



Welwyn St.
Mary's

School and Home Learning Grid

Week 13 - 15th June, 2020

Year 6

NEW!

The Oak National Academy is an online school backed by the government. Recorded lessons, ideas and resources for all primary year groups are available for free and with no login required. If you would like to use these resources either to supplement the Welwyn St Mary's learning grids or just as a change of scene please follow the link below and select for your year group and subjects required.

<https://classroom.thenational.academy/year-groups/>

Dear parents and children. We hope you are all well and staying safe. We are still really missing all those children who are at staying at home. The grid remains the same - a big focus on revising maths and literacy skills in the morning and having more fun in the afternoons. We are doing a few other Year 6 activities, so do check the 'other' box below. We hope to see you all soon.

Day	I can...	Activities and links
Monday Mental Arithmetic	I can calculate using a range of arithmetic strategies.	Warm-up: Revise Roman Numerals. Video 55 https://corbettmathsprimary.com/content/ and do a few questions. Main teaching focus: Arithmetic test Year 6 - Test 2. Try re-registering, if you can't access twinkl. Alternatively, ask an adult to create a range of sums for you. https://www.twinkl.co.uk/resource/t2-m-1192-ks2-arithmetic-practice-tests-year-6-bumper-pack The test takes 30 minutes. Children mark their own work. Go over any areas of difficulty or any misconceptions.
Tuesday and Addition and subtraction 2-D shape	I can solve number puzzles involving the addition and subtraction of positive and negative numbers. I can compare and classify 2D shapes and describe their properties.	Warm-up: Target Maths - Page 9. Magic Squares. See below. Main teaching focus: Revise the names (and properties) of the different triangles, quadrilaterals and other polygons. If at home, watch these videos: 53 and 70. Next watch the video all about 2D shape - video 58 . https://corbettmathsprimary.com/content/ Activity: Target Maths - Page 122-123. Choose your level. If at home, see below. Support: Re-watch the videos and stick to A. Extension: https://nrich.maths.org/search/?search=2d+shape&tab=1&fs=11111000000111

<p>Wednesday</p> <p>2-D shape</p>	<p>I can solve a Sudoku Puzzle</p> <p>I can create a booklet to show my understanding of 2-D shape.</p>	<p>Warm-up: Explain how sudoku works. https://www.twinkl.co.uk/resource/t2-m-5709-ks2-solve-a-sudoku-powerpoint. Have a go at one. We can do more as Early Morning Work (EMW). If at home, see below. Ask a parent to explain it. Each row and column must contain all the digits (1 to 9). https://www.twinkl.co.uk/resource/t2-m-4327-sudoku-6-x-6-activity-sheet https://www.twinkl.co.uk/resource/t2-m-4324-sudoku-9-x-9-activity-sheet</p> <p>Activity: Revise your learning of 2-D shape from yesterday. Re-watch the videos or: https://www.twinkl.co.uk/resource/t2-m-918-name-the-2d-shape-year-6-powerpoint-quiz. Create a little booklet to show your understanding. You must include: the different types of triangles, quadrilaterals, polygons and show your knowledge of their properties. Try to draw them as accurately as possible. Video 3 https://corbettmathsprimary.com/content/ will help, if you are measuring angles.</p>
<p>Thursday</p> <p>3-D shape</p>	<p>I can solve a problem using the four standard operations (- x ÷ +).</p> <p>I can describe the properties of 3-D shape,</p>	<p>Warm-up: Play countdown. Explain your method. https://nrich.maths.org/6499</p> <p>Main teaching focus: Revise the names (and properties) of 3D shape - videos: 20 and 59. https://corbettmathsprimary.com/content/.</p> <p>Activity: Target Maths - Pages 124-125. Choose your level. If at home, see below.</p> <p>Support: Re-watch the videos and stick to A.</p> <p>Extension: https://nrich.maths.org/search/?search=3D+shape&tab=1&fs=11110000000111</p>
<p>Friday</p>		<p>INSET DAY - relax and read lots!</p>

	<p>Literacy to be done: INSET ON FRIDAY AND MONDAY! Use https://www.talk4writing.com/wp-content/uploads/2020/05/Y6-Gadgets.pdf</p>		
<p>Literacy</p>	<p>Reading: Find time to read daily and continue to share your reading with an adult - use a home book, or other reading materials e.g. a recipe, magazines, National Geographic for kids' website, BBC Bitesize reading materials, author websites and so on. Spellings: <i>see below</i> <i>"The more that you read, the more things you will know. The more that you learn, the more places you'll go." - Dr. Seuss</i></p>		
<p>School focus: Gadgets booklet</p> <p>Spelling test and new spellings to go out on Thursday this week.</p>	<p>Monday</p>	<p>I can identify synonyms</p> <p>I know the basic features of persuasive texts.</p> <p>I can make predictions and offer opinions about a text.</p> <p>I can identify and look up unknown words. I can write a sentence to show my understanding of new vocabulary.</p>	<p>Early Morning work: https://www.bbc.co.uk/newsround/news/watch_newsround Do a Year 5/6 spelling word search. https://www.twinkl.co.uk/resource/t2-e-1317-year-5-6-spelling-list-wordsearch-pack or alternatively, create your own – using the spelling words below. Grammar starter: discuss different ways to find the meaning of a word when reading. Keep short as lots to do next. Recap on what synonyms are. https://www.twinkl.co.uk/resource/t2-e-2197-year-6-grammar-revision-guide-and-quick-quiz-synonyms-and-antonyms Main lesson: If you are at home we are working through this booklet: https://www.talk4writing.com/wp-content/uploads/2020/05/Y6-Gadgets.pdf (we have donated). What spy stories do you already know? What films have you seen? Think about to the Autumn term when we wrote our own spy stories. Discuss. Complete pages 2 and 3 of the booklet - crack the code and find your own code name. Discuss what we mean by persuasive writing, especially adverts. Listen to the text The Multi-Function Mobile Phone - https://soundcloud.com/talkforwriting/multi/s-UGaRuBfv42i Reread the text - discuss the main theme. Using the word from page 5 scan the text and highlight them. Discuss why scanning a text is a good reading skill to develop. Independent task. P5 - Vocabulary. Children to complete the table.</p>
	<p>Tuesday</p>	<p>Using expanded noun phrases to convey complicated information concisely.</p> <p>Select level of formality needed</p>	<p>Early Morning work: Watch Newsround https://www.bbc.co.uk/newsround/news/watch_newsround Handwriting (cursive). Use the spelling words below. Grammar starter: Adjectives and expanded noun phrases Or at home, use your blue grammar book. https://www.twinkl.co.uk/resource/t2-e-3952-year-4-expanded-noun-phrases-warm-up-powerpoint Main lesson: Re-read the text. Check your understanding of the vocabulary from yesterday. Share the clip about persuasive devices: https://www.bbc.co.uk/teach/class-clips-video/english-ks1-ks2-how-to-write-a-persuasive-text/zkcfbdm https://www.twinkl.co.uk/resource/persuasive-language-techniques-au-t2-3136 Play the first spy games on page 6. Remember social distancing. Share with the class.</p>

