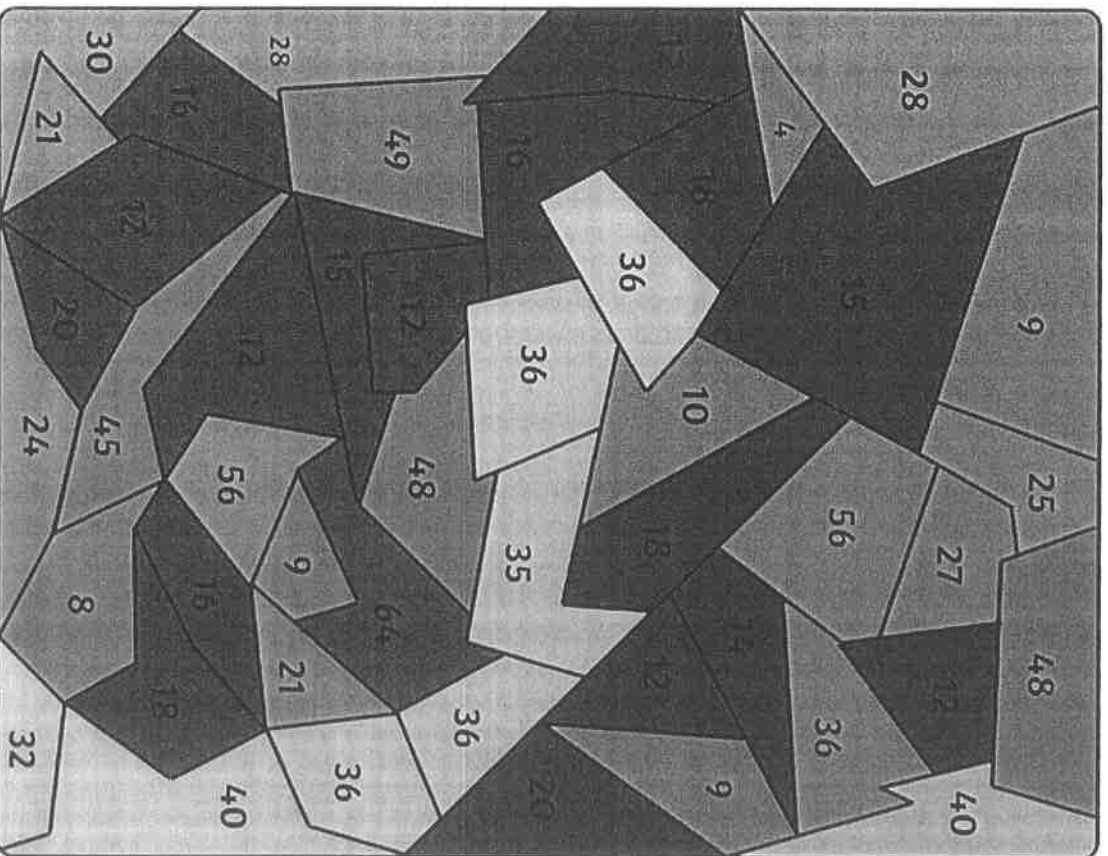
The article was written by Amanda Kelper.

7. Give a reason why space travel is important.

Own answer, which may include to make new discoveries, to find out if there's life in other parts of the Solar System, to conduct important experiments in space, etc.

Colour by Multiplication Answers

0-10 11-20 21-30 31-40 41-50 51-60 61-70
light blue purple pink yellow green orange dark blue



Series E – Addition and Subtraction

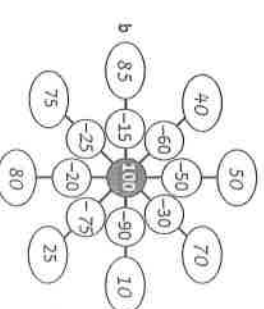
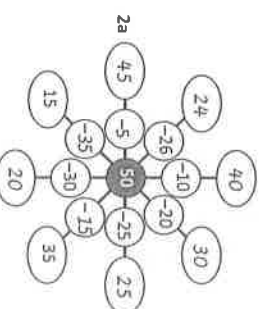
Pages 1-2

1a

7	4	14
10	1	6
10	12	8

b

26	12	30	20
24	38	15	35
17	45	5	40
33	18	32	10



- 3b $18 + 2 + 30 + 20 + 10 + 10 = 20 + 50 + 20 = 90$
- c $25 + 25 + 40 + 30 + 20 + 10 = 50 + 40 + 50 + 10 = 150$
- d $15 + 35 + 20 + 30 + 10 + 12 = 50 + 50 + 10 + 12 = 122$

4a 12

- b 33
c 25
d 18
e 4
f 22
g 36
h 43

- 5a 46
b 78
c 54
d 67
e 38
f 75
g 55
h 52

6a

45	5	100	5	45
25		25		25

b

25	15	100	10	50
25		35		15

Pages 3-4

1

0	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	3	4	5	6	7	8	9	10
3	3	4	5	6	7	8	9	10	11
4	4	5	6	7	8	9	10	11	12
5	5	6	7	8	9	10	11	12	13
6	6	7	8	9	10	11	12	13	14
7	7	8	9	10	11	12	13	14	15
8	8	9	10	11	12	13	14	15	16
9	9	10	11	12	13	14	15	16	17
10	10	11	12	13	14	15	16	17	18

1a 2; 4; 6; 8; 10; 12; 14; 16; 18

- b 3; 5; 7; 9; 11; 13; 15; 17; 19
c 1; 3; 5; 7; 9; 11; 13; 15; 17

2a

23 + 19 = 42	20 + 22 = 42	20 + 18 = 38
21 + 19 = 40	24 + 20 = 44	20 + 21 = 41
30 + 13 = 43	18 + 27 = 45	21 + 22 = 43

b

52 + 48 = 100	50 + 49 = 99	50 + 47 = 97
51 + 47 = 98	51 + 48 = 99	50 + 51 = 101
52 + 48 = 100	51 + 49 = 100	50 + 49 = 99

- 3a Think double 30, add 2, so the answer is 62.
b Think double 25, subtract 2, so the answer is 48.
c Think double 100, subtract 3, so the answer is 197.

