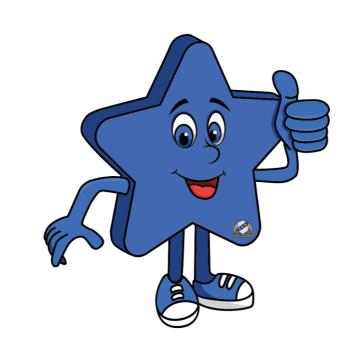


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Year 5 At Home Learning



Term 3 Week 4

Tuesday 3 - Friday 6 August 2021



Silkstone State School

Year 5 @Home Learning Timetable



You will not need access to a digital device to complete the following activities. You will need help from a parent/carer and/or siblings. Resources included Timetable, Resources (found at the end of this document), exercise book, blank paper and stationery.

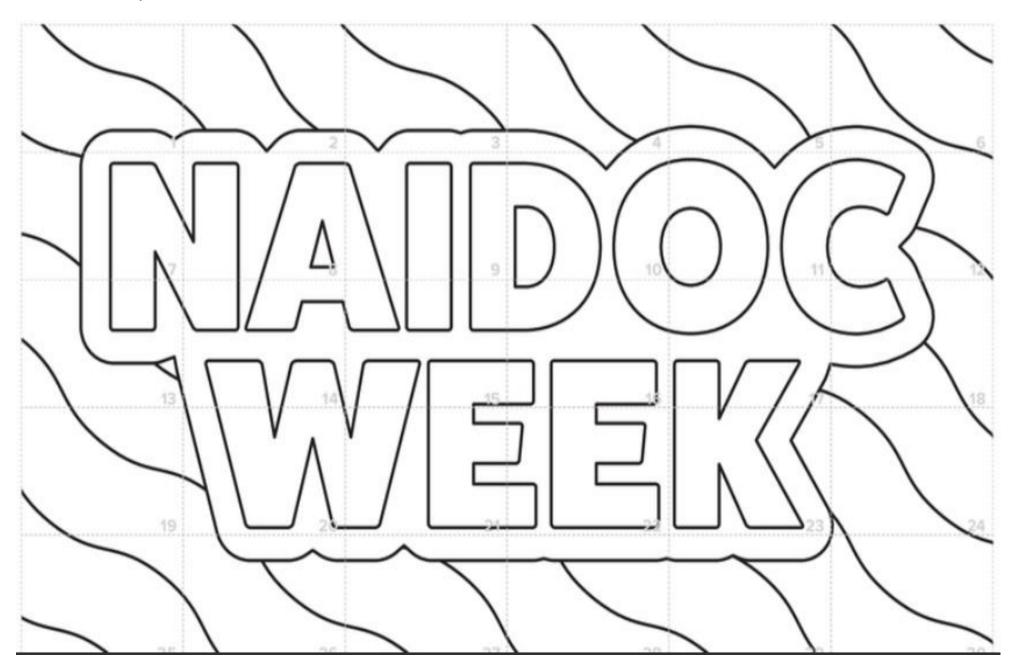
Week 4	Tuesday 3 Aug	Wednesday 4 Aug	Thursday 5 Aug	Friday 6 Aug
Vocabulary Words: Dignified Impatient Sternly Glared Bobbing Miserably Craning Onomatopoeia Hyperbole	English Read: Reading comprehension 'Lego' (resources) Summarise: Key points of the news item. Comprehension: Complete the Quick Quiz. Answer in full sentences. Vocabulary: Create a glossary for the following words from the article. • eroding, durability • petroleumbased • compatible Compose: Lego is one of the most popular toys on earth. Imagine that it is the year 3321, 1300 years from now. Design and describe the toy that you think will be the most popular for the kids of 3321. Spelling Activity:	English Read: Reading comprehension 'Dolphins' (resources). Comprehension: Complete the Quick Quiz. Answer in full sentences. (resources) Respond: Write the points For and Against dolphins living in a pool at a marine park versus a sea-pen sanctuary in the harbour. Do this as a table with two columns. Compose: Where do you think dolphins are happiest? Have you seen a dolphin in captivity? No one-word answers. Use full sentences to explain your thinking. Spelling Activity: Build new words from your vocab words. Read: Reading comprehension Headless Chicken Monster	English With parent/carer guidance, look at some headlines in a magazine, newspaper, article, or BTN reports. Respond: What is the purpose of headlines? Compose: Discuss with someone what you think the purpose of headlines and titles are. Where do you see these? Are they only used in written, informative pieces? Respond: Create a series of headlines using 5 words, then 4 words, 3 words, 2 words and finally one word only, to announce 5 different things you have done over the last few days. Spelling Activity: Explain the meaning of each of your vocab words to a member of your family.	English Read a book of your choice for ½ hour. Practise: Using clear, legible handwriting, write each of your spelling words in new sentences. Research: What is the history behind Anzac biscuits? You may have some books in the house that will help or ask an adult or carer. Perhaps you could even phone an older member of your family or an elderly friend. Compose: A letter to a serving defence force member overseas, introduce yourself and tell them a little bit about yourself, ask questions about them and thank them for their service. Vocabulary Activity Write out the alphabet into your book by placing one letter at the start of each line.
	Using your vocab words from your list, write them into comple sentences.	х		Using the letter at the start as a prompt, list three to four words that could be used to describe a serving defence