			Independent task: Complete the second part on page 6 - Estate Agent Role Play
Wednesday	<p>Use inverted commas and other punctuation to indicate direct speech (for example, a comma after the reporting clause; end punctuation within inverted commas: The conductor shouted, "Sit down!")</p> <p>Use of paragraphs to organise ideas around a theme.</p> <p>Link ideas across paragraphs using a wider range of cohesive devices:</p>	<p>Early Morning work: Watch Newsround https://www.bbc.co.uk/newsround/news/watch_newsround Do a Year 5/6 spelling wordsearch. https://www.twinkl.co.uk/resource/t2-e-1317-year-5-6-spelling-list-wordsearch-pack or alternatively, create your own - using the words looked at on Monday.</p> <p>Grammar starter: Inverted Commas - spend a little bit of time on this ready for tomorrow. https://www.bbc.co.uk/bitesize/topics/zvwwxnb/articles/ztcp97h Play the games too if time. https://www.twinkl.co.uk/resource/t2-e-903-adding-inverted-commas-to-a-sentence-to-show-speech-lesson-teaching-pack</p> <p>Main lesson: Re-read the text - how is it structured? Look at page 7. Is this what you thought? Discuss the structure.</p> <p>Independent task. Complete activity 4 page 8.</p>	
Thursday	<p>Use inverted commas and other punctuation to indicate direct speech (for example, a comma after the reporting clause; end punctuation within inverted commas: The conductor shouted, "Sit down!")</p>	<p>Early Morning work: Watch Newsround https://www.bbc.co.uk/newsround/news/watch_newsround Handwriting (cursive). Use the spelling words below.</p> <p>Grammar starter: Quotations. https://www.twinkl.co.uk/resource/t-l-8838-quotation-marks-activity-sheet</p> <p>Main lesson and tasks: Page 9. Let's have a go at making our own quotations using the ideas from page 9. We can do some together. Don't forget accurate punctuation is needed.</p> <p>Independent task. Page 9 - write your own quotations.</p> <p>Spelling test today and hand-out next week's spellings</p>	

Spellings

By the end of year 6, children are expected to be able to spell most of the words from the year 3/4 and year 5/6 spelling lists. Therefore, we thought that the best thing to do, in the time that we have left, is to focus on these key words. Your secondary school will be expecting you to be familiar with them. We know that you have already started learning them, but we need to check that they are embedded. In school, there will be a test every Friday. New words (for the next week) will be given out on a Friday. If you are at home, ask an adult to test you. N.B. Where there are two (or three) words e.g. accident/accidentally, either word may be tested!

**Choose
your
level:
1 or 2**

LEVEL 1 - Year 3 and 4 Words

1. appear
2. breathe
3. calendar
4. consider
5. experiment
6. forward/forwards
7. guard
8. imagine

9. occasion
10. peculiar
11. possess/possession
12. regular
13. special
14. therefore
15. woman

LEVEL 2 -Year 5 and 6 Words

1. amateur
2. awkward
3. conscious
4. definite
5. embarrass
6. exaggerate
7. leisure
8. nuisance
9. occur
10. persuade
11. pronunciation
12. rhyme/rhythm
13. signature
14. suggest
15. temperature

Ongoing homework task: Find a synonym and an antonym for each of these words. Keep them in your mini book.

	Afternoon Work
French	<p>Bonjour les enfants - continued from last week</p> <p>I hope you are all well and had a good rest at half term. Please continue to practise some French each week. This week the theme is the human body so you can look at Unit 4 on Babelzone to revise parts of the body.</p> <p>Babelzone have also added a Junior zone which you can access using this link https://www.lcfclubs.com/babelzoneNEW/juniorzone/indexFR.asp</p> <p>Have a look at some of the activities in the section entitled Moi et les autres</p> <p>Practise parts of the body using this link. Remember to listen and repeat https://www.lcfclubs.com/babelzoneNEW/ks3-unit01/01partiesducorps/</p> <p>Listen to the song Je vais chez le docteur and sing along. Have a look at the lyrics and translate the words you recognise.</p> <p>Have a look at Douze douleurs and translate the sentences. https://www.lcfclubs.com/babelzoneNEW/ks3-unit01/pdf/douzeDouleurs.pdf</p> <p>Finally play the memory game to check your recall of the vocabulary https://www.lcfclubs.com/babelzoneNEW/ks3-unit01/01memoiredouleurs/</p> <p>You may find this word mat helpful https://www.lightbulblanguages.co.uk/resources/PrimaryFrench/corps-mat.pdf</p>
Year 6 'Other'	<p>We are making our own face covering using socks - try making one yourself. MASK TUTORIAL: Adam Joseph shows you how to make a ... https://www.youtube.com > watch</p> <p>Try making patterns by folding paper. http://www.origamiheaven.com/education.htm</p> <p><u>ART - CLARICE CLIFF DESIGN</u> Find out who Clarice Cliff was. Find a plate design you like. Rough sketch the Clarice Cliff design onto paper. Pre-draw the circle with a compass. Once you are happy with it, transfer design to card. Colour in using felt-tips.</p> <p><u>RE - AN INTRODUCTION TO JUDAISM</u> Comparing Christianity and Judaism.</p>

Family challenge project for the week beginning 15.06.20

'The Human Body'

Who would you like to find out? You choose.

