

## Year 6 Homework Grid

Your homework activities for this term are on the grid below. You can choose to complete the activities in any order; most of the learning activities are linked to our current topic so you should already have lots of knowledge about the areas of study! Make sure that you ask someone at home to help you if you find any of the activities too tricky and always ask an adult to accompany you with any outdoor activities.

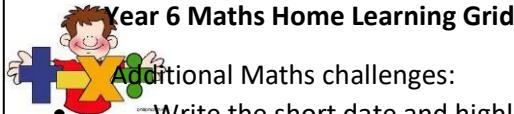
- ✓ Complete activities in your Homework book
- ✓ Complete at least one activity every two weeks
- ✓ Remember you have the whole term to complete all tasks
- ✓ Homework folders are due back to school every Wednesday for your teacher to look at your work
- ✓ You will be set one activity page each week from the English CGP book and one from the White Rose maths book (your teacher will let you know the page numbers)
- ✓ In addition to these activities, practice your spellings on a regular basis and try and find some time to read each day

**Additional Maths activity:** Feel free to also complete any of the additional Maths activities if you would like an extra challenge!

1. English	2. Mathematics	3. Science	4. Art	5. Geography
<p><b>Powerful Persuasion</b></p>  <p>Using the PEE (point, evidence, explain) technique we have learned in English, imagine you are writing to someone who doesn't believe in climate change. Use facts and statistics, together with emotive language to change their mind and persuade them to join the campaign to stop climate change.</p> <p>The National Geographic website will help provide information to include in your letter:  <a href="https://www.natgeokids.com/uk/discover/geography/general-geography/what-is-climate-change/">https://www.natgeokids.com/uk/discover/geography/general-geography/what-is-climate-change/</a></p>	<p><b>Prime Number Challenge</b></p>  <p>In our Maths lessons, we will be exploring prime numbers. Refresh your knowledge here:  <a href="https://www.bbc.co.uk/bitesize/topics/zfq7hyc/articles/zfptqfr">https://www.bbc.co.uk/bitesize/topics/zfq7hyc/articles/zfptqfr</a></p> <p>For this task, use the sheet at the back of this pack:</p> <ul style="list-style-type: none"> <li>• Shade all prime numbers to 100</li> <li>• Find the nearest prime numbers that come before and after the given numbers</li> </ul> <p>Challenge: investigate the 'Two Primes Make One Square' problem at the back of this pack. Is it possible to make a square number by adding two primes together?</p>	<p><b>Shadow Investigation</b></p>  <p>What to do:  Find a light source (lamp or torch).  Choose three objects (e.g. a toy, book, spoon).  Place each object in front of the light to make a shadow on a wall or piece of paper.  Move the object closer to the light, then further away.</p> <p>Record:  Draw the object and its shadow in two positions.  Write 1–2 sentences explaining what happened to the shadow.</p> <p>Think about:  What happens to the shadow when the object is closer to the light?  Why do you think this happens?</p>	<p><b>Wildlife Photography</b></p>  <p>For this task, you are required to observe your surroundings and become a wildlife photographer! Use this website to carry out research into Wildlife Photographer of the year:  <a href="https://www.nhm.ac.uk/wpy/gallery">https://www.nhm.ac.uk/wpy/gallery</a></p> <p>Choose an image and recreate it by making a drawing of it. Write a short paragraph explaining why this image appealed to you the most.</p> <p>Now visit this website to find out how to take a great photo:  <a href="https://www.shutterfly.com/ideas/how-to-take-good-pictures/">https://www.shutterfly.com/ideas/how-to-take-good-pictures/</a></p> <p>Using these tips, try to take a stunning picture of a family/friend's pet. Try to view things you see each day, as extraordinary!</p>	<p><b>My Ideas to Tackle Global Warming</b></p>  <p>Look at the sheet titled 'My Ideas to Tackle Global Warming' (at the back of this pack).</p> <p>Carefully read each issue that is causing global warming. Have a think about and explain:</p> <ul style="list-style-type: none"> <li>• What <u>you</u> could do</li> <li>• What the <u>government</u> could do (to encourage the country to change)</li> <li>• What the <u>world</u> could do to change</li> </ul>
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1. English	2. Mathematics	3. Science	4. PE	5. Art
<b>A Balanced Argument</b>  <p>In our text 'The Island at the End of Everything', families are forced apart due to the introduction of laws that are designed to stop the spread of a deadly disease.</p> <p>At the beginning of the story, we are introduced to arguments both for and against segregation.</p> <p>Using your knowledge of the story and persuasion, write a balanced argument that presents both sides of the issue: why segregation should take place (to eradicate disease) and the harmful effects of dividing families.</p> <p>In your writing, make sure you include:</p> <ul style="list-style-type: none"> <li>• precise vocabulary</li> <li>• relative clauses</li> <li>• modal verbs</li> <li>• cohesive devices within paragraphs</li> </ul>	<b>Area and perimeter</b>  <p>For this task, you will create a floorplan of your house! If you have more than one floor, you can choose the floor to complete (or do them all if you wish!).</p> <p>For each room, measure the perimeter and area (using m and <math>m^2</math>). Show this on your floorplan.