Break	Break	Break	Break	force member. i.e. 'A' amazing, agile, abiding, authentic 'B' busy, brave, best, beloved Break
Middle	Mathematics	Mathematics	Mathematics	Mathematics
Wilddie	Have your parent/carer test you on your four times tables (4 x and 4÷). Activity <i>choice</i> 1. Using the timetable for local public transport (Trip Planner resources) Choose a route and start points/endpoints. Calculate how long the trip will take. Calculate: Plan a day trip involving at least two stops. Create your own timetable for the day. Calculate the time to travel from each stop to the next. Convert timetable times from 24-hour to 12-hour time. OR 2. Complete the Timetable activity provided by TransPerth (resources).	Have your parent/carer test you on your three times tables (3 x and ÷). Play a card or board game with someone in your family. OR Play Race to 100 (resources) or Pig (resources). If you do not have two dice, make some nets of cubes. Dice can also be found electronically online. Problem Solving: Just how much are you worth? Assign a dollar value to each letter of the alphabet (a=\$1, b=\$2, c=\$3, d=\$4 and so on). Use addition to calculate the value of your full name and three family members'/ friends' names.	Have your parent/carer test you on your six times tables (6 x and ÷) Weighing In: Line up a variety of food such as fruit, veggies or canned goods. Predict the order of the foods from lightest to heaviest. Use a balance scale to test their predictions, then rearrange the foods according to their actual weights. If balance scale is not available, estimate your answers. Challenge: Activity "Division Colour Fun" (resources).	Have your parent/carer test you on your five times tables (x and ÷). Challenge: Barbie Bungee In this activity, you will simulate a bungee jump using a Barbie® doll (or any action figure) and rubber bands. Before you conduct the experiment, formulate a hypothesis. (Resources). Problem Solving: Mr Smith loves planting colourful flowers in his flower garden. Today, he has 2 yellow flowers, 3 red flowers, 4 orange flowers and 1 pink flower. He wants to plant them in a straight line along the front of his garden. Draw some possible
		Whose name is the most expensive?Whose name is the		Draw some possible arrangements. Is it possible to draw a line of