Science

Have a look on these websites and see what you can discover about your body

<https://www.natgeokids.com/uk/discover/science/general-science/15-facts-about-the-human-body/>

<https://www.natgeokids.com/uk/discover/science/general-science/your-digestive-system/>

<https://www.natgeokids.com/uk/discover/science/general-science/human-brain/>

<https://www.natgeokids.com/uk/discover/science/general-science/human-eye/>

Could you do an experiment to look at germs? You could get 5 slices of bread. Each one will need labelling. For the first piece, put it in a bag labelled 'untouched'. For the second piece of bread, touch the bread all over, do not wash your hands before doing so. Label this unwashed. For the third piece, wash your hands thoroughly, then touch the bread all over. This should be labelled washed hands. For the fourth, use hand sanitizer on your hands. For the final piece of bread, wipe it over things like your computer, your TV remote. Put each bag in the same place and observe over a few days what happens. Can you make predictions? Why do you think this happened?

How many bones are in the human body? Can you research and find any animals with the same number or similar? We have the same number of bones in our neck as a giraffe. Can you compare the differences between our bones such as the length, the position of the bones or the flexibility of our necks?

We have 5 senses, sight, taste, touch, smell and hearing. Could you conduct an experiment to see what happens if you have 1 sense that isn't used. You could cover your eyes and see how it feels to walk. You could hold your nose and try to taste different foods, guessing what they are.

Follow this link and explore a wide range of activities. You could find out how to stop the spread of sneezes as well as other activities. <https://www.globalhealthhomeschool.org/activities/>

	<p>https://www.science-sparks.com/breathing-making-a-fake-lung/ Could you create a model lung to see how we breathe?</p> <p>Can you create your stomach and how it works? https://www.stem.org.uk/resources/elibrary/resource/35396/digestive-system-experiment</p>
<p>History and Geography</p>	<p>In ancient Egypt, bodies were mummified when someone died. Could you have a go at mummifying some fruit? What could you use? What would be the best thing to prevent it rotting? You could try a few different methods and compare at the end.</p> <p>https://www.teachprimary.com/learning_resources/view/ks2-science-ancient-egypt</p>
<p>Art and DT</p>	<p>Can you create a self-portrait using different materials? Which one enables you to get the most detail? Pencils? Paint? Why?</p> <p>Can you create a human body out of pasta? You could use different types of pasta to represent different bones. Can you label the parts of the body? If you are in KS2, what else do you know about these parts of the body?</p> <p>Can you create your body using food? This time, think about the organs, you could use a cauliflower for the brain, lychees for eyes?</p> <p>Could you create your own x-ray art? You will need black paper, flour or icing sugar, cotton wool buds or pasta. Lay a part of your body on the paper, this could be your hand. Cover it in flour, remove and see the outline. Then create the bones inside using the cotton wool or pasta.</p>
<p>RE</p>	<p>Use this link to learn all about Henna hand decoration and how to create the patterns https://www.art-is-fun.com/henna-hand-designs</p> <p>At the heart of the Buddhist faith is the ability to meditate and appreciate the moment (mindfulness.)</p> <p>Use this link https://www.ltl.org.uk/free-resources/ and click on Buddhism lesson idea to create a miniature Zen garden, a Labyrinth or a Mandala and enjoy being present in the moment. Take time to just be.</p>



Upload your pictures onto Purple Mash and tell us how it made you feel.

Music

Can you use different parts of your body to create music? You could use your hands, your feet, your voice. What about your legs? What about your cheeks? Could you record yourself creating music with your body?

Watch clips of Stomp (they are a percussion group that uses parts of their bodies to make music and also everyday objects like brooms) <https://www.nigelclarkepresenter.co.uk/stomp-play-annos-africa-charity-gig/> scroll down the page to click on the video.

Could you learn the words to Heads, shoulders, knees and toes? Can you change the body parts? Can you miss one each round? <https://www.youtube.com/watch?v=fvEtwhui1k0>

Other ideas

Sensory games: play games which use your senses.

Make a feely box/ feely bag, get someone to hide an object in it. Can you use your sense of touch to work out what it is? Get someone to blindfold you then listen to them make a noise. Can you work out what the noise is without seeing it? Play 'There's a monster in the garden' with a blindfold. Can you work out who was speaking in a funny voice? Play 'Blind man's bluff' Try to work out what you can taste or smell when you are blindfolded. Did you guess correctly? How do people who are deaf communicate? Learn some simple sign language starting with letters of the alphabet at

<https://www.youtube.com/watch?v=lyhAAMDQI-Q> Then join in with Jack Hartman to 'see it, say it, sign it'

<https://www.youtube.com/watch?v=WP1bIVh1ZQM> Optical illusions are fun to try and work out. Take a look at this site <https://kids.niehs.nih.gov/games/riddles/illusions/index.htm>

Also try Forest Bathing to explore your senses. <https://www.ltl.org.uk/free-resources/> Scroll down until you find 'Forest Bathing' and click on the tab. 'It is simply spending time in and with nature, letting it invade our being using all of our senses. It is good for your health and wellbeing - encouraging the children to use mindfulness to absorb their surroundings.' When you get home you could draw a picture and write about all the things you experienced. Get creative and make a picture using

natural materials (twigs, leaves, stones etc) or even write a poem.

Here are some books linked to the human body. Could you read them then make your own information book?