</p> <p>This video will refresh your memory on measuring area and perimeter:  <a href="https://www.youtube.com/watch?v=AAY1bsazcgM">https://www.youtube.com/watch?v=AAY1bsazcgM</a></p> <p>Challenge: can you calculate the volume (<math>m^3</math>) of each room, and your house in total?</p>	<b>Reflective Materials Hunt</b>  <p>What to do:</p> <p>Walk around your home and find 5 objects that reflect light (e.g. mirror, foil, metal spoon).</p> <p>Shine a torch or light on each object (or observe how light reflects naturally).</p> <p>Record results by making a simple table with two columns.</p> <p>Column 1: Object  Column 2: How well it reflects light (very well / a bit / not much)</p> <p>Choose one object and explain why you think it reflects light well.</p> <p>Challenge (optional): Which object reflects light the best? Why?</p>	<b>Memory Mat</b>  <p>Equipment needed: a large space on the ground, chalk.</p> <p>Using chalk, draw a grid on the ground. Space allowing, make it as big as you like! Number each box (like the image above).</p> <p>Design a number sequence, for example: four, six, two, seven. Jump and land correctly on these squares.</p> <p>Take turns designing a number sequence! You could try only odd (or even) numbers, increase the amount of numbers in the sequence or use numbers in the 3 times table.</p> <p>Challenge: choose a target number. What is the least amount of steps you can use to reach the number? What is the most amount of steps?</p>	<b>Exploring Identity</b>  <p>We have previously looked at the work of Picasso and how he created portraits in an abstract style.</p> <p>For this task, create a series of portraits of either yourself or a family member. Each portrait should show a different angle of the face:</p>  <p>You might want to take a picture (from a different angle) or use a mirror to help you capture different angles for your portraits. You are free to use any materials you have at home to do this: pencil, pen, chalk, pastels etc.</p>
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1. English	2. Mathematics	3. Geography	4. PSHE	5. PSHE
<b>Ami's point of view</b>  <p>It has been decided that Ami ('The Island at the End of Everything') must leave all that she loves.    Write a diary entry describing the day that Ami must leave her <i>nanay</i> and the only home she has ever known.</p> <ul style="list-style-type: none"> <li>• Use 'show not tell' sentences to convey the feelings of Ami and her <i>nanay</i>.</li> <li>• Use a relative clause to extend your sentences.</li> </ul> <p>Remember that diary writing is personal. You must include the thoughts, feelings, hopes and fears of the writer.</p> <p>Challenge: create a plot twist which means Ami and the other 'Untouched' children do not have to leave!</p>	<b>Average Strides</b>  <ol style="list-style-type: none"> <li>1. Measure your stride in centimetres.</li> <li>2. Then take five strides.</li> <li>3. Measure the distance you have travelled in metres and centimetres.</li> <li>4. Double this and divide by ten to find your average stride length.</li> <li>5. Repeat this to find the average stride length of other people in your home.</li> <li>6. Who has the longest / shortest stride?</li> </ol> <p>Challenge: how many strides would you have to take to walk a kilometre?</p>	<b>Ecological Handprint</b>  <p>We have been examining the causes and effects of climate change. Complete the 'Ecological Handprint' (at the end of the pack) to identify what you're already doing to tackle climate change.</p> <p>Once you have done this, where is there room for improvement?</p> <p>Challenge: compare your results with a friend. Is there something you could tackle together? Can you come up with an action plan to reduce your effect on the environment?</p>	<b>Unique Me</b>  <p>Butterflies feature quite predominantly in this term's text. Each butterfly is unique to all other butterflies around it since it has a different pattern or colour. Each of us is unique because we are different to all others around us. We look different, feel differently, behave differently and think differently too.</p> <p>For this task, draw an outline of a butterfly. Fill it with unique facts about YOU! Here are some suggestions:</p> <ul style="list-style-type: none"> <li>• How is your appearance unique?</li> <li>• Do you have any food preferences / combinations that are unusual?</li> <li>• Do you have any unique talents?</li> <li>• What is a unique way to cheer you up?</li> <li>• What unique way do you support your friends?</li> </ul>	<b>Healthier Harpenden</b>  <p>Unfortunately, not everyone disposes of their rubbish responsibly (or sometimes it gets blown out of over-flowing bins). For this task, organise a rubbish collection with a group of friends! You will need:</p> <ul style="list-style-type: none"> <li>• A bag to store any rubbish you collect</li> <li>• Somewhere to dispose of the rubbish you collect</li> <li>• Protective gloves.</li> </ul> <p>It would be nice to have:</p> <ul style="list-style-type: none"> <li>• A litter picker</li> </ul>  <p>Take a familiar route (on the way to school or a friend's house) and collect as much rubbish as you can. Take a photo of you 'out and about' for your red homework book!</p> <p><b><i>Please check with an adult before you do this and get their permission.</i></b></p>
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## Year 6 Maths Home Learning Grid