		cheapest?How much are your names worth altogether?		flowers so that no two flowers of the same colour are together?
Break	Break	Break	Break	Break
Afternoon	Creative arts	HASS	Creative Arts	HPE
	(Go to resources section at end for your copy to colour) HPE Keep a physical activity diary throughout this week. Record the types of exercises and amount of time spent on each activity. These activities could include burpies, sprints, pushups, sit-ups and crunches. Or you can go for a walk with your family or carers.	Anzac Day gatherings will be cancelled this year. Act like a reporter and interview your family members about what Anzac Day means to them. Where possible, extend your interview to include a phone or elderly friends and neighbours. Collate all of your notes into your book including the names of your sources and "word for word" sections of your conversations. On the 18 th of March, Channel 7 reported that Australians are being called to honour Anzac Day by standing at the end of their driveways for a minute's silence. "They reported that "RSL Queensland" says the display would send a powerful message of solidarity to Australia's defence community after Anzac Day services, events and parades were cancelled amid the ongoing COVID-	(https://www.youtube.com/watch? v=r3eVvmswdOc). Go to 'YouTube' and search 'Dance Monkey Body Percussion' found at the link above. This is continuing on from the practice with Mrs Berry. Practise through the song, copying the body percussion shown. Pause and slow down difficult parts to practise. This can be done be changing the playback speed in the settings of the video. Double foot tap with one chest tap (try to use the same side of the body), then tap other foot once with a clap (repeat).	Review: Look at your physical activity diary from this week. Calculate how much time each day was spent on physical activity. Challenge: Identify two personal goals for a more active lifestyle. Brainstorm how you could achieve each goal. Plan: How you might involve other members of the family in this physical activity challenge. List five exercises on piece of paper—burpies, star jumps, situps, push-ups, jumping on the spot. Do each exercise for one minute and record how many you complete. Halve each number and write it down. Rest for five minutes then do one full round of each set based on your halved number for each exercise.

19 crisis." Comment on this movement proposed by the RSL. Do you think this is a good idea or not? Justify your answer in one paragraph.	If you have any energy, rest for another five minutes and repeat.
Challenge: Create your own commemoration	
Create a special activity or ceremony that the kids of Australia could do on Anzac Day at home.	

Week Four: Tuesday Creative Arts



22/03/2020

Kids News: Australian scientists discover headless chicken monster sea cucumber in Southern Ocean near Antarctica | KidsNews



Scientists discover 'headless chicken monster' in Southern Ocean

October 23, 2018 8:14AM News Corp Australia Network



Reading level: Green

A deep-sea cucumber known as a "headless chicken monster" has been filmed in the Southern Ocean for the first time using camera technology developed by Australian researchers.

The creature was filmed off East Antarctica and it is the first time the species has been seen in the area.

"Some of the footage* we are getting back from the cameras is breathtaking*, including species we have never seen in this part of the world," Australian Antarctic Division Program leader Dirk Welsford said.

The creature, En ypniastes eximia, has only been seen before in the Gulf of Mexico and was captured in the Southern Ocean by cameras developed by the Australian Antarctic Division.

It is known as a "headless chicken monster" because that's what it looks like.

Our oceans are home to an incredible number of amazing sea creatures

"The housing that protects the camera and electronics is designed to attach to toothfish longlines* in the Southern Ocean, so it needs to be extremely durable*," Dr Welsford said.

"We needed something that could be thrown from the side of a boat and would continue operating reliably* under extreme pressure in the pitch black for long periods of time."

The information collected from the cameras is being presented at the annual Commission for the Conservation of Antarctic Marine Living Resources meeting starting in Hobart yesterday.

Australia's commissioner for the meeting will push for a new East Antarctic Marine Protected Area.