Pages 5-6

- 1b + 7; 250
c + 2; 560
d + 3; 170
e + 4; 350
f + 1; 180

2a 268;

235	260	268
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b 478;

444	470	478
-----	-----	-----

c 688

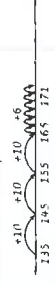
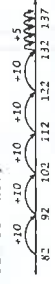
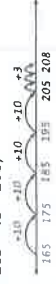
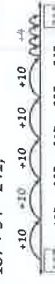
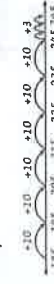
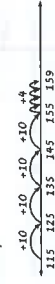
671	680	688
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3a-c Answers will vary.

4a	+	356	78	586	287	385	984
		12	368	90	598	299	996

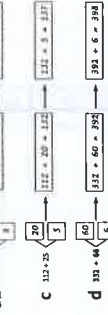
b	+	298	566	252	176	368	146
		16	314	582	268	192	384
						162	

- 1a 22; 32; 42; 52; 62; 72
 b 63; 73; 83; 93; 103; 113
 c 133; 143; 153; 163; 173; 183



- 1b 63
 c 52
 d 27

20	50	30	70	60
123	163	173	153	183
214	234	264	244	274



- 1a $63 + 37 = (60 + 3) + (30 + 7)$
 $= 90 + 10$
 $= 100$
 b $88 + 23 = (80 + 8) + (20 + 3)$
 $= 100 + 11$
 $= 111$
 c $56 + 15 = (50 + 6) + (10 + 5)$
 $= 60 + 11$
 $= 71$
 d $65 + 28 = (60 + 5) + (20 + 8)$
 $= 80 + 13$
 $= 93$

23	76	63	58	34
45	68	123	108	100
39	62	117	102	94
				75



2a $32 + 29 = 61$

$32 + 30 = 62$
 $62 - 1 = 61$

b $55 + 38 = 93$

$55 + 40 = 95$
 $95 - 2 = 93$

c $66 + 19 = 85$

$66 + 20 = 86$
 $86 - 1 = 85$

d $22 + 39 = 61$

$22 + 40 = 62$
 $62 - 1 = 61$

3a $75 + 22 = 97$

$75 + 20 = 95$
 $95 + 2 = 97$

b $45 + 41 = 86$

$45 + 40 = 85$
 $85 + 1 = 86$

c $26 + 32 = 58$

$26 + 30 = 56$
 $56 + 2 = 58$

d $66 + 53 = 119$

$66 + 50 = 116$
 $116 + 3 = 119$

R	A	C	E	C	A	R
1256	173	105	743	106	173	156

What to do
 Observe students.

1b	45	55
	$45 + 55 = 100$	
	$100 - 45 = 55$	
	$100 - 55 = 45$	

c	73	27
	$73 + 27 = 100$	
	$100 - 73 = 27$	
	$100 - 27 = 73$	

d	105	15
	$105 + 15 = 120$	
	$120 - 105 = 15$	
	$120 - 15 = 105$	

e	120	10
	$120 + 10 = 130$	
	$130 - 120 = 10$	
	$130 - 10 = 120$	

f	135	10
	$135 + 10 = 145$	
	$145 - 135 = 10$	
	$145 - 10 = 135$	

Across

- 1 20
 2 11
 3 95
 4 76
 5 71
 7 36
 8 51
 9 39
 10 48
 11 34
 12 25

Down

- 1 22
 2 12
 3 98
 4 76
 5 71
 6 89
 7 38
 8 54
 9 35

2	0	1	1	9	5
2	7	2	7	8	8
3	6	5	1	3	9
4	8	3	4	12	5

- 2a 3; 30; 300
 b 6; 60; 600
 c 10; 240 – 140 = 100;
 2,400 – 1,400 = 1,000
 d 37; 690 – 320 = 370;
 6,900 – 3,200 = 3,700

Series E – Addition and Subtraction

Pages 17–19

6a

See	Think
$19 - 9 =$	10 $(18 - 9) + 1$
$201 - 100 =$	101 $(200 - 100) + 1$
$141 - 70 =$	71 $(140 - 70) + 1$
$71 - 35 =$	36 $(70 - 35) + 1$

b

See	Think
$15 - 8 =$	7 $(16 - 8) - 1$
$31 - 16 =$	15 $(32 - 16) - 1$
$99 - 50 =$	49 $(100 - 0) - 1$
$87 - 44 =$	43 $(88 - 44) - 1$

c

See	Think
$26 - 12 =$	14 $(24 - 12) + 2$
$52 - 25 =$	27 $(50 - 25) + 2$
$68 - 33 =$	35 $(66 - 33) + 2$
$104 - 51 =$	53 $(102 - 51) + 2$

d

See	Think
$24 - 13 =$	11 $(26 - 13) - 2$
$48 - 25 =$	23 $(50 - 25) - 2$
$70 - 36 =$	34 $(72 - 36) - 2$
$78 - 40 =$	38 $(80 - 40) - 2$

7

$101 - 50 = 51$	$100 - 49 = 51$
$99 - 51 = 48$	$100 - 51 = 49$
$98 - 50 = 48$	$99 - 50 = 49$

Pages 20–21

1a 83;



b 132;



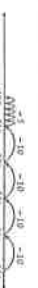
1c 281;



d 200;



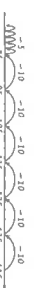
2a $254 - 45 = 209$;



b $186 - 58 = 128$;



c $145 - 65 = 80$;



d $165 - 34 = 131$;