<https://www.oxfordowl.co.uk/api/interactives/12969.html> – Your body, Inside out

https://www.oxfordowl.co.uk/api/digital_books/2098.html – What's inside me?

https://www.oxfordowl.co.uk/api/digital_books/1464.html – What's that noise?

<https://www.oxfordowl.co.uk/api/interactives/26343.html> – A hole in my tooth

Challenge

Can you design a book token? You could win £10 for all of your class. <https://www.nationalbooktokens.com/create-a-national-book-token-for-your-class>

See below for the Virtual Pentathlon – you could upload your scores to Purple Mash for us to share with Mr O'Neil

Website links – activity 1 -https://www.youtube.com/watch?v=JlpNSOp8x8&list=PL6DK6xTdLkmwBkVBUkZZ2L_oTT6VXErNO&index=2

Activity 2 – <https://www.youtube.com/watch?v=tf7YG9xwscA&feature=youtu.be>

Activity 3 – https://www.youtube.com/watch?v=20d_MA76CdQ&list=PL6DK6xTdLkmwBkVBUkZZ2L_oTT6VXErNO&index=4

Activity 4 – https://www.youtube.com/watch?v=jB1NWH0qpTA&list=PL6DK6xTdLkmwBkVBUkZZ2L_oTT6VXErNO&index=5

Activity 5 - https://www.youtube.com/watch?v=Vu554a26Dg&list=PL6DK6xTdLkmwBkVBUkZZ2L_oTT6VXErNO&index=6

VIRTUAL PENTATHLON

This virtual pentathlon is made up of 5 different events:

- Shuttle Runs
- Standing Long Jump
- Vertical Jump
- Speed Bounce
- Target Throw

Record your score for each event on the results table.



This challenge is linked to the School Games value of Self Belief
How can you demonstrate Self Belief throughout this challenge?
Be realistic in what you think you can achieve. Set yourself a target to reach for each event. Give it your BEST shot!

Can you be a Leader?

- Explain or demonstrate to a member of your household the events
- Teach another member of your household how to take part in each activity and challenge them to a mini competition



REPTFORDSHIRE SCHOOL GAMES



VIRTUAL PENTATHLON

ACTIVITY 1: 20 X 5M SHUTTLE RUNS

- Run 20 shuttles between points 5m apart as quickly as possible
- Each way is one shuttle



HEALTH & SAFETY TIPS:

- Ensure surface is flat, dry and clear from obstacles
- You have sufficient space around the activity

EQUIPMENT NEEDED

- Tape measure
- Cones
- Stopwatch

BUT WHAT ELSE CAN I USE?

- 30cm ruler – 17 x to make 5m
- Jumpers
- Watch or phone timer

REPTFORDSHIRE SCHOOL GAMES



MAKE IT EASIER

- Move the cones closer together
- Do 10 shuttle runs

NOTE OF A CHALLENGE:

- Move the cones further apart
- Do 30 shuttle runs

MAKE IT INCLUDE:

- Wheel between the 2 points using your wheelchair
- Use your support or someone to help you walk the distance

SCORING

- Record your time to 2 decimal places in the table (e.g. 11.57 seconds)

VIDEO

- Link to video can be found [here](#)

VIRTUAL PENTATHLON

ACTIVITY 2: STANDING LONG JUMP

- Start from standing on two feet in line with the 0 on the measuring tape
- Jump as far as possible and land on two feet
- If you fall or step back you should not record the jump – have another go!



HEALTH & SAFETY TIPS:

- Ensure surface is flat, dry and clear from obstacles
- You have sufficient space around the activity

EQUIPMENT NEEDED

- Tape measure

BUT WHAT ELSE CAN I USE?

- 30cm ruler – mark out distance
- Remember 100cm = 1m

REPTFORDSHIRE SCHOOL GAMES



MAKE IT EASIER

- Take off from one foot and land on two

NOTE OF A CHALLENGE:

- Add something to jump over to increase the height of your jump

MAKE IT INCLUDE:

- If you can't jump you have 2 options:
 - As far as you can step in 4 go
 - As far as you can go with 1 push in a wheelchair or 3 seconds in an electric wheelchair

SCORING

- Record your jump in meters to 2 decimal places to the back of your foot (e.g. 1.76m)


VIDEO

- Link to video can be found [here](#)

VIRTUAL PENTATHLON

ACTIVITY 3: VERTICAL JUMP

- Mark height by standing with back and heels against the wall, both arms stretched up and legs straight – stick scale onto wall at this point
- Turn side on and move 20cm away from the wall
- Jump and stick a piece of tape on the scale at the highest point you can manage
- Record the number reached



HEALTH & SAFETY TIPS:

- Ensure surface is flat, dry and clear from obstacles
- You have sufficient space around the activity


EQUIPMENT NEEDED

- Printed scale
- Tape/post it note

BUT WHAT ELSE CAN I USE?

- Tape measure or 30cm ruler
- Blue tack or marker pen

REPTFORDSHIRE SCHOOL GAMES



MAKE IT EASIER

- Take a step in before jumping

NOTE OF A CHALLENGE:

- Complete three jumps in a row without stopping and see if you can hit the same point each time

MAKE IT INCLUDE:

- Wheelchair users measure their stretch from their hand to the tip of their fingers
- Measure from the bottom of the jump – lift feet as high as possible

SCORING

- Record the height of your jump to the nearest cm (e.g. 80cm)

VIDEO

- Link to video can be found [here](#)

VIRTUAL PENTATHLON

ACTIVITY 4: SPEED BOUNCE

- Jump over the wedge as many times as possible in 20 seconds
- Speed bounce must be a 2 footed jump – both feet leave the ground simultaneously and land simultaneously



MAKE IT EASIER

- Remove the wedge and do or jump over the flat line on the floor

MAKE IT MORE OF A CHALLENGE

- Increase the size of wedge

MAKE IT INCLUSIVE

- Wheel backward and forward over a line – wheels must clear it!
- Hold on to the back of a chair for stability

HEALTH & SAFETY TIPS

- Ensure surface is flat, dry and clear from obstacles
- You have sufficient space around the activity

EQUIPMENT NEEDED

- Wedge
- Stopwatch

BUT WHAT ELSE CAN I USE?