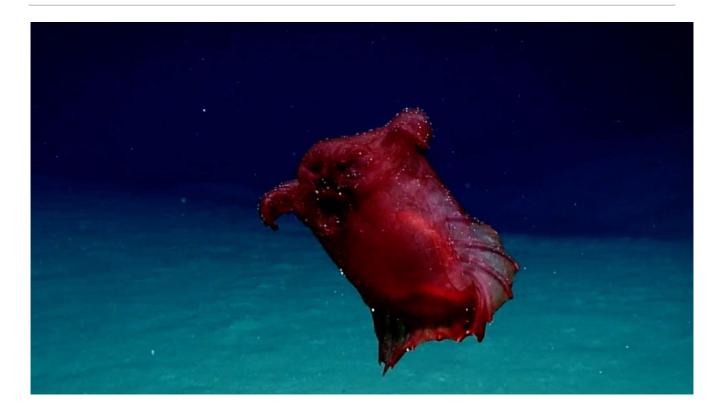
"The Southern Ocean is home to an incredible abundance* and variety of marine life, including commercially sought-after* species, the harvesting of which must be carefully managed for future generations," commissioner Gillian Slocum said.

The 10-day Antarctic conservation meeting will also include proposals on how to respond to climate change.

WHAT IS A SEA CUCUMBER?

Not a vegetable or a fruit!

A marine animal with a tough, leathery skin in a group of creatures called echinoderms, with starfish and sea



Scientists have captured footage of a deep-sea swimming sea cucumber known as the 'headless chicken monster'.

Tube feet that look like tentacles around their mouths gather algae, tiny aquatic animals and waste into its mouth.

Fish and humans eat sea cucumbers. They are a delicacy — a special-occasion food — in Asian cuisines*.

Home is the ocean floor. Some species live in shallow water, others in deep water. There are about 1250 known species found all around the world.

Defence against attack is pretty spectacular! Some discharge sticky threads to capture enemies. Others can mutilate* their own bodies. And others shoot their organs out of their anus*. The good news is they quickly grow their organs again.

Source: National Geographic

QUICK QUIZ

- 1. Which ocean was the sea cucumber found in?
- 2. What is Enypniastes eximia?
- 3. Where else in the world has this creature been seen?
- 4. The camera used to film the creature has to be very strong to withstand pressure. Why?
- 5. Why is the film of this creature being shown at the meeting?

Division Colour Fun!

then colour that section the corresponding colour.

40+5

70+7

 $4 \div 2$

40+5

9+99 8+2

18 ÷ 6 35÷7

Ex81

replaced by a letter. Make sure you practise your right to left regrouping when you solve the Find out what the message is by solving the problems below. Each answer needs to be



8+2

108÷12

Z+98

8+5

Exsx.

*ex3

35÷7













11 light green 12 brown

10 light blue

9 brown

ě

2

white 2 black

40+5

8+2

















Week Four: Tuesday English Lego

22/03/2020

Danish plastic blocks by Lego could last 1300 years at sea | KidsNews



Scientists discover Lego lost at sea could survive 1300 years

AFP and The Sun, March 19, 2020 6:45PM Kids News

ENVIRONMENT

Reading level: Green

Lego bricks are so tough they could survive in the sea for 1300 years, according to new research.

Scientists analysed blocks, made of a plastic called acrylonitrile-butadiene-styrene, that washed up on the coast of southwest England after being lost from a container ship that was hit by a massive wave during a storm in 1997.

They confirmed the ages of individual pieces, weighed them, then compared them with unused pieces from the 1970s and 1980s.

It allowed them to work out the rate at which the plastic was eroding* in the salt water.

The Plymouth University study came to the conclusion the bricks could survive in the sea for anywhere between 100 and 1300 years.

Dr Andrew Turner, associate professor in environmental sciences, said: "Lego is one of the most popular children's toys in history and part of its appeal has always been its durability*.

"It is specifically designed to be played with and handled, so it may not be especially surprising that despite potentially being in the sea for decades, it isn't significantly worn down.

"However, the full extent of its durability was even a surprise to us."

Dr Turner said the study highlighted the potential impact that some plastics can have on the environment.

Volunteer groups in southwest England have found thousands of bits of Lego and other plastics during regular beach clean-ups.

LEGO FOR THE FUTURE

Lego has promised its bricks will be 100 per cent sustainable by 2030.