Pages 22–23

1a



b



c



d



2a 568, 548, 248, 238

b 363, 313, 293, 243

3a $456 - 212$



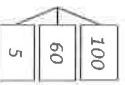
$$456 - 200 = 256$$

$$256 - 10 = 246$$

$$246 - 2 = 244$$

$$\text{So, } 456 - 212 = 244$$

3b $378 - 165$



$$378 - 100 = 278$$

$$278 - 60 = 218$$

$$218 - 5 = 213$$

$$\text{So, } 378 - 165 = 213$$

4a 434;

$$479 - 45 < 40$$

$$479 - 40 = 439$$

$$439 - 5 = 434$$

$$\text{So, } 45 - 479 = 434$$

b 813;

$$834 - 21 < 20$$

$$834 - 20 = 814$$

$$814 - 1 = 813$$

$$\text{So, } 21 - 834 = 813$$

c 325;

$$637 - 312 < 10$$

$$637 - 300 = 337$$

$$337 - 10 = 327$$

$$327 - 2 = 325$$

$$\text{So, } 312 - 637 = 325$$

Pages 22–23

4d 335;

$$567 - 232 < 30$$

$$567 - 200 = 367$$

$$367 - 30 = 337$$

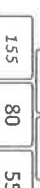
$$337 - 2 = 335$$

$$\text{So, } 232 - 567 = 335$$

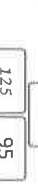
5a



b



c



d



Pages 24–25

1b 60–1

c 60+2

d 20+3

e 90-3

f 100-1

g 100+3

h 20+1

i 90-2

2a 107;



$$106 + 1 = 107$$

2b 107;

$$145 - 40 < 2$$

$$105 + 2 = 107$$

$$156 - 40 < 1$$

$$116 + 1 = 117$$

$$184 - 50 < 2$$

$$134 + 2 = 136$$

$$145 - 30 < 1$$

$$115 + 1 = 116$$

$$106 + 1 = 107$$

$$365 - 40 < 2$$

$$325 + 2 = 323$$

$$250 - 30 < 2$$

$$220 - 2 = 218$$

$$176 - 70 < 1$$

$$106 + 1 = 107$$

$$145 - 30 < 1$$

$$115 + 1 = 116$$

$$106 + 1 = 107$$

$$365 - 40 < 2$$

$$325 + 2 = 323$$

$$250 - 30 < 2$$

$$220 - 2 = 218$$

$$176 - 70 < 1$$

$$106 + 1 = 107$$

$$145 - 30 < 1$$

$$115 + 1 = 116$$

$$106 + 1 = 107$$

$$365 - 40 < 2$$

$$325 + 2 = 323$$

$$250 - 30 < 2$$

$$220 - 2 = 218$$

$$176 - 70 < 1$$

$$106 + 1 = 107$$

e: 30

$$79 - 53 = 26$$

$$53 + 26 = 79$$

$$e: 70$$

$$123 - 47 = 76$$

$$47 + 76 = 123$$

$$e: 230$$

$$159 + 73 = 232$$

$$232 - 73 = 159$$

$$e: 290$$

$$141 + 153 = 294$$

$$294 - 153 = 141$$

$$e: 220$$

$$346 - 122 = 224$$

$$224 + 122 = 346$$

$$e: 220$$

$$346 - 122 = 224$$

$$224 + 122 = 346$$

$$e: 220$$

$$346 - 122 = 224$$

$$224 + 122 = 346$$

$$e: 220$$

$$346 - 122 = 224$$

$$224 + 122 = 346$$

$$e: 220$$

$$346 - 122 = 224$$

$$224 + 122 = 346$$

$$e: 220$$

$$346 - 122 = 224$$

$$224 + 122 = 346$$

$$e: 220$$

$$346 - 122 = 224$$

$$224 + 122 = 346$$

Series E – Addition and Subtraction

Pages 29–30

1b $270 + 120 = 390$

c $360 + 220 = 580$

d $380 + 120 = 500$

e $590 + 400 = 990$

f $410 + 100 = 510$

g $190 + 110 = 300$

h $910 + 210 = 1,120$

2e: 800

H	T	O
3	4	4
+	4	5
+	9	1
+	4	5
+	8	0
+	0	3

b:

Th	H	T	O
1	0	6	7
+	3	8	9
+	6	7	8

f: 500

Th	H	T	O
2	5	2	
+	2	4	9
+	5	0	1

Pages 31–32

1a: 320

H	T	O
3	2	7
–	3	2
–	3	2

g: 810

Th	H	T	O
2	6	2	
+	5	4	9
+	8	1	1

b: 530

H	T	O
7	3	1
–	2	2
–	2	9

h: 920

Th	H	T	O
6	2	9	
+	2	8	9
+	9	1	8

c: 140

H	T	O
5	4	8
–	4	4
–	1	4

i: 740

Th	H	T	O
3	4	9	
+	3	8	7
+	7	3	6

d: 230

H	T	O
5	4	2
–	3	4
–	2	3

1e: 210

H	T	O
6	9	2
–	4	3
–	2	1

d: 310

H	T	O
8	3	3
–	5	6
–	3	2

f: 310

H	T	O
9	6	2
–	6	4
–	3	1

g: 210

H	T	O
8	3	7
–	6	6
–	2	1

h: 400

H	T	O
7	9	7
–	3	3
–	4	0

2a:

H	T	O
6	8	8
–	5	6
–	1	2

b: 530

H	T	O
5	4	3
–	4	3
–	5	9

c: 140

H	T	O
4	5	2
–	4	3
–	3	9

2a:

H	T	O
6	8	8
–	5	6
–	1	2

b: 530

H	T	O
9	6	2
–	6	4
–	3	1

1e:

Th	H	T	O
1	2	5	2
+	5	3	3
+	6	5	8

f:

Th	H	T	O
2	4	3	2
+	5	3	4
+	7	7	7

c:

Th	H	T	O
3	2	9	6
+	2	1	5
+	5	4	5

1a:

Th	H	T	O
6	6	3	8
+	1	2	3
+	7	8	7

Page 34

1a:

Th	H	T	O
6	4	9	3
–	3	2	7
–	3	2	2

b:

Th	H	T	O
4	2	4	5
+	2	5	1
+	6	7	6

c:

Th	H	T	O
3	4	2	9
+	1	1	3
+	4	5	6

d:

Th	H	T	O
7	1	6	3
–	4	0	2
–	3	1	4

3a:

Th	H	T	O
2	4	6	6
+	2	1	8
+	4	6	5

3a:

Th	H	T	O
2	4	6	6
+	2	1	8
+	4	6	5

e:

Th	H	T	O
3	2	9	8
–	3	0	6
–	2	3	4

f:

Th	H	T	O
9	9	3	6
–	8	1	3
–	1	8	0

2a:

Th	H	T	O
5	4	3	6
–	3	3	1
–	2	1	8

b:

Th	H	T	O
2	6	1	2
–	1	5	4
–	1	1	8

c:

Th	H	T	O
5	1	3	4
–	2	6	1
–	3	7	3

d:

Th	H	T	O
3	1	6	1
–	2	6	5
–	1	9	1

e:

Th	H	T	O
9	9	1	8
–	8	1	5
–	1	1	5

2a:

Th	H	T	O
5	4	3	6
–	3	3	1
–	2	1	8

b:

Th	H	T	O
2	6	1	2
–	1	5	4
–	1	1	8

c:

Th	H	T	O
5	1	3	4
–	2	6	1
–	3	7	3

2c:

H	T	O
6	9	2
–	6	9
–	2	7

d:

H	T	O
8	3	3
–	5	6
–	3	2

f:

H	T	O
9	6	2
–	6	4
–	3	1

g:

H	T	O
8	3	7
–	6	6
–	2	1

Page 33

1a:

Th	H	T	O
6	6	3	8
+	1	2	3
+	7	8	7

b:

Th	H	T	O
4	2	4	5
+	2	5	1
+	6	7	6

c:

Th	H	T	O
3	4	2	9
+	1	1	3
+	4	5	6

d:

Th	H	T	O
2	4	6	6
+	2	1	8
+	4	6	5

3a:

Th	H	T	O
2	4	6	6
+	2	1	8
+	4	6	5

3a:

Th	H	T	O
2	4	6	6
+	2	1	8
+	4	6	5

3b:

Th	H	T	O
3	1	8	7
+	3	0	5
+	6	2	4

c:

Th	H	T	O
3	2	9	6
+	2	1	5
+	5	4	5

1a:

Th	H	T	O
6	4	9	3
–	3	2	7
–	3	2	2

b:

Th	H	T	O
4	2	7	5
–	4	0	6
–	2	1	0

Page 34

c:

Th	H	T	O
8	4	7	9
–	3	4	5
–	5	0	2

d:

Th	H	T	O
7	1	6	3
–	4	0	2
–	3	1	4

3a:

Th	H	T	O
2	4	6	6
+	2	1	8
+	4	6	5

3a:

Th	H	T	O
2	4	6	6
+	2	1	8
+	4	6	5

3a:

Th	H	T	O
2	4	6	6
+	2	1	8
+	4	6	5

3a:

Th	H	T	O
2	4	6	6
+	2	1	8
+	4	6	5

2c:

H	T	O
6	9	2
–	6	9
–	2	7

d:

H	T	O
8	3	3
–	5	6
–	3	2

f:

H	T	O
9	6	2
–	6	4
–	3	1

g:

H	T	O
8	3	7
–	6	6
–	2	1

Page 33

1a:

Th	H	T	O
6	6	3	8
+	1	2	3
+	7	8	7

b:

Th	H	T	O
4	2	4	5
+	2	5	1
+	6	7	6

c:

Th	H	T	O
3	4	2	9
+	1	1	3
+	4	5	6

d:

Th	H	T	O
2	4	6	6
+	2	1	8
+	4	6	5

3a:

Th	H	T	O
2	4	6	6
+	2	1	8
+	4	6	5

3a:

Th	H	T	O
2	4	6	6
+	2	1	8
+	4	6	5

1e:

H	T	O
6	9	2
–	4	3
–	2	1

d:

H	T	O
8	3	3
–	5	6
–	3	2

f:

H	T	O
9	6	2
–	6	4
–	3	1

g:

H	T	O
8	3	7
–	6	6
–	2	1

Page 33

1a:

Th	H	T	O
6	6	3	8

Series E – Addition and Subtraction

Page 34

2f

	T	H	T	O
	5	7	10	1
	5	7	10	1
	5	7	10	1

Page 35

1a

3	6	2
4	3	7
7	9	9

b

8	6	5
4	3	2
4	3	3

c

6	3	5
2	1	3
8	4	8

d

5	6	7
3	2	4
2	4	3

- 2a 5
b 5
c 4
d 5

Pages 36–37

1a 1 120, 42, 74

2 'lends', 'lost' = subtraction

Step 1: 120 – 42 = 78

Step 1: 78 – 74 = 4

Answer: He has lost 4 cards.

1b 1 32, 47, 130

2 'earn' = addition, but one figure missing so need to subtract from 'total'

Step 1: 32 + 47 = 79

Step 1: 130 – 79 = 51

Answer: The class earned 51 points in the third term.

c 1 125, 232, 480

2 'and' = addition, 'less' = subtraction

Step 1: 125 + 232 = 357

Step 1: 480 – 357 = 123

Answer: Our team lost by 123 points.

Page 38

What to do

Observe students.

Page 39

What to do

Observe students.

Pages 40–41

1a £18

b £37

c £6

d £22

2a–c Answers will vary.

Page 42

1a Workings will vary; £32

b Workings will vary; £28

c Workings will vary; £3.50

d Workings will vary; £60

e Workings will vary; £25

f Workings will vary; £8

Page 43

1a Answers will vary.

Sample answer:

Sausage rolls £3.20
+ £3.25
= £6.45

Cola £6.45

£10 – £6.45 = £3.55

Change = £3.55

b Burgers

c Heidi's shopping list:

2 packs of sausage rolls	£6.40
4 packs of pizza slices	£35.80
10 party hats	£3.80
20 balloons	£3.80
Orange juice	£2.75
Lemonade	£3.10
Total	£55.65

d Answers will vary.

Pages 44–45

What to do

Observe students.

Pages 46–47

1a 21, 31, 41, 51, 61, 71, 81

b 60, 65, 70, 75, 80, 85, 90

c 36, 32, 28, 24, 20, 16, 12

2 Backwards by 10:

112	102	92	82	72
219	209	199	189	179
583	573	563	553	543

Backwards by 100:

673	573	473	373	273
798	698	598	498	398
1,010	910	810	710	610

Pages 46–47

3a 234; 334; Add 100

b 117; 87; Subtract 10

c 708; 608; Subtract 100

d 137; 167; Add 10

4a

15	16	17	18
25	26	27	28
35	36	37	38
45	46	47	48

b

32	35	38	41
38	41	44	47
44	47	50	53
50	53	56	59

c

30	34	38	42
35	39	43	47
40	44	48	52
45	49	53	57

d

18	27	36	45
25	34	43	52
32	41	50	59
39	48	57	66

5a 54; 27;

35	25	50
35	25	50
35	25	50

Rule: –9

b 57; 49; 41

Rule: –8

c 44; 59; 69

Rule: +5

d 42; 63

Rule: +7

Page 48

1a RULE: + 11

b RULE: – 25

2a RULE: – 39

OUT: 39; 51; 6

b OUT: 134; 127; 81

3a IN: 46; 62; 122

b IN: 68; 277; 112

Page 49

1a 50 + 70 ≠ 200

b Answers will vary ≠ 45 + 65

c 185 ≠ 35 + Answers will vary

d 30 + Answers will vary ≠ 160

2a 15, 35

b 20, 15

or 20 + 35 = 50

c 20, 15

d 15, 35

or 20 + 35 = 50

Page 50

1a 4; 5 + 4 = 9

b 3; 5 + 3 = 8

2a 30; 30 + 55 = 85

b 55; 45 + 55 = 100

Pages 51–52

1b

35	25	50
35	25	50
35	25	50

c

78	32	100
78	32	100
78	32	100

d

107	83	200
107	83	200
107	83	200

2 12; 9; 16

3a–h Answers will vary.

4 £27; £26; >

Page 53

What to do

11; 15; 9;

10; 2; 11

16; 11; 1

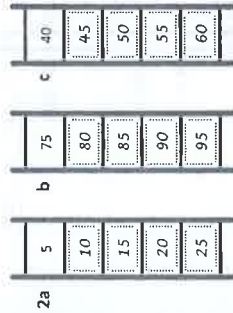
Page 21

What to do



Pages 1–2

- 1 5; 10; 15; 20; 25; 30; 35; 40; 45; 50;
55; 60



3a 5

b 9

c 6

d 10

e 7

f 8

4a 40

b 15

c 50

d 20

- 5 10; 20; 30; 40; 50; 60; 70; 80; 90;
100; 110; 120

- 6 7; 25; 6; 9; 3; 2; 4

- 7 3; 50; 2; 90; 6; 7; 100



The x 10 row is double the x 5 row.

Pages 3–4

- 1 6; 8; 10; 12; 14; 16; 18; 20

- 2 2; 4; 6; 8; 10; 12; 14; 16; 18; 20;
22; 24

- 2a 14; 20; 12; 16; 2; 18; 8; 6; 4;
10; 22

- 3 26; 28; 30; 32; 34; 36; 38; 40

- 3 $16 \times 2 = 32$
 $32 \times 2 = 64$
 $64 \times 2 = 128$

Pages 6–7

- 1 3; 6; 9; 12; 15; 18; 21; 24; 27; 30;
6; 12; 18; 24; 30; 36; 42; 48; 54; 60

- 2 18; 12; 24; 54; 24; 15; 48; 27; 30

3a 9

b 3

c 6

d 6

e 8

f 10

g 3

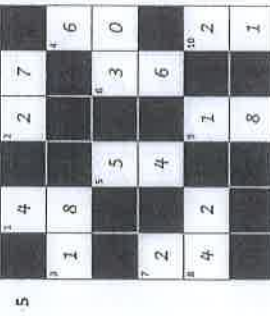
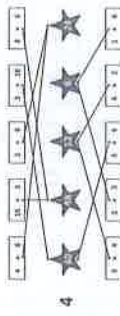
h 7

i 6

j 6

k 8

l 3



6 24

Page 8

- 1a $2 \times 5 = 10 + 2 \rightarrow 2 \times 6 = 12$
b $4 \times 5 = 20 + 4 \rightarrow 4 \times 6 = 24$

Page 8

x 5	Number to add	x 6
2 x 5 = 10	2	2 x 6 = 12
7 x 5 = 35	7	7 x 6 = 42
4 x 5 = 20	4	4 x 6 = 24
6 x 5 = 30	6	6 x 6 = 36
9 x 5 = 45	9	9 x 6 = 54

Pages 9–10

- 1 7; 14; 21; 28; 35; 42; 49; 56; 63; 70;
77; 84

2a 9

b 6

c 3

d 4

e 10

f 2

g 8

3a 28

b 49

c 14

d 35

e 63

f 21

- 4a $8 \times 7 = 56$
b $3 \times 7 = 21$
c $7 \times 5 = 35$

x 5	Number to add	x 6
2 x 5 = 10	2	2 x 6 = 12
7 x 5 = 35	7	7 x 6 = 42
4 x 5 = 20	4	4 x 6 = 24
6 x 5 = 30	6	6 x 6 = 36
9 x 5 = 45	9	9 x 6 = 54

6e 7

f 2

7

Pages 11–12

- 1 9; 18; 27; 36; 45; 54; 63; 72; 81; 90;
99; 108

2a 27

b 36

c 54

d 18

e 45

f 9

3a £54

b £24

c £9

d £45

e £18

f £21

4

x 5	Number to add	x 6
2 x 5 = 10	2	2 x 6 = 12
7 x 5 = 35	7	7 x 6 = 42
4 x 5 = 20	4	4 x 6 = 24
6 x 5 = 30	6	6 x 6 = 36
9 x 5 = 45	9	9 x 6 = 54

- 5 18; 54; 36; 72; 108; 27; 81; 90; 45;
63; 99

Page 13

- 1 11; 22; 33; 44; 55; 66; 77; 88; 99;
110; 121; 132

2a 33

b 55

c 77

d 44

e 99

f 88

Page 14

- 1 12; 24; 36; 48; 60; 72; 84; 96; 108;
120; 132; 144

2a 36

b 60

c 84

d 48

e 36

f 108

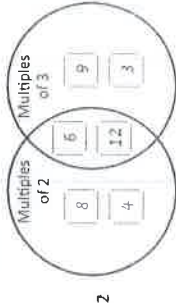
3a $3 \times 12 = 36$

b $12 \times 6 = 72$

c $5 \times 12 = 60$

Pages 15–16

- 1a 12, 18, 24, 30, 36, 42, 48, 54, 60,
72, 84
b 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24
c 10, 20, 30, 40, 50, 60, 70, 80, 90,
100, 110, 120
d 3, 6, 9, 12, 15, 18, 21, 24, 27, 30,
33, 36
e 4, 8, 12, 16, 20, 24, 28, 32, 36, 40,
44, 48



- 3 Sample answers:
18, 24, 30, 36, 42, 48, 54, 60

4a $1 \times 12 = 12$

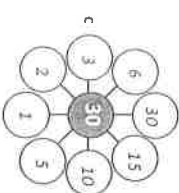
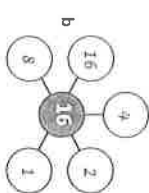
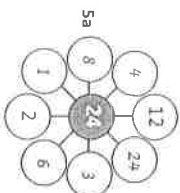
b $2 \times 6 = 12$

c $3 \times 4 = 12$

d 1, 12, 2, 6, 3 and 4

Series E – Multiplication and Division

Pages 15–16



Pages 17–18

1a

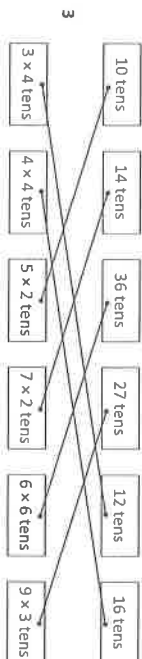
Th	H	T	O
		1	5
		1	5
		0	0
		1	5
		0	0

b

Th	H	T	O
		4	8
		4	8
		0	0
		4	8
		0	0

c

Th	H	T	O
		7	2
		7	2
		0	0
		7	2
		0	0



4a 100

b 360

c 120

d 150

e 220

f 80

g 190

h 160

i 180

5a 24, 240

b 18, 180

c 14, 140



Page 19

1a 6

b 9

c 0

d 0

e 73

f 43

g 848

h 0

i 424

j 999

1k 0
l 2344
m impossible

Page 20

1a 32

b 150

c 42

d 120

e 36

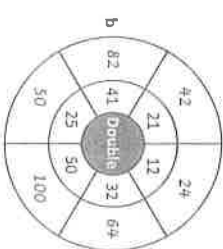
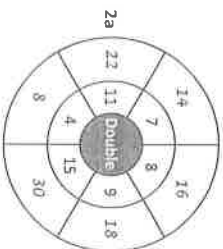
f 800

2a, b Answers will vary.

Pages 21–22

1a 48, 60, 90, 36

b 96, 120, 180, 200



3g Sample answer:

14	$\times 8 = 112$
Double 14	once
Double 14	twice
Double 14	three times

Pages 21–22

3g Sample answer:

Page 23

1a $34 \times 3 \rightarrow 90 \times 3 + 4 \times 3$
 $90 \times 3 = 270$
 $4 \times 3 = 12$
 $270 + 12 = 282$
 So, $34 \times 8 = 282$

b $45 \times 5 \rightarrow 40 \times 5 + 5 \times 5$
 $40 \times 5 = 200$
 $5 \times 5 = 25$
 $200 + 25 = 225$
 So, $45 \times 5 = 225$

c $52 \times 4 \rightarrow 50 \times 4 + 2 \times 4$
 $50 \times 4 = 200$
 $2 \times 4 = 8$
 $200 + 8 = 208$
 So, $52 \times 4 = 208$

Page 24

1a $5 \times 29 \rightarrow 5 \times 30 - 5$
 $5 \times 30 = 150$
 $150 - 5 = 145$
 So, $5 \times 29 = 145$

b $3 \times 49 \rightarrow 3 \times 50 - 3$
 $3 \times 50 = 150$
 $150 - 3 = 147$
 So, $3 \times 49 = 147$

c $4 \times 39 \rightarrow 4 \times 40 - 4$
 $4 \times 40 = 160$
 $160 - 4 = 156$
 So, $4 \times 39 = 156$

2a $4 \times 18 \rightarrow 4 \times 20 - 8$
 $4 \times 20 = 80$
 $80 - 8 = 72$
 So, $4 \times 18 = 72$

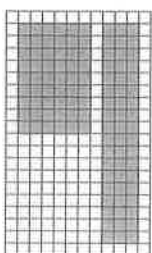
b $3 \times 17 \rightarrow 3 \times 20 - 9$
 $3 \times 20 = 60$
 $60 - 9 = 51$
 So, $3 \times 17 = 51$

Page 25

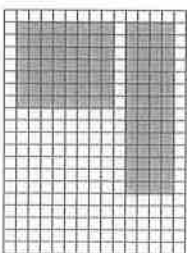
1a–d Answers will vary.

Pages 26–27

1a $9 \times 6 = 54$;



b $7 \times 8 = 56$;



3c $8 \times 45 = ?$

$4 \times 90 = 360$
 $2 \times 180 = 360$
 $1 \times 360 = 360$

So, $8 \times 45 = 360$

d You eventually get to $\times 1$ which is the answer.

Pages 28–29

1 24

2 60

3 72

4 120

5 168

6 270

Pages 30–31

1a $9 \div 3 = 3$

b $10 \div 2 = 5$

c $24 \div 6 = 4$

2a Drawings will vary;

$16 \div 4 = 4$;

sharing

b Drawings will vary;

$24 \div 6 = 4$

grouping

c Drawings will vary;

$48 \div 6 = 8$

sharing

Page 32

1a 6



b 7



Series E – Multiplication and Division

Page 32

2a $28 \div 4 = 7$



b $32 \div 8 = 4$



Pages 33–34

1a $3 \times 4 = 12$

$4 \times 3 = 12$

$12 \div 4 = 3$

$12 \div 3 = 4$

b $5 \times 3 = 15$

$3 \times 5 = 15$

$15 \div 3 = 5$

$15 \div 5 = 3$

c $7 \times 4 = 28$

$4 \times 7 = 28$

$28 \div 4 = 7$

$28 \div 7 = 4$

d $9 \times 4 = 36$

$4 \times 9 = 36$

$36 \div 4 = 9$

$36 \div 9 = 4$

2

$6 \times 3 = 18$

$3 \times 6 = 18$

$18 \div 3 = 6$

$18 \div 6 = 3$

3b

$3 \times 9 = 27$

$9 \times 3 = 27$

$27 \div 3 = 9$

$27 \div 9 = 3$

c

$5 \times 6 = 30$

$6 \times 5 = 30$

$30 \div 5 = 6$

$30 \div 6 = 5$

4a $5 \times 5 = 25$

$25 \div 5 = 5$

b $9 \times 5 = 45$

$45 \div 9 = 5$

Page 35

	Th	H	T	O
1a	5	3	0	0
	5	3	0	0

$\div 10$

$\div 100$

	Th	H	T	O
b	4	1	0	0
	4	1	0	0

$\div 10$

$\div 100$

	Th	H	T	O
c	8	4	0	0
	8	4	0	0

$\div 10$

$\div 100$

	Th	H	T	O
d	2	4	0	0
	2	4	0	0

$\div 10$

$\div 100$

2a 1400; 140; 14

b 5600; 560; 56

c 3500; 350; 35

3a 2.7

b 4.9

Pages 36–37

1a OUT: 40; 70; 10

b OUT: 35; 12; 18

c OUT: 21; 45; 30

d OUT: 9; 25; 50

2 OUT: 25; 9; 15

3a 20; 40; 20

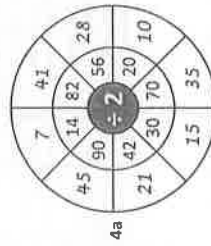
b 12; 24; 12

c 16; 32; 16

3d 30; 60; 30

e 61; 122; 61

f 22; 44; 22



4a



b

Page 38

1a $115 \div 5$

$\div 5$

$\div 5$

$\div 5$

$\div 5$

$\div 5$

$\div 5$

$\div 5$

$\div 5$

$\div 5$

$\div 5$

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$\div 5$

$\div 5$

$\div 5$

$\div 5$

$\div 5$

$\div 5$

$\div 5$

$\div 5$

$\div 5$

Pages 42–43

1a $330 \div 3$

$\div 3$

$\div 3$

$\div 3$

$\div 3$

$\div 3$

$\div 3$

$\div 3$

$\div 3$

$\div 3$

$\div 3$

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$\div 3$

$\div 3$

$\div 3$

What to do

$\diamond \times \diamond = \star$
 $\star \times \diamond = \star$
 $\diamond \times \star = \star$
 $\star \times \star = \star$
 $\nabla \times \star = \bullet$
 $\star \times \nabla = \bullet$
 $\nabla \times \diamond = \square$
 $\diamond \times \nabla = \square$
 $\square \times \diamond = \bullet$

$\star \times \star = \nabla$
 $\star \times \nabla = \star$
 $\nabla \times \star = \star$
 $\nabla \times \nabla = \star$

- 1 Do you prefer hot dogs or pizza?
- 2a This question is too open. The answers are likely to be too varied.
- b For our end of season party, would you prefer to go to the movies or to the water slide park?
- 3 Sample answers:
 - a What is your favourite food?
 - b What is your favourite colour?
 - c What month is your birthday?
- 4 Sample answers.
 1. What colour eyes do most students have?
 2. How many more students have brown eyes compared to blue eyes?

5a What colour eyes are most common in our class?

b Answers will vary.

- 1a 15
- b 25
- c 13
- d 17

2

Molly's training	
Monday	
Wednesday	
Friday	

3a

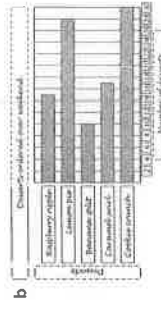
Type of ticket	Amount sold
Kids	
Adults	

b Answers will vary.

- 1a 35
- b 25
- c November

2 Answers will vary.

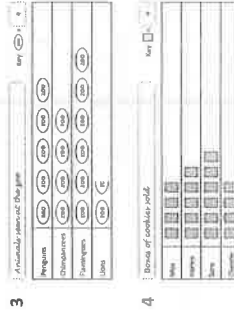
3a 15; 28; 10; 17; 30



- c cookie crunch
- d raspberry ripple
- e Banana split, because it is the least popular.

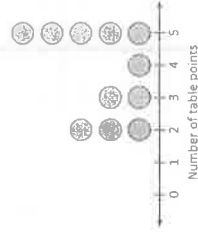
- 1a 9
- b 7
- c 29
- 2a 90
- b 30

c Teacher check that there are 6 and a half tickets.



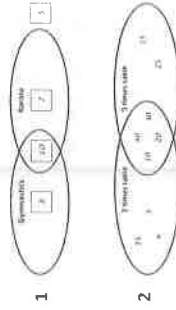
- 1a 4
- b 4
- c 9
- d 18

2 Table points for Ellie's group



2a 5

b 11



2

3 16, 20, 10, 40

2, 8, 12, 4, 6, 24

1

Item	Do not put in recycling bin	Recycle on orange day
Plastic	Yes	No
Aluminum	No	Yes
Cardboard	No	Yes
Waste	Yes	No

2

Item	Do not put in recycling bin	Recycle on orange day
Plastic	Yes	No
Aluminum	No	Yes
Cardboard	No	Yes
Waste	Yes	No

3a

Item	Do not put in recycling bin	Recycle on orange day
Plastic	Yes	No
Aluminum	No	Yes
Cardboard	No	Yes
Waste	Yes	No

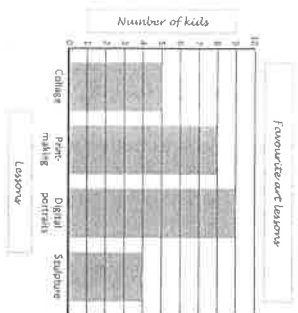
b

Item	Do not put in recycling bin	Recycle on orange day
Plastic	Yes	No
Aluminum	No	Yes
Cardboard	No	Yes
Waste	Yes	No

1a–c Answers will vary.

- 1a 200 miles
- b 3 hours
- c 350 miles
- d 500 miles

What to do



Pages 16–17

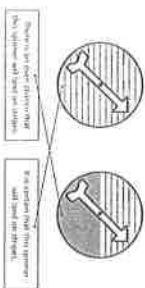
1a even

b certain

c even

d impossible

2



3a green

b red

c yellow, blue

4 Answers will vary.

Sample answer:

Charlie's board



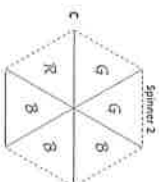
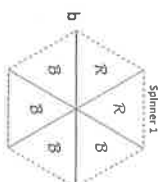
Pages 18–20

1a 6 out of 12; 2 out of 12

b Yes

2a, b Answers will vary.

3a Observe students.



d Teacher check.

3e

Colour	Spinner 1 Probability
red	2 out of 6
blue	4 out of 6
Most likely colour is	blue
Least likely colour is	red

Colour	Spinner 2 Probability
green	2 out of 6
red	1 out of 6
blue	3 out of 6
Most likely colour is	blue
Least likely colour is	red

f–h Answers will vary.

Page 21



c Because there is more chance of landing on dots.

2a 3 out of 6; 3 out of 6; 2 out of 6

b This game is unfair because the chance or probability of landing on an odd number is higher.

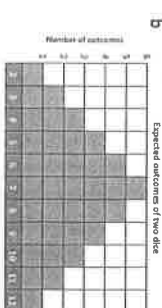
Page 22

1a–c Answers will vary.

Pages 23–24

1	2	3	4	5	6
1	2	3	4	5	6
2	3	4	5	6	7
3	4	5	6	7	8
4	5	6	7	8	9
5	6	7	8	9	10
6	7	8	9	10	11
7	8	9	10	11	12

a 36

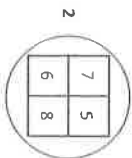


c 6

d 1

e Answers will vary.

f Answers will vary.



Pages 25–26

What to do

Observe students.

What to do next

Observe students.

Page 1

1a 20

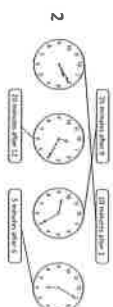
b 10

c 10

d 20

e 35

f 25



Page 3

1a 23:4

b 17:7

c 2:10

d 19 minutes to 11

e 8 minutes past 1

f 26 minutes to 5



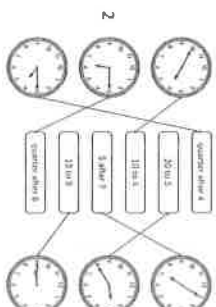
Pages 4–5

1a 49:3

b 8:5

c 48:2

d 36:4



2a 09:30

b 01:20

c 04:10

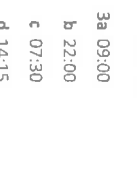
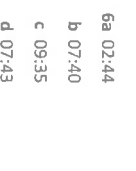
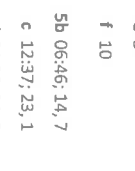
d 0 6:15

3a 9 minutes after 6

b three forty two; 42 minutes after 3

c four twenty five; 25 minutes after 4

d seven forty eight; 48 minutes after 7



Program	Start	Finish	Length
Science Show	09:00	10:00	1 hour
Behind the News	10:00	11:00	1 hour
Movie: Solaris	14:30	16:00	1½ hour
4 pm News	16:00	17:00	1 hour
Smartline	17:00	18:00	1 hour
Movie: Chinatown	20:00	21:45	1¾ hour

- 6a 1 hour 45 minutes
b 8 hour 15 minutes
c 1 hour 45 minutes

Page 9

What to do
Observe students.

What to do next
Observe students.

Page 10

- a 7:00
b 9:00 or 9:30
c 11:00
d 12:30
e 4:00
f 9:00 or 9:30

Page 11

- 1a am
b pm
c am

2a 3:10; am

b 8:45; pm

c 1:40; am

d 1:18; pm

e 11:53; pm

3a 11:52 am

b 5:15 pm

- 3c 1:30 pm
d 3:42 pm
e 1:15 pm
f 12:48 am

4a 3

b 6

c 4

d 10

Page 12

1a 14

b 366

c 2

2a 2

b 48

c 3

d 168

3a 2, 0

b 2, 30

c 3, 20

d 1, 25

4	1	3	2	6	6	3	1
4	1	0					0
5	5	2			7	2	4
			8	1	2		
9	1						11
			10	4	5		3
12	4	8				13	6
							0

Pages 13–14

1a 2:50; 3:05; 3:10; 3:15

b 5:39; 5:59; 6:09; 6:19

c 10:10; 10:25; 10:40; 10:55; 11:10



2b

3 2 hours 25 minutes



4a

8:25 pm



b

5:50 pm



c

2:20 pm

Page 15

February						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

1

March						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

April						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

1

May						
S	M	T	W	T	F	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

June						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

2a Sunday

b Wednesday

c Friday

d Tuesday

e Saturday

f Monday



3

Page 16

Name	Day of the week	Month
Mia	Monday	March
Stefan	Thursday	November
Uam	Saturday	July
Willet	Tuesday	June
Leopie	Sunday	December

Page 17

What to do

Observe students.