- Rolled up towel or kitchen roll
- Watch or phone timer

SCORING

- Record the number of bounces you complete (e.g. 34)

VIDEO

- Link to video can be found [HERE](#)

HERTFORDSHIRE SCHOOL GAMES



VIRTUAL PENTATHLON

ACTIVITY 5: TARGET THROW

- Stand behind a line and throw 3 items into a target 3m away
- Move the target to 5m and repeat the process
- 4 points if your item lands in the target
- 2 points if your item bounces out of the target or hits the floor before landing in the target



MAKE IT EASIER

- Use a high sided target e.g. washing basket or larger target

MAKE IT MORE OF A CHALLENGE

- Change the target to a flat object on the ground such as a hoola hoop
- Use a smaller diameter target

MAKE IT INCLUSIVE

- Adjust the target distance or size
- Roll the objects rather than throw

HEALTH & SAFETY TIPS

- Ensure surface is flat, dry and clear from obstacles
- You have sufficient space around the activity

EQUIPMENT NEEDED

- Tape measure
- Target
- Bean Bags

BUT WHAT ELSE CAN I USE?

- 30cm Ruler (300cm = 3m)
- Washing Basket, Dug's Bed or bin
- Ball of socks

SCORING

- 4 points for a direct hit
- 2 points for a bounce in or out
- Record your score out of a maximum of 24

VIDEO

- Link to video can be found [HERE](#)

HERTFORDSHIRE SCHOOL GAMES



VIRTUAL PENTATHLON RESULTS


SCHOOL NAME

CHILD'S FIRST NAME

YEAR GROUP

EVENT	RESULT
1. SHUTTLE RUNS	<input style="width: 100%;" type="text"/>
2. STANDING LONG JUMP	<input style="width: 100%;" type="text"/>
3. VERTICAL JUMP	<input style="width: 100%;" type="text"/>
4. SPEED BOUNCE	<input style="width: 100%;" type="text"/>
5. TARGET THROW	<input style="width: 100%;" type="text"/>

HERTFORDSHIRE SCHOOL GAMES



Sudoku 9 x 9 Puzzles

Each row and column contains all the digits 1 to 9.

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

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

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

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

MAGIC SQUARES

9

TARGET To solve number puzzles involving the addition and subtraction of positive and negative numbers.

In a magic square the sum of each row, column and diagonal is the same.

-7	2	-1
4	-2	-8
-3	-6	3

Example

Row $4 + -2 + -8 = -6$

Column $2 + -2 + -6 = -6$

Diagonal $3 + -2 + -7 = -6$

Copy and complete the following magic squares.

A

1

		11
	14	
17	6	

2

26		
32	17	20

3

25		
	18	
17		11

4

	29	
	25	
	21	34

5

12		
57		
18		46

B

1

1		
-4	3	-2

2

		-5
		4
5		1

3

-1		
	-2	
-5		-3

4

	-7	8
	1	
-6		

5

-2		
5		
6		8

C

1

1			2
-6	7	4	-7
	-5		
		3	-2

2

	3		8
9		2	
	1	5	
-5		0	7

3

4			3
-5	-2	1	-4
	-6		
		2	-9

4

5			4
	3	6	
		-4	1
-5	2		-2

TARGET To compare and classify 2-D shapes and describe their properties.

TRIANGLES
 equilateral
 isosceles
 right-angled
 scalene

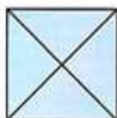
QUADRILATERALS
 square
 rectangle
 rhombus
 parallelogram
 trapezium
 kite



OTHER POLYGONS
 5 sides – pentagon
 6 sides – hexagon
 7 sides – heptagon
 8 sides – octagon

REGULAR POLYGONS
 Regular polygons have all sides equal and all angles equal.
 equilateral triangle
 square
 regular pentagon
 regular hexagon etc.

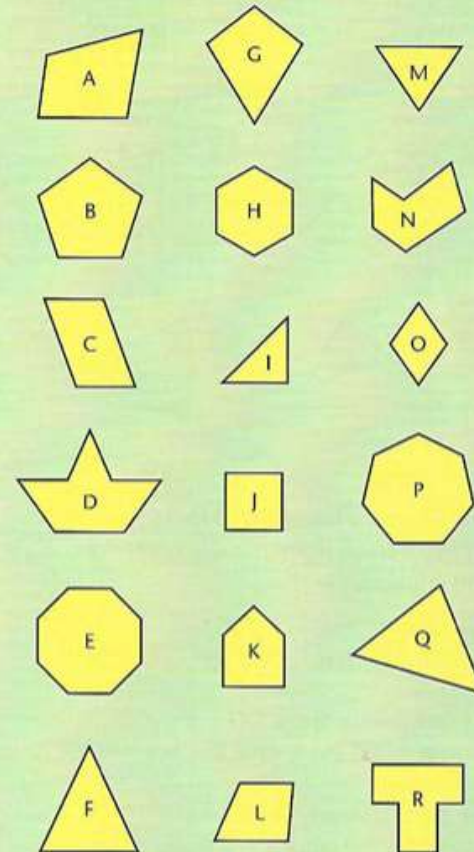
PROPERTIES CHECKLIST
 number of sides
 number of parallel sides
 number of perpendicular sides
 number of equal angles
 types of angles
 number of lines of symmetry
 properties of diagonals



Square
 Diagonals are perpendicular and bisect (cut each other in half).

A

1 Write the name of each shape.



Write the name of each triangle.

- 2** 3 equal sides
- 3** 1 line of symmetry
- 4** 1 pair of perpendicular lines
- 5** 2 angles of 45°

Write the name of the quadrilateral.