The acrylonitrile-butadiene-styrene most Lego pieces are made from is a petroleum-based* substance.

For now, 2 per cent of its plastic pieces, or 80 of the around 3600 construction pieces, are made of a sugarcane-based polyethylene.

These pieces are mostly trees, leaves and bushes in the kits, which do not have to meet the same durability requirements as bricks, which have to stick together tightly.

It is a technical challenge, as Lego wants to ensure customers do not notice any difference between the old plastic and any new materials. New pieces must have the same physical properties as the old ones: strength, colour fastness and sticking power, in order to remain compatible* with older pieces.

Lego vice-president Tim Brooks said Lego is also making cautious advances in the field of recycled plastic. "Recycled materials is a very interesting area but you need to understand where that material comes from," Mr Brooks said.

The company refuses to share its production secrets, but insists it reuses its own plastic waste products in its production.

Antidia Citores, spokeswoman of the environmental group Surfrider Europe, said replacing one plastic with another would not reduce emissions.

"Changing one plastic for another is not a revolution, not in terms of pollution or carbon emissions," she said

FAST FACTS

- Lego is a Danish company based in Billund, western Denmark.
- The name Lego is a contraction in Danish for "Leg Godt" or "Play Well".
- In 2018 BBC reported that Lego makes 75 billion bricks a year.
- It's estimated there are about 80 bricks for every person on Earth.

QUICK QUIZ

- 1. What is acrylonitrile-butadiene-styrene a type of?
- 2. Why do Lego pieces keep washing up on the English coast?
- 3. What does Antidia think about Lego's attempts to change the type of plastic?
- 4. What country is Lego from?
- 5. How many Lego bricks are there thought to be for every person on Earth?

Week Four: Tuesday Mathematics Timetables



TIMETABLE ACTIVITY 1

READ THIS FIRST

I've decided that I want to start catching the bus to and from school. My mum has been dropping me off and picking me up, but to be



honest, I feel like I want to start doing a bit more for myself, it's not as though I'm in Kindy any more!



Also, my mum has a new job in a completely different part of town, which is making it tricky. Allowing enough time to

drop me off at school in the mornings and still get to work on time means leaving so early. Even then, we still seem to sit in peak traffic and my mum gets stressed out about being late for work. It's not a great way to start the day! After school, my mum's found it hard to get away from work on time and I end up hanging around waiting when I'd rather get home. It also seems like an unnecessary journey in the car, which obviously isn't great for the environment.

The best option for everyone seems to be for me to start using the bus to get to and from school.

I picked up a local bus timetable (I'm pretty sure I can look up the bus times online too) and the times are also displayed on the bus stops.

I live 5 minutes' walk from Appleby Road. I'm pretty sure this is my nearest bus stop. I go to school at Applecroft School, which is at the other end of School Close. I need to be at school for 8.30am, except on Wednesdays

when I have a drum lesson before school, so I need to be there for 8am. I've seen where the bus stop is on School Close – I think it's a five-minute walk from school.



Wednesdays are busy for me. School finishes at 3pm, but I need to get to netball training, which is at Barton Recreation Centre. I could



walk it, but it feels like a long way when I'm carrying my sports gear. Training usually finishes around 4.30pm, by which time I'm keen to get home.

DO YOU THINK YOU'D BE ABLE TO HELP ME WORK OUT WHICH BUSES I SHOULD CATCH? I'VE NOT DONE THIS BEFORE AND COULD DO WITH A HAND.