### Additional Maths challenges:

- Write the short date and highlight when you have proved / disproved the statement.
- Once you have highlighted all the statements, sort them into 'sometimes', 'always' or 'never' categories.

<p>Bob and Kate have £56.20 between them.</p> <p>If Bob has £4.10 more than Kate, how much does Kate have?</p> <p>Draw a bar model to show the calculations needed to solve this problem.</p>	<p>Carl needed to arrive at the theatre for 3:15pm.</p> <p>His journey involved a 15 minute walk to the station, a 25 minute train journey and walking from the station to the theatre which would take 10 minutes. He wanted to allow a further 20 minutes for the train to arrive.</p> <p>What time should he leave his house?</p>	<p>What do you notice about all of the answers to these calculations?</p> <p><math>434 \div 8</math>  <math>271.25 \div 5</math>  <math>108.5 \div 2</math>  <math>162.75 \div 3</math></p> <p>Can you write another calculation that would fit with this set?</p>								
<p>Kerry is 15 kilograms lighter than Amy.</p> <p>Gary is twice as heavy as Kerry and James is seven kilograms heavier than Gary.</p> <p>If James weighs 71 kilograms, what is Amy's weight?</p>	<p>Write the two missing values to make these fractions equivalent.</p> $\frac{\square}{30} = \frac{8}{10} = \frac{4}{\square}$	<p>7 bags contain the same amount of money and total £12.46.</p> <p>How much is in each bag?</p>								
<p>Amy and Zoe are both between 40 and 60 years old.</p> <p>Their ages are both multiples of 8.</p> <p>The difference between their ages is 16.</p> <p>The sum of the digits of their ages is 15.</p> <p>What are Amy and Zoe's ages?</p>	<p>Something is not right.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td></td> </tr> <tr> <td style="text-align: center;">7</td> <td style="text-align: center;">9</td> <td style="text-align: center;">3</td> <td style="text-align: center;">7</td> </tr> </table> <p>How do you know there is a mistake? What is it?</p>		1	2		7	9	3	7	<p>Calculate the mean of these three numbers:</p> <p>11, 16, 24</p>
	1	2								
7	9	3	7							

### Spellings

This is a list of the statutory spellings for Years 5 and 6. It would be really helpful if you could practise them with your children to help them remember. The spelling rules will be covered over the course of the year.