- 6** 4 right angles but not 4 equal sides
- 7** opposite sides equal and no right angle
- 8** one pair of parallel sides
- 9** 4 equal sides, no perpendicular sides

B

Which of the shapes A–R in Section A:

- 1 are regular
- 2 have no lines of symmetry
- 3 have 2 or more pairs of parallel sides
- 4 have 1 or more reflex angles
- 5 have 1 or more pairs of perpendicular sides
- 6 have 2 or more lines of symmetry.

Identify the shape from the clues and describe other properties it possesses.

- 7 4 sides
opposite angles equal
no lines of symmetry
- 8 6 sides
3 pairs of parallel sides
- 9 sum of angles is 180°
3 equal sides
- 10 2 pairs of parallel sides
diagonals are perpendicular
no right angle
- 11 all sides equal
sum of angles is 540°
- 12 sum of angles is 360°
diagonals are equal and bisect
but are not perpendicular.

Describe the properties of each shape.

- 13 square
- 14 isosceles triangle
- 15 regular octagon
- 16 symmetrical trapezium.

C

Give the sum of the angles of the following shapes.

- 1 an equilateral triangle
- 2 a square
- 3 a regular pentagon
- 4 a regular hexagon.
- 5 Write a formula for the sum of the angles (a) of a regular polygon with n sides.
- 6 Use your formula to work out the sum of the angles of:
 - a) a regular heptagon
 - b) a regular decagon (10 sides)
 - c) a regular dodecagon (12 sides).
- 7 Which quadrilaterals have diagonals which:
 - a) are of equal length
 - b) are perpendicular
 - c) bisect (cut each other in half)?
- 8 Investigate the largest possible number of pairs of:
 - a) parallel sides in different polygons
 - b) perpendicular sides in different polygons.

Record your results in a table.

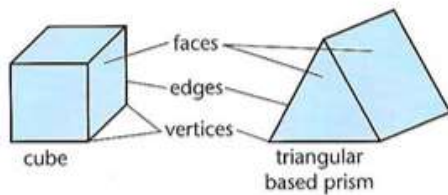
Shape	// Sides Possible	⊥ Sides Possible
quadrilateral	2	4
pentagon		
hexagon		
heptagon		
octagon		
nonagon		
decagon		

- 9 Describe any patterns in your results.

TARGET To describe the properties of 3-D shapes.

POLYHEDRA

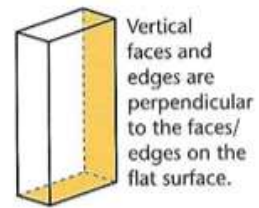
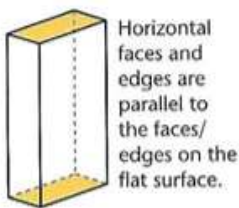
A polyhedron is a 3-D shape with straight edges.



A prism has two identical end faces and the same cross section throughout its length.

PARALLEL AND PERPENDICULAR FACES/EDGES

Parallel and perpendicular faces and edges can be identified by placing one face of a shape on a flat surface.



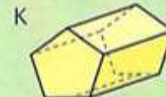
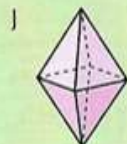
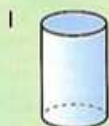
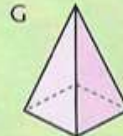
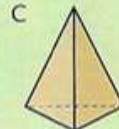
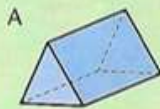
A

1 Match each of the shapes A to L with one of the names of 3-D shapes.

cone
cube
cuboid
cylinder

hemisphere
hexagonal based prism
octagonal based prism
octahedron

pentagonal based prism
square based pyramid
tetrahedron
triangular based prism



2 Copy and complete this sentence.

An octagonal based prism has identical octagonal end faces and 8 identical side faces.

3 Write a similar sentence for each of the other five prisms shown in the above diagrams.

B

- 1 Copy and complete this table showing the properties of nine different polyhedra.

Shape	Sides	Edges	Vertices
	7		
			4
		24	
cube		9	
			6
	8		
			8
		8	

- 2 For each of the shapes in the above table write down:
- how many pairs of parallel faces there are in the shape
 - how many pairs of perpendicular faces there are in the shape?

C

Copy and complete the following formulae where:

S = number of sides of end face of prism
 F = number of faces of a prism
 E = number of edges of a prism
 V = number of vertices of a prism

- $F = S + \square$
- $E = \square S$
- $V = \square S$
- $E = F + V - \square$

Use your formulae to find:

- the number of faces and edges of a prism with 24 vertices
- the number of vertices and edges of a prism with 12 faces
- the number of faces and vertices of a prism with 45 edges.

For each of the following shapes write down how many faces have:

- pairs of parallel edges
 - pairs of perpendicular edges.
- a heptagonal prism
 - a hexagonal pyramid
 - a 10 sided (decagonal) prism
 - a pentagonal pyramid
 - a 9 sided (nonagonal) prism
 - an octagonal pyramid
 - Look at the shapes in Section A.
 - Which shape has parallel edges in the shape but not in any face?
 - How many pairs of parallel faces does this shape have?
 - How many edges are there on the end face of a prism with:
 - 20 faces with parallel edges
 - 20 faces with perpendicular edges.