TIMETABLE ACTIVITY 1

BUS TIMETABLE — CITY CENTRE TO TAYLOR STREET

Stop	City Centre	Appleby Road	Smith Street	Barton Way	School Close	West Street	Taylor Street
Α	07:10	07:14	-	07:20	07:25	07:27	07:30
В	07:30	07:34	07:38	07:40	07:45	07:47	07:50
C	07:45	-	07:53	07:55	07:55	07:57	08:00
D	08:00	08:04	08:08	08:10	08:15	08:17	08:20
E	08:10	08:14	-	08:20	08:25	08:27	08:30

BUS TIMETABLE — TAYLOR STREET TO CITY CENTRE

Stop	Taylor Street	West Street	School Close	Barton Way	Smith Street	Appleby Road	City Centre
Α	15:20	15:23	15:25	15:30	15:32	15:36	15:40
В	15:40	15:43	15:45	15:50	15:52	15:56	16:00
C	16:00	16:03	16:05	16:10	16:12	16:16	16:20
D	16:20	16:23	16:25	16:30	16:32	16:36	16:40
E	16:40	16:43	16:45	16:50	16:52	16:56	17:00





Which bus should I catch to school usually (A,B,C,D or E)?



What time would I need to leave home to catch this bus?



Which bus should I catch on a Wednesday when I have to be at school for $8 \,\sigma' \, \text{clock}$ (A, B, C, D or E)?



How much earlier would I have to leave home on a Wednesday?



If I missed the earlier bus, how long would I have to wait for my next bus and what time would it get me to school?



Tve noticed that some buses don't stop at Appleby Road. Would it be an option to walk to a different stop? What do you think?



Which stop should I get on and off at?



How long will the bus journey take me?



My friend, Joe gets on the bus at Smith Street. I'd like to catch the bus to school with him, but I'm not sure which bus he gets. Have you got any idea?



Which bus do you think I should usually catch home?



Which bus should I catch to netball training on Wednesdays after school?



If training finishes around 4.30 - which bus would I catch home?



If training runs late and I don't get away until 5pm, what time do you think the next bus would be?







Bucky, Calamity, Bella, Zippy and Jet are the subjects of an Australian-first happiness study

Donna Coutts, May 28, 2019 7:00PM Kids News



Reading level: Green

A world-leading scientist is studying dolphins in Australia to find out if they are happy.

Animal behaviour expert Dr Isabella Clegg is in Coffs Harbour, NSW for the Australian-first study into the welfare* of five dolphins at the Dolphin Marine Conservation Park.

The dolphins' carers and park owners would like to know whether Bucky, Calamity, Zippy, Bella and Jet would be happier in their pool or in a sea-pen sanctuary in the nearby harbour.

Zippy, Bella and Jet have never been in the ocean. Bucky and Calamity were both born in the wild but were later rescued.

All five dolphins are Indo-Pacific bottlenose dolphins and are the only dolphins at the marine park.

Dr Clegg will study the dolphins in their current home in the tourist park's pools and the results can then be compared with future studies if the dolphins are moved to sea pens.

Dr Clegg completed a major research project (called a PhD) in 2017 at the University of Paris in France on dolphin welfare and how to measure animal emotions.

In this study, she will look at the personality of each of the five dolphins and their behaviour with each other and with humans.

If they are moved to sea pens, the dolphins can be studied again to help everyone decide where the dolphins are happiest. If they are found to be happier in the pools, they can come back from the sea pens.

"A lot of projects and places want to (create sea pens) because they assume it will be better for the animal's welfare," Dr Clegg told ABC.

"But it's really important to check by doing such a welfare study before and after they move just to ensure* that they are in a better situation than before."

Animal activists — people who work to improve the welfare of animals — have protested in the past about dolphins being kept in captivity* at Dolphin Marine Conservation Park.

Dr Clegg told ABC that so far, she had seen positive signs of the dolphins' welfare at the park and "good social bonds*" between the animals.

The marine park announced in March that it will no longer breed dolphins in captivity, making its current family the last generation in captivity.

The decision means Sea World in Queensland is the last marine park in Australia to continue breeding dolphins in captivity.

DR CLEGG'S FIRST STUDY

The three-year research project Dr Clegg carried out at a marine park in France involved watching dolphins in three different situations: alone in a pool, alone in a pool with toys and playing with a human trainer or carer in the pool.