accommodate	category	determined	forty	marvellous	programme	soldier
accompany	cemetery	develop	frequently	mischiefous	pronunciation	stomach
according	committee	dictionary	government	muscle	queue	sufficient
achieve	communicate	disastrous	guarantee	necessary	recognise	suggest
aggressive	community	embarrass	harass	neighbour	recommend	symbol
amateur	competition	environment	hindrance	nuisance	relevant	system
ancient	conscience	equipment	identity	occupy	restaurant	temperature
apparent	conscious	equipped	immediate	occur	rhyme	thorough
appreciate	controversy	especially	immediately	opportunity	rhythm	twelfth
attached	convenience	exaggerate	individual	parliament	sacrifice	variety
available	correspond	excellent	interfere	persuade	secretary	vegetable
average	criticise	existence	interrupt	physical	shoulder	vehicle
awkward	curiosity	explanation	language	prejudice	signature	yacht
bargain	definite	familiar	leisure	privilege	sincere	
bruise	desperate	foreign	lightning	profession	sincerely	

# ECOLOGICAL HANDPRINT

- For each action you are already doing, shade in the numbered circle on your handprint.
- For each action you would like to do in the future, shade in that circle with a different colour.

## Consumption

9. Before I buy something new I consider - Do I need it? Can I borrow it? Can I buy it second hand?
10. I repair things rather than throw them out
11. I bring my own bag when shopping

## Community

5. I have learned about sustainability in my school
6. I talk to my parents about protecting the environment
7. I stand up for important issues
8. I volunteer

## Waste

24. I recycle
25. I choose a litter-free lunch
26. I safely throw out hazardous waste (paint, batteries, electronics, etc.)

## Transportation

1. I walk
2. I cycle
3. I take the bus
4. I carpool

27. I like being outside and protecting nature.

(Colour all white spaces between the circles)

## Water

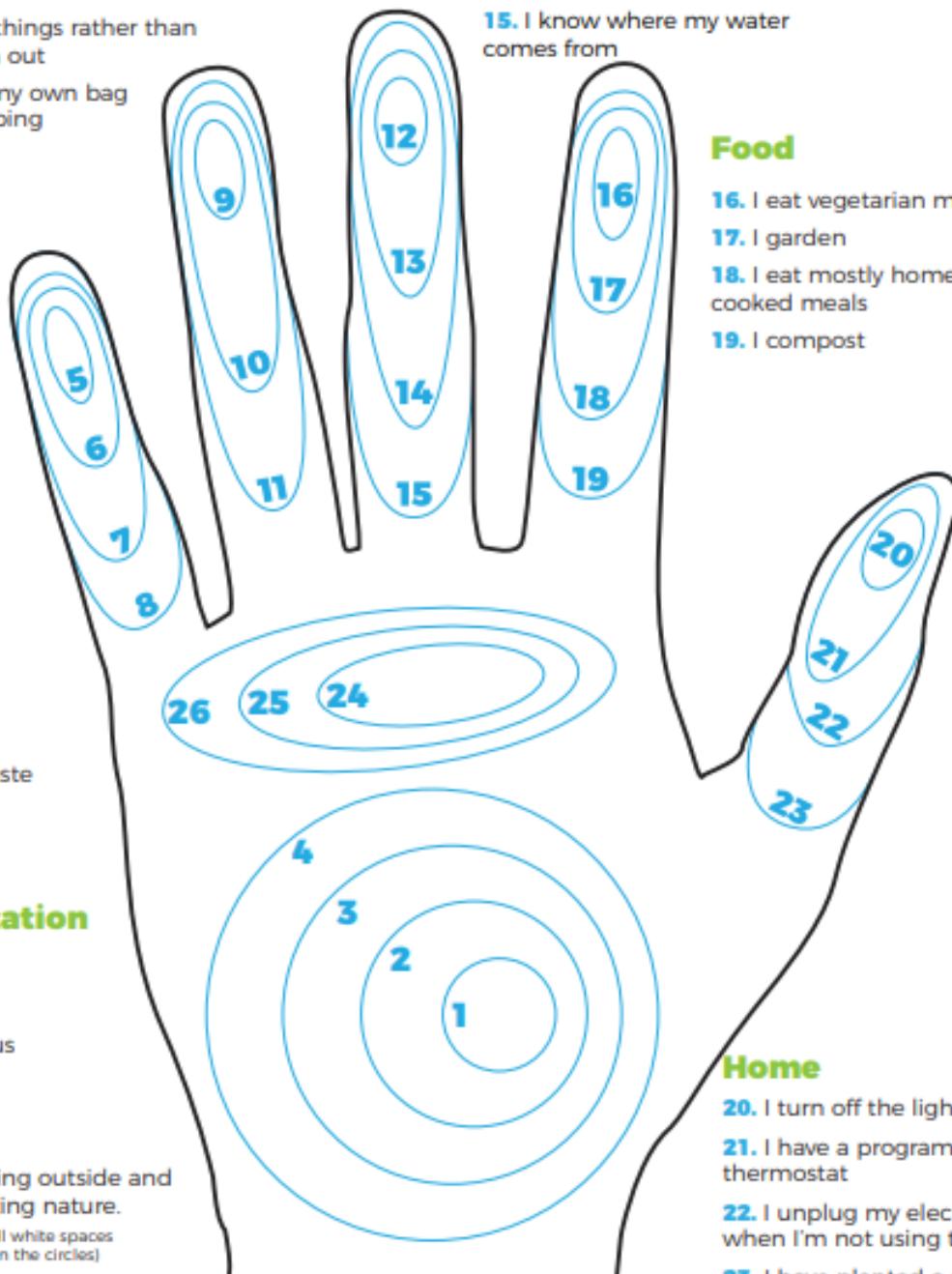
12. I save water
13. I drink tap water
14. I have a rain barrel
15. I know where my water comes from