Page 9

A

9	22	11
16	14	12
17	6	19

26	29	14
11	23	25
32	17	20

25	10	19
12	18	24
17	26	11

16	29	30
39	25	11
20	21	34

12	35	40
57	29	1
18	23	46

B

0	-5	2
1	-1	-3
-4	3	-2

-1	6	-5
-4	0	4
5	-6	1

-1	-6	1
0	-2	-4
-5	2	-3

2	-7	8
7	1	-5
-6	9	0

-2	11	0
5	3	1
6	-5	8

C

1	-4	-1	2
-6	7	4	-7
6	-5	-8	5
-3	0	3	-2

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

4	-7	-10	3
-5	-2	1	-4
-1	-6	-3	0
-8	5	2	-9

5	0	-7	4
-6	3	6	-1
8	-3	-4	1
-5	2	7	-2

Page 10

A

1 3326	4 4422	7 377	10 659	13 5362
2 7511	5 8001	8 1746	11 4648	14 1987
3 6411	6 9863	9 1475	12 3489	

B

1 31 412	4 65 302	7 8383	10 79 199	13 87 341
2 89 114	5 72 385	8 41 938	11 35753	14 44 893
3 55 204	6 74 201	9 28 741	12 6694	

C

1 501902	4 1326443	7 117959	10 576599	13 £686 684
2 500 730	5 1232080	8 277945	11 62 583	14 79 755
3 829 639	6 906 355	9 256 645	12 197 568	

Page 11

A

1 414	8 697-6	15 1016	22 185-2
2 1492	9 282-6	16 3488	23 586-8
3 1770	10 367-5	17 1971	24 145-6
4 2943	11 467-1	18 2316	25 192-0
5 3400	12 104-4	19 7560	26 76-0
6 1358	13 3308	20 4620	27 16-17
7 362-0	14 1841	21 63-8	28 435-6

B

1 10335	8 3385-8	15 17910	22 4228-8
2 7436	9 1776-6	16 14346	23 261-48
3 34264	10 157-04	17 29632	24 456-20
4 43218	11 1128-84	18 81780	25 3000-2
5 81378	12 4940-0	19 23488	26 444-6
6 35496	13 14088	20 35343	27 2571-3
7 253-05	14 21870	21 511-72	28 406-32

C

1 79 614	7 2428 560	13 5522-13
2 164 118	8 2018 511	14 422-688
3 354 576	9 1568-76	15 434-148
4 807 185	10 147-734	16 1649-10
5 376 760	11 101 941-4	17 £115 843
6 946 232	12 174-356	18 143-25 kg

Page 12

A

1 728	7 19-2	13 29-1
2 1384	8 23-4	14 44-4
3 2145	9 1174	15 15-2
4 1722	10 1575	16 41-3
5 38-8	11 1730	17 57-4 g
6 34-8	12 2280	18 £2322

B

1 7820	7 253-12	13 281-82
2 43 076	8 1614-9	14 1672-8
3 37 104	9 14385	15 470-34
4 33 651	10 16 416	16 768-84
5 2343-6	11 57 607	17 1-49 m
6 147-90	12 34 312	18 £17 682

C

1 369 162	7 1 149 264	13 567-756
2 104 552	8 320 940	14 986-780
3 477 954	9 328-368	15 575-216
4 2 610 124	10 4079-18	16 1008-468
5 226 611	11 182-988	17 1 409 960
6 981 134	12 2151-93	18 £32 634-00

Page 13

A

1 884	5 2646	9 5916
2 8856	6 1482	10 6132
3 864	7 931	11 7446
4 9345	8 1955	12 16 425

B

1 32 422	5 91 648	9 269 051
2 35 532	6 161 283	10 47 640
3 63 574	7 74 936	11 190 086
4 87 400	8 106 610	12 344 112

C

1 675 780	7 1 843 395	13 86 655
2 1087 712	8 3 389 312	14 84 042
3 1 434 324	9 45 567	15 242 392
4 731 655	10 96 256	16 245 594
5 919 542	11 68 242	17 348-3 kg
6 1832 462	12 494 208	

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A

- 1 a 130° 3 c 115° 5 e 190° 7 g 265°
 2 b 60° 4 d 45° 6 f 70° 8 h 25°
 9 i 140° j 40° k 140°
 10 l 100° m 80° n 80°
 11 o 105° p 75° q 105°
 12 r 145° s 35° t 35°
 13 90° 15 45° 17 315° 19 225°
 14 180° 16 135° 18 270° 20 135°
 21 a) 225°
 b) 120°

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B

- 1 a 144° 5 e 221° 9 i 52° j 128° k 128°
 2 b 26° 6 f 287° 10 l 151° m 29° n 29°
 3 c 98° 7 g 133° 11 o 136° p 44° q 136°
 4 d 72° 8 h 82° 12 r 67° s 113° t 67°
 13 180° 15 270° 17 90° 19 300°
 14 30° 16 60° 18 120° 20 240°
 21 a) 72°
 b) 315°

C

- 1 a 65° 3 c 27° 5 e 113° 7 g 78°
 2 b 43° 4 d 42° 6 f 214° 8 h 67°
 9 i 82° j 98° k 82° l 51° m 33°
 10 n 116° o 64° p 116° q 28° r 63°
 s 26° t 68°
 11 180° 13 300° 15 276° 17 72°
 12 6° 14 240° 16 330° 18 150°
 19 a) 54°
 b) 330°

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B

1 108°

2	Number of sides	Sum of angles	Interior angle
	3	180°	60°
	4	360°	90°
	5	540°	108°
	6	720°	120°
	7	900°	128.6°
	8	1080°	135°
	9	1260°	140°
	10	1440°	144°

C

1 a) 300° b) 240°

2	Sides	Exterior angle
	3	300°
	4	270°
	5	252°
	6	240°
	7	231.4°
	8	225°
	9	220°
	10	216°

3 a) $s = 180(n - 2)$

b) $i = \frac{180(n - 2)}{n}$

c) $e = 360 - \frac{180(n - 2)}{n}$

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A

(allow +/- 1 mm/1°)

- 3 x 4.0 cm 3 x 3.0 cm z 82° 5 x 4.1 cm z 21°
 4 z 122° 4 x 6.1 cm z 113° 6 x 2.9 cm z 125°
 5 z 50° 5 x 6.7 cm z 62°
 6 x 3.3 cm z 115° 6 x 4.2 cm z 127°

Page 118

(allow +/- 1 mm)

A

- 1 6.5 cm 4 7.2 cm 7 7.0 cm 10 4.9 cm
 2 6.5 cm 5 3.5 cm 8 7.1 cm 11 8.9 cm
 3 7.9 cm 6 4.0 cm 9 5.3 cm 12 6.6 cm

Page 119

(allow +/- 1 mm, 1°)

B

- 1 5.4 cm 4 8.2 cm
 2 6.3 cm 5 5.7 cm

C

- 1 x 67° y 5.0 cm
 2 x 119° y 6.7 cm
 3 x 71° y 6.0 cm
 4 6.1 cm, 4.3 cm, 55°
 5 7.0 cm, 5.7 cm, 5.7 cm, 76°, 52°, 52°
 6 121°, 38°, 21°
 7 5.9 cm, 4.5 cm, 41°
 8 8.0 cm, 4.4 cm, 36°
 9 4.6 cm, 4.6 cm, 48°, 48°

Page 120

(allow +/- 1 mm, 1°)

A

- 1 x 6.3 cm 3 x 4.0 cm z 74° 5 z 105°
 2 z 44° 4 z 90°

Page 121

(allow +/- 1 mm, 1°)

B

- 1 z 37° 3 z 58° 5 x 1.7 cm
 2 x 3.8 cm z 75° 4 z 108°

C

- 1 x 4.6 cm z 45° 2 z 98°

Page 122

- 1 A quadrilateral J square
 B regular pentagon K pentagon
 C parallelogram L trapezium
 D heptagon M equilateral triangle
 E regular octagon N hexagon
 F isosceles triangle O rhombus
 G kite P regular heptagon
 H regular hexagon Q scalene triangle
 I right-angled triangle R octagon
 2 equilateral triangle 6 rectangle
 3 isosceles triangle 7 parallelogram
 4 right-angled triangle 8 trapezium
 5 right-angled isosceles triangle 9 rhombus

Page 123

- B**
- 1 B E H J M P 3 C E H J O R 5 I J K R
 2 A C I L N Q 4 D N R 6 B E H J M O P
- 7 parallelogram
 e.g. opposite sides equal and parallel
 diagonals bisect
- 8 regular hexagon
 e.g. opposite sides equal
 6 equal angles
 diagonals equal and bisect
 6 lines of symmetry
- 9 equilateral triangle
 e.g. 3 equal angles
 3 lines of symmetry
- 10 rhombus
 e.g. opposite angles equal
 opposite sides equal and parallel
 diagonals bisect
 2 lines of symmetry
- 11 regular pentagon
 e.g. all angles equal
 diagonals equal
 5 lines of symmetry
- 12 rectangle
 e.g. opposite sides equal and parallel
 4 right angles
 2 lines of symmetry
- 13 e.g. 4 equal sides
 2 pairs of parallel sides
 4 right angles
 4 lines of symmetry
 diagonals equal, bisect and perpendicular
- 14 e.g. 2 equal sides
 2 equal angles
 1 line of symmetry
- 15 e.g. 8 equal sides
 4 pairs of parallel sides
 8 equal angles
 8 lines of symmetry
- 16 e.g. 1 pair of parallel sides
 1 line of symmetry
 2 pairs of equal adjacent angles
 diagonals equal

- C**
- 1 180°
 2 360°
 3 540°
 4 720°
 5 $n = 180(n - 2)$
 6 a) 900°
 b) 1440°
 c) 1800°
- 7 a) square, rectangle, symmetrical trapezium
 b) square, rhombus, kite
 c) square, rectangle, parallelogram, rhombus

8	Shape	// Sides possible	⊥ Sides possible
	quadrilateral	2	4
	pentagon	2	3
	hexagon	3	6
	heptagon	3	5
	octagon	4	8
	nonagon	4	7
	decagon	5	10

Page 124

- 1 A triangular prism G square based pyramid
 B cone H hexagonal prism
 C tetrahedron I cylinder
 D octagonal prism J octahedron
 E cuboid K pentagonal prism
 F hemisphere L cube
- 2 An octagonal based prism has 2...8 identical rectangular side faces.
- 3 A triangular prism has 2 identical triangular end faces and 3 identical rectangular side faces.
 A cuboid has 2 identical rectangular end faces and 4 identical rectangular side faces.
 An hexagonal prism has 2 identical hexagonal end faces and 6 identical rectangular side faces.
 A pentagonal prism has 2 identical pentagonal end faces and 5 identical rectangular side faces.
 A cube has 2 identical square end faces and 4 identical square side faces.

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B

1	Shapes	Faces	Edges	Vertices
	pentagonal prism	7	15	10
	tetrahedron	4	6	4
	octagonal prism	10	24	16
	cube	6	12	8
	triangular prism	5	9	6
	octahedron	8	12	6
	hexagonal prism	8	18	12
	cuboid	6	12	8
	square based pyramid	5	8	5

- 2 pentagonal prism a) 1 b) 10
 tetrahedron a) 0 b) 0
 octagonal prism a) 5 b) 16
 cube a) 3 b) 12
 triangular prism a) 1 b) 6
 pentagonal based pyramid a) 0 b) 0
 octahedron a) 4 b) 8
 cuboid a) 3 b) 12
 square based pyramid a) 0 b) 4

- C**
- 1 $F = S + 2$ 5 Faces 14 Edges 36
 2 $E = 3S$ 6 Vertices 20 Edges 30
 3 $V = 2S$ 7 Faces 17 Vertices 30
 4 $E = F + V - 2$
- 8 a) 7 b) 7 12 a) 9 b) 9
 9 a) 1 b) 0 13 a) 1 b) 0
 10 a) 12 b) 10 14 a) octahedron b) 4
 11 a) 0 b) 0 15 a) 18 b) 20

Page 128

- B**
- 2 c) a) 5-8 cm b) 6-6 cm c) 3-2 cm d) 4-4 cm

Page 129

- B**
- 1 a) 10-6 cm c) 17-8 cm 2 a) 7-5 cm c) 4-8 cm
 b) 9-2 cm d) 13-4 cm b) 5-4 cm d) 6-2 cm