The dolphins showed their enthusiasm for playing with humans by actions such as being more active, swimming around the pool more, spending time at the side of the pool and "spy hopping", which is peering above the water surface to look in the direction trainers usually come from.

"All dolphins look forward most to interacting with a familiar human," Dr Clegg told BBC.

Neither the French study nor the Australian study can tell us whether dolphins prefer being in the wild over being in captivity, but the French study told researchers dolphins like interacting with people.

VIDEO: Dolphins frolicking in the ocean around a surfer at Secret Harbour, Perth, WA

THE DOLPHIN FAMILY

BUCKY: male born around 1970, named after Nambucca, NSW, the place from where he was rescued in 1970. He and his mother Sandy became stranded on an oyster bed and became badly sunburnt and dehydrated*. Father to Zippy, Bella and Jet.

CALAMITY: female born around 1981, rescued from the Tweed River, NSW, in 1992 after becoming tangled in discarded fishing line. She was released into the river but was rescued again 18 months later tangled in fishing line and plants and badly injured. Mother to Bella and Jet.

ZIPPY: male born June 26, 1988 at Dolphin Marine Conservation Park. Dad is Bucky and mum is another rescued dolphin named Buttons. The name Zipper is a play on his mother's name.

BELLA: female born July 11, 2005 at Dolphin Marine Conservation Park. Dad is Bucky and mum is Calamity.

JET: male born December 3, 2009 at Dolphin Marine Conservation Park. Dad is Bucky and mum is Calamity.

INDO-PACIFIC BOTTLENOSE DOLPHINS

- Also called Indian Ocean bottlenose dolphins or spotted bottlenose dolphins
- · Scientific name Tursiops aduncus
- Grow to 2.6m long and weigh up to 230kg
- Live around the entire coast of mainland Australia but not around Tasmania
- Also lives close to the coast of India, South China, the east coast of Africa and countries bordering the Red Sea
- Not listed as threatened or endangered

GLOSSARY

- · welfare: health and happiness
- ensure: make certain something will happen
- · captivity: opposite to in the wild
- social bonds: relationships with other animals, including humans

Week Four: Thursday Mathematics - Race to One Hundred from Youcubed.org

This game provides students an opportunity to practice addition, subtraction, multiplication and division as they try to reach 100 on a number chart. The game can be modified by adding more dice or using dice with more than 6 sides. Students will have fun playing as well as making up their own rules for a new game.

Task Instructions

- Each player takes turns rolling the two dice. Markers are placed at one.
- Player 1 may choose to calculate the addition, subtraction, multiplication or division of the two numbers displayed on the dice.
- Player 1 then moves their marker to that number on the chart.
- Player 2 takes their turn.
- For player 1's second turn they roll again and calculate the addition, subtraction, multiplication or division. This number is then <u>added</u> to the number <u>under their marker</u> (the number you already did) and the marker is moved to this sum.
- Play ends when one player reaches one hundred.
- If a player rolls and computes a number that cannot be added to the last number without going over 100 they lose their turn.
- If player 1 reaches 100 first, player 2 finishes the round to see if they can tie the game.



Race to One Hundred

91	92	93	94	95	96	97	98	99	100
81	82	83	84	85	86	87	88	89	90
71	72	73	74	75	76	77	78	79	80
61	62	63	64	65	66	67	68	69	70
51	52	53	54	55	56	57	58	59	60
41	42	43	44	45	46	47	48	49	50
31	32	33	34	35	36	37	38	39	40
21	22	23	24	25	26	27	28	29	30
11	12	1 3	14	1 5	16	1 7	18	19	20
1	2	3	4	5	6	7	8	9	10

Week Four: Thursday Mathematic - Pig

From Helping with Math at Home: More Ideas for Parents. 2006. Portsmouth, NH: Heinemann.

This is a quick game that can be played to practice addition. It provides fun by tempting a player with making that next roll to get a higher score.

Task Instructions

- The goal is to be the first player to reach 100.
- On your turn, roll the two dice and calculate what they add up to. You can either stop and record that sum or continue rolling and add the new sums together.
- Roll the pair of dice as many times as you choose. Again, when you decide to stop, record the current total for your score (and add it to your previous score).

But beware! If you roll a 1 on exactly one die, your turn ends and 0 is your recorded score for that turn. And, if you roll double 1's, your turn ends and your entire score is set back to 0.

Materials: Two dice

Week Four: Thursday Creative Arts "Click go the Shears

Out on the board the old shearer stands, Grasping his shears in his long, bony hands, Fixed is his gaze on a bare-bellied "joe" Glory if he gets her, won't he make the ringer go.

(Chorus)

Click go the shears boys, click, click, click, Wide is his blow and his hands move quick, The ringer looks around and is beaten by a blow, And he curses the old snagger with the blue-bellied "ioe".

In the middle of the floor in his cane-bottomed chair Is the boss of the board, with eyes everywhere, Notes well each fleece as it comes to the screen, Paying strict attention if it's taken off clean.

(Chorus)

The colonial-experience man he is there, of course, With his shiny leggin's, just got off his horse, Casting round his eye like a real connoisseur Whistling the old tune "I'm the Perfect Lure".

(Chorus)

The tar-boy is there, a-waiting in demand, With his blackened tar-pot and his tarry hand, Sees one old sheep with a cut upon its back, Hears what he's waiting for "Tar here Jack!"

(Chorus)

Shearing is all over and we've all got our cheques,

Roll up your swag for we're off on the tracks The first pub we come to, it's there we'll have a spree,

And everyone that comes along it's, "Come and drink with me!"

(Chorus)

Down by the bar the old shearer stands, Grasping his glass in his thin bony hands, Fixed is his gaze on a green-painted keg Glory, he'll get down on it, ere he stirs a peg.

(Chorus)

There we leave him standing, shouting for all hands,

Whilst all around him every shouter stands, His eyes are on the cask, which is now lowering fast,

He works hard, he drinks har,d and goes to hell at last.

(Chorus),

Week Four: Friday Mathematics – Barbie Bungee from National Council of Teachers of Mathematics http://illuminations.nctm.org

In this activity, you will simulate a bungee jump using a Barbie® doll or action figure and rubber bands. Before you conduct the experiment, formulate a hypothesis using the sentence below:

I believe that _____ is the maximum number of rubber bands that will allow Barbie to safely jump from a height of 200 cm.

Now, conduct the experiment to test your hypothesis.

PROCEDURE:

Complete each step below. Tick beside each step as you complete it.

- 1. Tape a large piece of paper to the wall from the floor to a height of about 200cm.
- 2. Draw a line near the top to indicate the height from which Barbie will make each jump.
- 3. Create a double-loop to wrap around Barbie's feet. A double-loop is made by securing one rubber band to another with a slip knot, as shown (above right).



- 4. Wrap the open end of the double-loop tightly around Barbie's feet, as shown (left).
- 5. Attach a second rubber band to the first one, again using a slip knot, as shown.
- 6. With two rubber bands now attached, hold the end of the rubber bands at the jump line with one hand, and drop Barbie from the line with the other hand. Have a partner make a mark to the lowest point that Barbie reaches on this jump.



- 7. Measure the jump distance in centimetres, and record the value in the data table below. Repeat this jump several times and take the average, to ensure accuracy. <u>Accuracy is important</u>—Barbie's life could depend on it! Average is calculated by adding all jumps together and then dividing by the number of jumps.
- 8. Repeatedly attach two additional rubber bands for each new jump, measure the jump distance, and record the results in the data table.
- 9. Complete the data table.

NUMBER OF RUBBER BANDS (X)	JUMP DISTANCE IN CENTIMETERS (Y)
2	
4	
6	
8	
10	
12	