## Food

16. I eat vegetarian meals
17. I garden
18. I eat mostly home cooked meals
19. I compost

## Home

20. I turn off the lights
21. I have a programmable thermostat
22. I unplug my electronics when I'm not using them
23. I have planted a tree



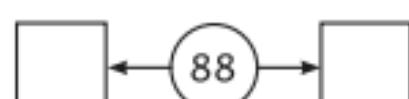
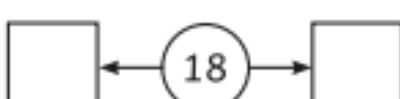
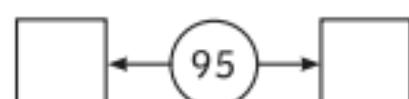
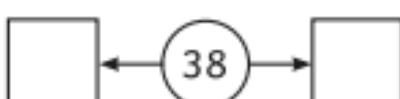
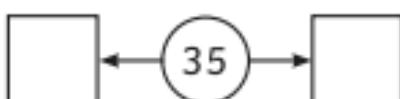
# Prime Numbers Challenge

Shade all the prime numbers to 100.

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	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Can you find the nearest prime number before and after each number below?

The first one is done for you.





## Two Primes Make One Square

Flora had a challenge for her friends.  
She asked, "Can you make square numbers by adding two prime numbers together?"

Ollie had a think.  
"Well, let me see... I know that  $4 = 2 + 2$ . That's a good start!"

**Have a go yourself. Try with the squares of the numbers from 4 to 20.**

Once you have had some initial ideas, take a look at how three more of Flora's friends started the problem:

*Bailey said:*  
"I made the square numbers out of cubes and tried taking a prime number of cubes away and seeing if it left a prime number of cubes."

*Dina said:*  
"I wondered whether noticing that 2 is the only even prime number was important."

*Shameem said:*  
"I listed the prime numbers up to 100 and then I listed the squares of the numbers from 4 to 20."

**Did you go about the task in the same way as any of these children?**

**What do you like about each method?**

**Continue working on the problem. You might like to adopt Bailey's or Dina's or Shameem's approach.**

**Did you find any square numbers which cannot be made by adding two prime numbers together? Why or why not?**

# My Ideas to Tackle Global Warming

Look at each problem and note down some ideas that you could do in your own house as well as what could be done at a national and international level.

Cows making methane	I could:	The Government could:	The world could:
Palm oil deforestation	I could:	The Government could:	The world could:
Fossil fuels for energy	I could:	The Government could:	The world could:
Pollution from cars and factories	I could:	The Government could:	The world could:
Oil used for plastics	I could:	The Government could:	The world could: