Government of **Western Australia**
Department of **Transport**

Junior Crew

Primary School Program for Years 3, 4 and 5

Teacher's Resource Pack

The Teacher's Resource Kit

The Teacher's Resource Kits provides the lesson plans and tasks as well as support information to assist teacher's in the delivery of the subjects. The kit contains the topics, tasks, worksheet answers, major activities, resource lists, discussion points and background marine safety information which will enable students to complete the various tasks.

The structure of the Teachers Resource Kit follows the same format for each of the topics.

- **Demonstration of learning;**
  The desired outcomes the students should be able to demonstrate.
- **Teacher resources required;**
  A list of resources required to deliver the lesson plan.
- **Background information and pre-reading;**
  Supporting information about the topic to assist teachers in delivering the lesson plan.
- **Lesson Plan;**
  The actual lesson plan with hints and tips on delivering and achieving the desired outcomes.
- **Worksheets and answers;**
  A list of worksheets appropriate to the topic and their answers.
- **Major Activity;**
  An activity designed to reinforce the learning outcomes of the topic.

Six steps to successful delivery

Step 1

Read through the Junior Crew Course Overview to develop an understanding of the program and it's links to the Western Australian Curriculum.

Step 2

Study the Teacher's Resource Pack and plan a program as small or extensive as time, resources and teacher involvement allows.

Step 3

Photocopy or print sufficient Junior Crew Logbooks and Lesson Worksheets for the class.

Step 4

Hand out logbooks for students and parents to view and highlight the activities that will be completed.

Step 5

Complete the selected activities. Following each activity, the teacher/parents can sign that section off in the student's logbook.

Step 6

When students have completed the compulsory activities and the logbook has been signed off, a certificate can be issued.

Parent/guardian involvement

In any student exercises that are undertaken, try to include parent participation as much as possible. Parents are responsible for their children's boating education and wellbeing. Including parents in homework exercises not only prompts parents to talk to their children about safety, but also makes the parents review their own actions. This is important as children are quick to pick up on things that their parents do.


H

Topic 1 — Weather is king

Demonstration of learning

At the end of this topic students can demonstrate that:

- the weather can change;
- the weather plays a major role in determining a boating plan;
- they can not rely on their own current observations of the weather. They will need to ask the skipper or find a weather forecast;
- they can work as an individual;
- they are aware of and can be responsible for the consequences of their actions; and
- they are aware of terms used in weather forecasting.

Teacher resources required

- Flashcards 1 to 15.
- Skip the Boat Safe Bird story booklet
- Worksheets 1 to 4.
- A week of consecutive weather reports (compiled by students or teaching staff dependent on student level)
- Poster paper, pens and pencils
- PMI table – see Appendix 3 page 42 to quantify positive and negative outcomes

Background information and pre-reading

Covering weather as part of this kit highlights to children the necessity of checking the weather before leaving shore, and also shows them where weather information is available. Children will then make sure their skipper (mum, dad, a relative or friend) does the same. The content of a forecast can be complicated for children at this age, increasing the importance of including parents in this process.

One of the most important things to do before going boating is to check the weather forecast. No one wants to go boating when it is wet, windy and cold. It is much more fun, and much safer to go when the weather is calm and warm.

Never go boating without checking the forecast, as the weather in Western Australia can change quickly. It may be warm and sunny when you leave but it can soon become windy, cold and dangerous. It will always be colder on the water than on land and so extra clothing should be taken as a precaution. There are many ways of getting a weather forecast, but some media give much more up-to-date forecasts than others:

TV and newspapers

Television and newspapers give a forecast, but it can be up to 12 hours old (and the weather may have changed).

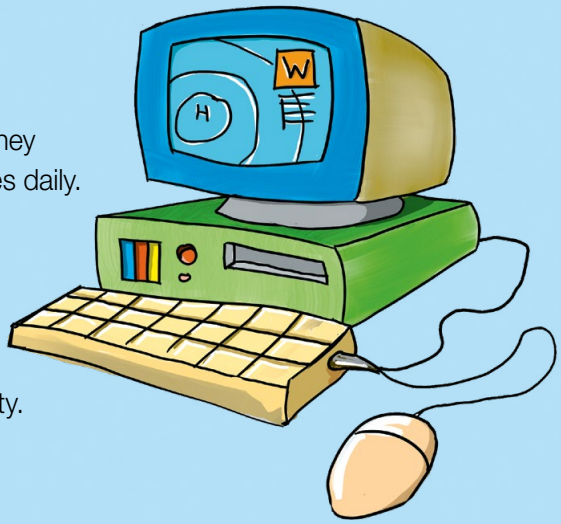
For a newspaper to print a weather report, the following events take place.

- the Bureau of Meteorology issues a report;
- the newspaper employee downloads and then takes time to edit the report;
- the report is added to the newspaper draft;
- the editor of the newspaper reads and makes any required changes to the report;
- the newspaper is sent to print (usually overnight);
- the printed newspaper is packed for transport;
- the newspaper arrives at the local store or at the deliverer's address; and then
- the paper is delivered and available for reading.

The total time can be over 12 hours for the above steps.

Internet, radio and telephone

Internet radio, telephone and mobile phone apps are more current as they follow the Bureau of Meteorology's forecasts that are updated four times daily. A summary of locations to gain current weather reports is included on Flashcard 10.



The 'local waters forecast' is specific for boating and is the most valuable report. Information on wave height (seas and swell), wind direction and speed and any warnings should be investigated as a priority. Rain can also affect comfort levels and visibility on the water.

Wind speed

Wind speed is measured usually in knots rather than kilometres per hour. To get an approximate value, multiplying the knots by 1.8 will give the kilometres per hour. Wind is never constant and care needs to be taken as gusts (a sudden increase in wind strength) can be 40 per cent more than the average given. Wind warnings are also issued with the following values.

- Strong wind warning – an average wind speed above 25 knots.
- Gale warning – an average wind speed above 34 knots.
- Storm warning – an average wind speed above 48 knots.

Wind direction

Land mass can also affect the wind strength and wave conditions on the water, with the wind direction playing a part in water conditions. Because the land mass may shield the water, an offshore breeze (a wind travelling from the land on to the water) will have a smaller impact on conditions than an onshore breeze of the same strength.

Tides

It is important to check the level of the tide before boating, because if you don't you may return back to the boat ramp at low tide and be unable to get your boat back onto its trailer. In some waters in Western Australia (especially the North) the tidal range can be extreme. A boat moored in high waters in the morning might be high and dry on land by the afternoon. Low tide can bring reefs and sandbars nearer to the surface creating hazards that do not exist at high tide.

Waves and swell

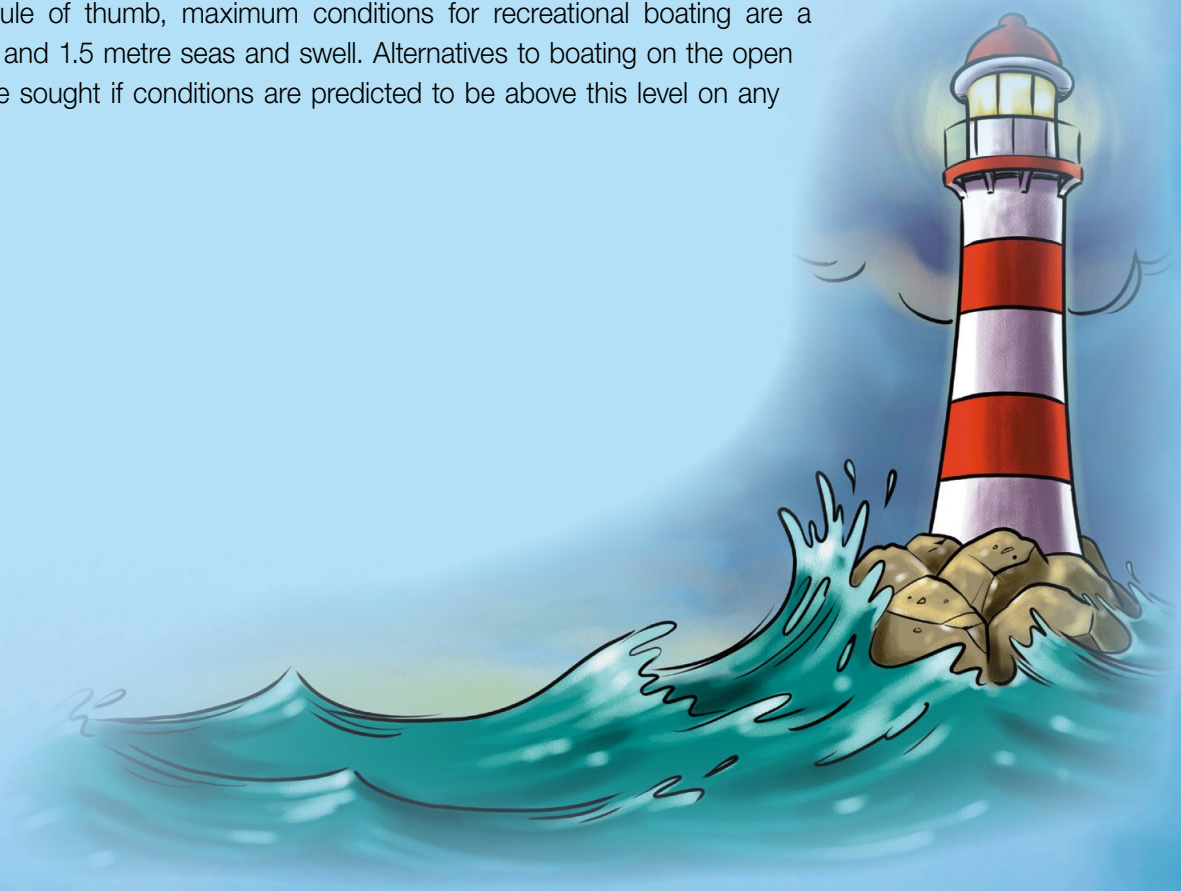
Waves and swell can make boating dangerous. Waves are created by wind passing over the water surface. Wind blowing over water first develops as 'sea' waves. If the wind blows for a long time, these sea waves build in size to become 'swell' waves. Swell can travel thousands of miles away from the wind that initially created them until they break on the shore. Swell heights are measured from the trough to the crest of the wave and are always documented in weather forecasts. Seas and swell heights can be added together to give a true reflection of expected wave conditions on the ocean. Inland waters (such as rivers and estuaries) are not as affected by these waves because the land mass around them gives protection. Therefore, a day on the river is a good alternative for bad weather days (especially with large wave heights) rather than heading out on to the ocean.

Rain

Rain will leave conditions more difficult to navigate due to a lower level of visibility but it will also have an impact on the level of comfort if the crew is subjected to the elements. Wet clothing greatly affects warmth and comfort levels. Rain can also be an indication of an approaching cold front where increases in wind can be expected.

Weather conditions for Safe boating

As a general rule of thumb, maximum conditions for recreational boating are a 15 knot breeze and 1.5 metre seas and swell. Alternatives to boating on the open water should be sought if conditions are predicted to be above this level on any given day.



Lesson Plan

Preparation

Before beginning the 'Weather is king' topic and showing the Flashcards, complete the following:

If you have internet access in your classroom, you may consider showing the children how to get a weather forecast from *www.bom.gov.au*

Once you have accessed the site's home page, follow these steps to bring up the correct forecast:

- click on the map of Western Australia;
- click on 'All Western Australian Forecasts' index; then
- click on 'Perth local waters forecast' or 'Coastal Waters Forecast' to suit your area.

As a homework exercise to prepare for the weather topic, children in your class may like to download the Deckee app, find the number for the Telephone Weather Service that is applicable to your area and then copy it out. Under their parents' supervision, children could also ring this number, and report back what the weather will be the following day. (Please note, this service is not free and charges will be incurred)(Refer to the Bureau of meteorology's website for any updated phone numbers).

- Southern Western Australia – Phone: 1900 969 903
- Northern Western Australia – Phone: 1900 969 901
- Western WA – Phone: 1900 969 902
- Perth Local Waters – Phone: 1900 955 350.

Classroom activities

Explain to children the sequence of events that have taken place before the weather appears in the newspaper. This will highlight that the forecast that appears in it is not current.

- Read the 'Safe Boating with Skip' story to the class or have the students read the story by themselves, depending on reading level. Display the Flashcards 1 to 9 to support the storyline. Discuss the problems found in the story when skippers do not do their job properly.
- Complete discussions with students on how a weather report has been created, including Flashcard 11. Discuss the many methods a crew person can use to find a weather report and the time length required for some weather reports to become available, including Flashcard 10. Include the following discussion questions:
  - How can we know what the weather will be tomorrow?
  - Will the weather change what we can do tomorrow?
  - Will the weather change what we will wear?
  - What would Skip wear if the weather is raining and cold?
  - What would Skip wear if the weather is hot and sunny?
  - Where would be the best place for Skip to find the weather report if he was going sailing tomorrow?
  - What would happen if Skip went sailing in the wind and rain?

Worksheets and answers *(Don't forget to sign off completed worksheets in the Junior Crew Logbook)*

Worksheet 1 Name: _____

Check the weather

There are many ways to get a weather forecast. Some may be more current than others.

To help Skip find the best weather forecast can you put the following forecasts into two lists, one for the most current forecasts and one for the least current forecasts.

Most Current

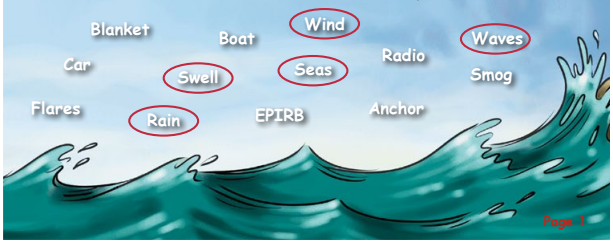
1. Internet
2. Marine Radio
3. Telephone
4. AM/Fm Radio

Least Current

5. Newspaper
6. TV

Can you show Skip what to look for in a weather forecast?

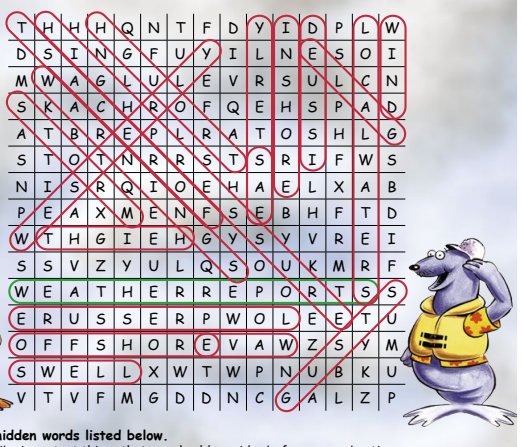
Circle the words he should look for.



Page 1

Worksheet 2 Name: _____

Do you know the weather forecast?



Find the hidden words listed below.
They describe important things that you should consider before you go boating.
Remember, words can run up, down, forwards, backwards and diagonally.

easterly	swell	low pressure	high pressure
inshore	gale	warnings	seas
storm	local waters	height	westerly
forecast	trough	offshore	wind
issued	gusts	wave	

Pick 6 of the words and give a meaning for each one.

_____ _____
_____ _____
_____ _____

Can you find the secret word on the same topic?

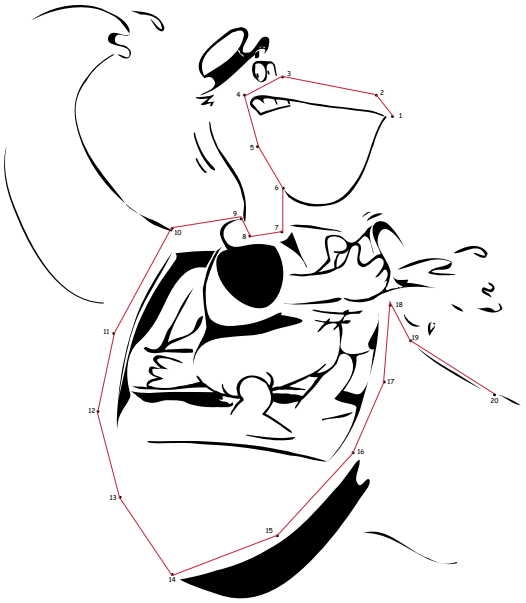
Clue: What subject is the word sleuth on? SECRET WORD: weather reports

Page 2

Worksheet 3 Name: _____

Join the dots

1. Join the dots in numerical order to help skip find how the weather can make waves.
2. Colour the picture in when you have finished.
3. What should skip have checked before he went boating? weather report



Page 3

Worksheet 4 Name: _____

Clothing Match

It is important that you are properly dressed for a day out on the water.

1. Connect the clothing you would need on a fine sunny day by drawing a line from the piece of clothing to the Hot Dot.
2. Connect the clothing you would need for a cold windy day by drawing a line from the piece of clothing to the Cold Dot.
3. What piece of clothing is used on the boat no matter what the weather is? life jacket

Skip says " Remember, weather can change, always be prepared for the cold weather on a boat"

Page 4

Major activities - Weather is King

Option 1 – Create a cartoon

Students must create a cartoon or poster/drawing where the story characters from the 'Skip the Boat Safe Bird' story booklet Stumpy, Shriek and Robba go fishing in a boat without first finding the weather forecast. A general discussion can be the lead-in to this activity, where consequences can be highlighted by the dangers they will face without the relevant information.

The picture or cartoon must be for Kindergarten or Grade 1 and 2 students or a different peer group and should include a verbal story to add further information.

After students have completed their cartoon/picture stories, give the students the opportunity to show how the boat trip would have been different if they had checked the weather. A PMI table could be used here to encourage the students to see the consequences of their actions both positive and negative. (Appendix 3 - page 42)

Option 2 – Weather forecast

Ask children in your class to collect the weather forecast from the newspaper for a one-week period. If this is not possible, you may have to collect forecasts and photocopy them for the children. Forecasts are available from a number of outlets – see page 8 on weather for more information.

Once you have consecutive forecasts, the children can then graph temperatures, wind speed, tides and swell heights for the period. From this exercise, it is hoped students will gain a better understanding of how to find out about the weather, and also the changes from day-to-day that could affect their boating safety over a week.

Further discussion questions can include

- Which day this week was the best to go boating? Why?
- Which days were definitely not boating days?
- Which two consecutive days had the biggest change in weather?
- Compare similar messages in different formats from the articles. Are some easier to understand and draw information from?
- Is it better to go boating in winter or summer?

Topic 2 — Safety saves lives

Demonstration of learning

At the end of this topic the students can demonstrate that:

- safety equipment can save your life;
- it is dangerous not to have the required safety equipment;
- safety equipment must be looked after to be kept in good condition;
- they can work as a team member; and
- they can use problem solving techniques.

Teacher resources required

- Worksheets 5 to 10.
- Flashcards 16 to 24.
- Recreational Skipper's Ticket Workbook.
- Problem solving information sheet (Appendix 1 - page 40)
- Other resources that you may be able to find:
- Examples of safety gear including lifejackets, EPIRBs, flares etc. (please note that some safety equipment can be dangerous and due care must be taken if displaying such items).
- A Patrol Boat visit may be possible – see Patrol Boat Visitation notes on the Junior Crew Kit CD

Background information and pre-reading

For a full outline of regulation safety gear – refer to Flashcard 16, the Recreational Skipper's Ticket workbook pages 48 to 71 or the Department's website: www.transport.wa.gov.au/imarine/safety-equipment.asp

Safety equipment

To have fun and be safe in boats, you need to know what safety equipment you need, where to locate it and how to use it safely. Safety equipment is used when there is an emergency on a boat. It is important for children to ask the skipper or owner of the boat to show them where the safety equipment is kept. It is also the skipper's responsibility to brief his passengers on how to use this equipment.

Lifejackets help people float if they fall overboard. All boats must have enough lifejackets for everyone on board and they must be of a particular type and sized correctly to fit the crew properly. Children should always be encouraged to wear a lifejacket when on a vessel, especially when the vessel is under power.

Lifejackets are made from bright colours (usually yellow, red or orange) so the person wearing them can be more easily located in the water.

- Level 100 or higher will always be a yellow, orange or red, have head support and reflective tape.
- Level 50 will be in bright colours but have no head support.
- Level 50s may come in other darker colours such as blue, purple and green.

Level 100 or 150 inflatable

- required when boating offshore
- will keep a person afloat with their head out of the water; (Flashcard 21)
- bright colours (yellow/red/orange) and has reflector tape in various locations;
- should wear when underway, but particularly in coastal areas and offshore where it can be rough;
- has an Australian Standard 1512;
- can be pulled over head, buckled or 'zip up'.

Level 50

- sometimes called buoyancy vests
- a vest with no head support; (Flashcard 21).
- limited buoyancy;
- bright colours including reds and yellows;
- can be worn in inland lakes and rivers for water skiing, sailing or canoeing. These activities require more movement while wearing a flotation aid.

Level 50s

- a vest with no head support; (Flashcard 21)
- limited buoyancy;
- not made from bright visible colours; can be used for kayaking, windsurfing, personal water craft (jetskis) on inland waters.

Sizing and standards Info

Lifejackets are made in different sizes. It is important to wear one that fits otherwise you risk the jacket sliding off when you are in the water. If the jacket slips off, then it is too large and will be no use in an emergency. This is very important with children, especially those who are not strong swimmers. (Flashcards 20 to 21).

Standards information will always be sewn on the inside of the jacket. Lifejackets must have this tag to show they are manufactured to the correct standard. (Flashcard 19).

Visual Distress Signals

Flares and Electronic Visual Distress Signals (EVDS) are important as they can be used to alert someone that you are in trouble and need help. The best way to describe a flare to a child is to say that flares are like fireworks, but stay lit for longer. Flares can be orange smoke or burn with a very bright red flame and some have a rocket propulsion to send them up in to the sky:

- red flares and EVDS are best used at night but they can also be used during the day;
- orange smoke flares are for day use and are effected by wind;
- rocket flares (parachute flares) are fired high in the air and are used to attract attention when you are further out to sea. They will remain in the sky for up to 30 seconds; and
- flares must be current - they have an expiry date.

Flares should only be used in emergencies

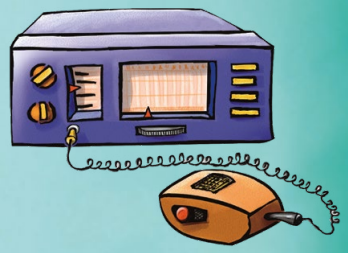
Do not fire off flares unless it is an emergency, otherwise others will endanger their lives unnecessarily trying to rescue you. (Flashcards 22 to 24).

If your motor breaks down try to fix the problem or alert authorities or contact log-on holders by radio or phone and if this does not work and the situation is becoming dangerous, fire off one flare. Save the others for when you know that someone can see you, such as when other boats are nearby or when a plane is flying overhead.

Distress Beacons

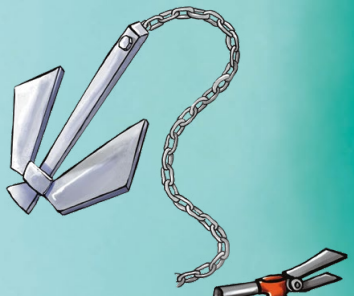
An Emergency Position Indicating Radio Beacon (EPIRB) and Personal Locator Beacon (PLB) are signalling devices that, when activated, will send a digital radio signal to a satellite system above the atmosphere. This signal will be relayed down to a ground station and eventually to the Rescue Coordination Centre (RCC) in Canberra. The signal contains information about the vessel and will assist rescuers to pinpoint the location of the emergency. These devices are now required to have Global Positioning System (GPS) capabilities which can pinpoint a location to 120 metres.

Radio



A Marine Band radio is an excellent method of staying in touch with rescue groups or other boats. Most radios will have a signal which can carry over a distance to the horizon. They are much better than a mobile phone because they are usually powered by a large battery and have an open frequency, which means many people can hear a distress call all at the same time. Boats travelling a long way from shore (four nautical miles or more) must have a radio on board.

Anchor



An anchor is a recommended piece of safety equipment which is important in situations such as when an engine breaks down and it is necessary to stop the vessel from drifting into danger. When anchored it is possible to wait for help or fix the problem. Any boat going in the ocean should have an anchor and rope adequate to hold them to the sea bed.

Fire extinguisher

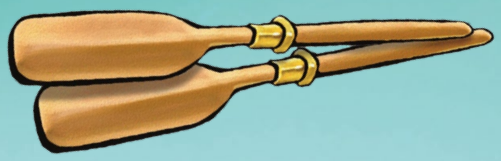
Fire on board can be from the fuel tank, the engine or a cooking appliance. The small hand-held fire extinguishers tend to last only five to six seconds when fighting a fire. The red and white marked extinguisher (dry chemical powder) is recommended for boating as it is able to fight different types of fire. This piece of safety equipment is recommended in Western Australia for boats particularly with an inboard engine (a covered engine in the centre of the boat) or boats with cooking equipment.

Bucket or bailer

Buckets are also called bailers on a boat. Their prime objective is to remove any water in the boat usually caused by waves or the boat sinking. A bilge pump (a pump that sits in the bottom of the boat and is either powered or used manually to pump water overboard) can also be used. There is a recommendation that one is carried aboard any boat in all Western Australian waters to ensure there is a device to remove water.

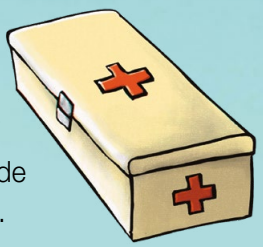
Oars and paddles

It is not compulsory to take oars or paddles on a motor boat however, they are an excellent idea to have on board as a second method of propulsion.



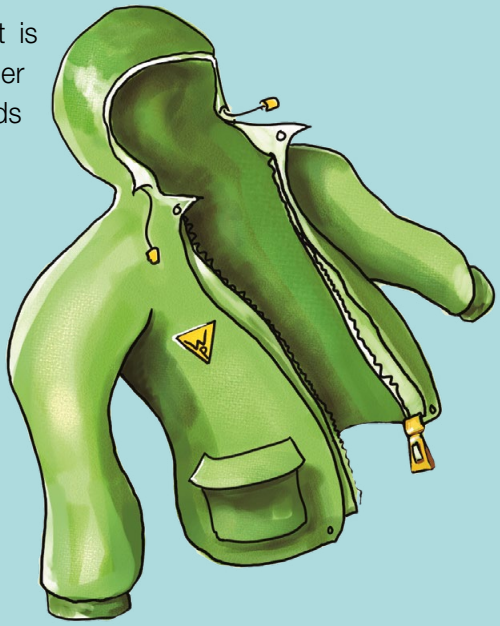
First aid kit

It is encouraged to carry things such as bandages, additional sunscreen, seasickness tablets, band-aids, antiseptic cream and a thermal blanket. Always include plenty of fresh drinking water. The first aid kit should cover the majority of problems expected to be experienced on the boat. Regular first aid injuries include sunburn, cuts, bruises, hypothermia, dehydration, seasickness and broken bones.



Clothing

With the changeable weather that Western Australia can experience, it is important to take adequate clothing when boating. Even on warm summer days the sea breeze can reduce the temperature substantially. (Flashcards 14, and 15)



Always take:

- a waterproof jacket;
- warm clothing including a jumper or jacket;
- bathers and a towel;
- a hat; and
- non-slip footwear.

Lesson Plan

To begin the topic, a general discussion should take in the following questions while displaying the Flashcards 16 to 23.

Prompt questions and discussions

Ask the children:

- Why should flares be used only in emergencies?
- What would you do if you saw a flare being fired from another boat?
- Why are oars a good safety item? (This is because if the engine breaks down, you can paddle or row to safety, they are not mandatory equipment).
- What clothing should you take if you go boating? (Flashcards 14 and 15).
- What things should be carried in a first aid kit?
- What would you use a bucket for in a boat? If you do not get an answer, then ask: Is it to put the fish in, or is it to bail water out if a wave breaks into the boat?

What Personal Safety Equipment is needed on a boat? Using Flashcards 16 to 23 as props, discuss the different types of lifejackets, and what Australian Standards are required by law to be displayed on them. Refer to Flashcard 16 to ensure that the equipment that must be aboard by WA regulations is covered.

Using flare Flashcards 22 and 23 show how flares will look when ignited. Discuss which would be best during the day and which would be best at night.

Classroom activities

Activity 1

As a group, ask the children to name important safety gear on a boat. Alternatively, if you have access to items of safety equipment, place them on a table and let the children view these items for a short period of time, before placing a sheet over them. Now ask the children to list items that they saw. Once completed show Flashcard 16 and discuss what must be carried on a boat by law and why.

Activity 2

As an exercise, borrow two lifejackets, a child size and one to fit an adult. Try these on two similar-sized children in front of the class and ask the class if they can see any problems (they should see that one jacket is too large). If you cannot borrow any real lifejackets show the children Flashcard 20 and ask if they can see the problem. Also get children to look for the Australian Standards information panel inside the two jackets (see Flashcard 19). This will help them to become familiar with where to find it. Different types of lifejackets can also be added to this activity – Level 100, 50, 50s. (Flashcard 21) Ask the students to spot the differences and which one would be best for boating? The Australian Standard for boating lifejackets is AS4758 & ISO 12402 Level 100.

Worksheets and answers *(Don't forget to sign off completed worksheets in the Junior Crew Logbook)*

Worksheet 5 Name: _____ 2 Topic

Equipment Jumble

Identify boater's safety equipment from the description below. Write the equipment's number in the box next to its description.

No.	Name	Description
10	EVDS	This is used at night to help rescuers find you.
7	Radio	This is important in an emergency as it can be used to request help. It is also useful to log on with a volunteer sea search and rescue group before you go boating.
5	First Aid	This should be carried on board all boats in case someone injures themselves. The contents include bandages, seasickness tablets, antiseptic cream and sunscreen.
6	Lifejacket	Children should wear these at all times when going out on a boat. Make sure that it fits snugly.
9	Torch	All boats, especially small ones, should carry one of these if they go out at night time.
2	Flares	These can be used to signal to others that you are in trouble and require assistance. They are dangerous to operate and should only be handled by an adult or the skipper.
3	Distress Beacons	This can also be used to let rescue authorities know that you are in trouble and require assistance. It can be used anywhere and rescuers will know exactly where you are.
8	Anchor	This should be used to stop your boat from drifting away.
4	Fire Ext.	These can be used to put out fires.
1	Bucket	If your boat starts to fill up with water you can use this to bail it out.

Worksheet 6 Name: _____ 2 Topic

Safety Equipment

The following items of safety equipment should be carried on board when boating. Some of the items must be carried by law and others are recommended.

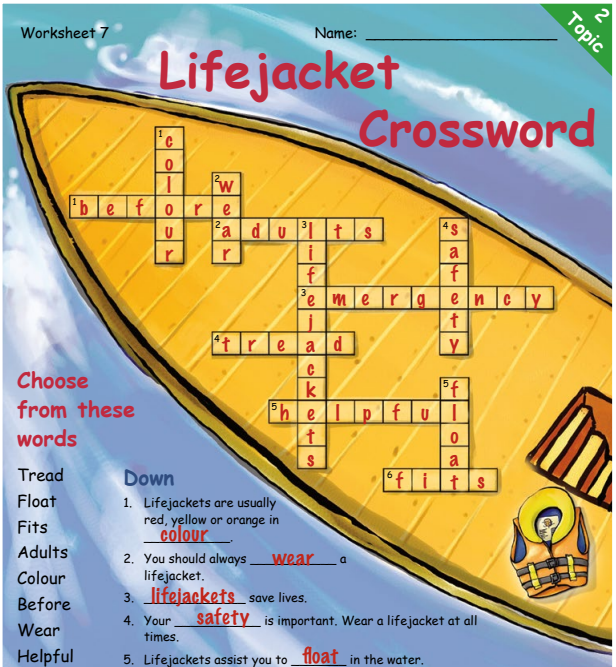
See if you can locate the correct name from the list for each piece of the equipment. Write the number of the correct name in the space provided next to its matching picture.

Equipment List

1. Lifejacket
2. Distress Beacon
3. Anchor
4. Emergency Visual Distress Signal
5. Tow Rope
6. Torch
7. Drinking Water
8. Knife
9. Fire Extinguisher
10. Flares
11. Chart and Compass
12. First Aid Kit
13. Bucket/Bailer
14. Marine Radio

Worksheet 7 Name: _____ 2 Topic

Lifejacket Crossword



Choose from these words

Tread
Float
Fits
Adults
Colour
Before
Wear
Helpful
Emergency
Lifejackets
Safety

Down

1. Lifejackets are usually red, yellow or orange in ___colour___.
2. You should always ___wear___ a lifejacket.
3. ___lifejackets___ save lives.
4. Your ___safety___ is important. Wear a lifejacket at all times.
5. Lifejackets assist you to ___float___ in the water.

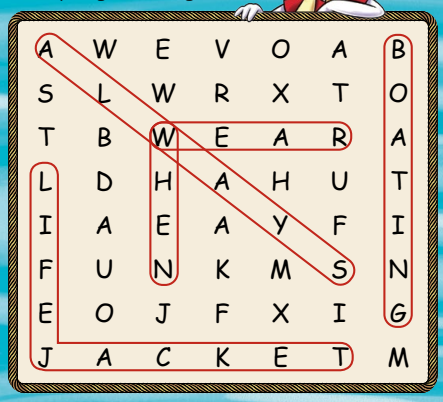
Across

1. You should put on your lifejacket ___before___ you get into a boat.
2. Lifejackets should be worn by everyone, including children and ___adults___.
3. A lifejacket will assist you in a boating ___emergency___.
4. You can ___tread___ water while wearing a lifejacket.
5. A lifejacket can be very ___helpful___ in an emergency.
6. You should always wear a lifejacket that ___fits___ you.

Worksheet 8 Name: _____ 2 Topic

Find the hidden word

To be safe,
always wear lifejackets
when you go boating.



A	W	E	V	O	A	B
S	L	W	R	X	T	O
T	B	W	E	A	R	A
L	D	H	A	H	U	T
I	A	E	A	Y	F	I
F	U	N	K	M	S	N
E	O	J	F	X	I	G
J	A	C	K	E	T	M

Skip says "Choose from these words"

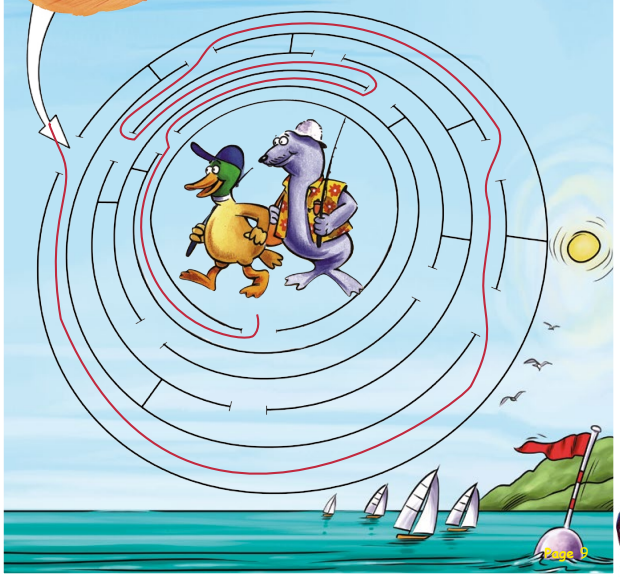
ALWAYS
WEAR
LIFEJACKET
WHEN
BOATING

Worksheet 9 Name: _____

2 Topic

Deliver the lifejackets

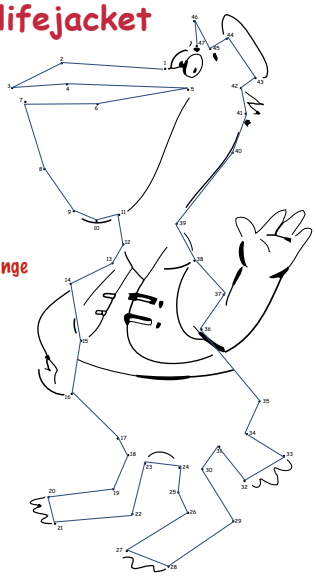
Diver and Surfer have forgotten their lifejackets.
Can you help skip find his way to them?



Worksheet 10 Name: _____

2 Topic

Colour in Skip and his lifejacket



1. Complete the image by drawing a line from dot to dot in the correct order.
2. Colour in the image and be sure to use the correct colours for the lifejacket yellow, red or orange
3. Why are these colours used instead of blue and black?
   so it can be seen by rescuers
4. What else could be added to the lifejacket to help it to be seen?
   reflective tape
5. Draw this in on Skip's lifejacket.
6. Can you identify the type of lifejackets pictured below

Level 50

Level 50s

Level 100

Major activity - Safety saves lives

Survival kit activity

Complete the survival kit activity as outlined on the page opposite (Junior Crew Worksheet Pack, page 11). Students work collaboratively to come up with equipment they feel they should take as a survival kit for a short sailing journey. This information can be relayed back to the class in an oral presentation by the group or 'crew leader' and compared with other crews.

Suggested teaching method

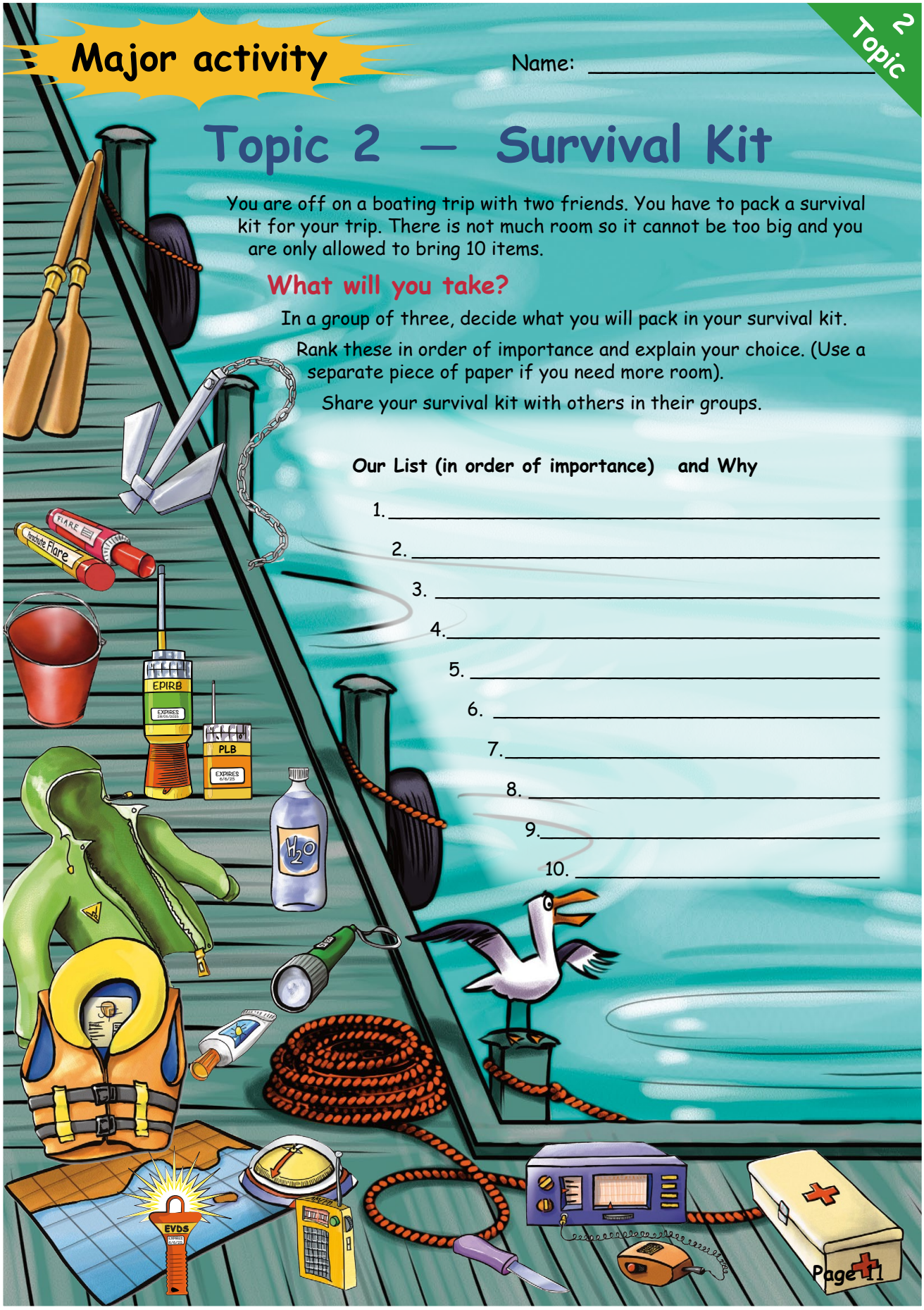
For this activity, students will need to be taught the six steps of 'problem solving' (Appendix 1, page 40). This is an important skill forming the basis of technology processes. At this level some students may only demonstrate the first few steps.

Use the problem-solving skills to determine what personal safety and survival equipment is needed on a boat to go on a safe boating trip.

Prior to showing the six steps of problem solving, students will need to be broken into groups. If not already done, the rules and responsibilities that group members will need to abide by, need to be established. Appendix 3, page 42 will assist you with finding options for discussion and weighing up the value of each option.

Focus questions

- What safety equipment is recommended and required?
- Why is it needed?
- What might happen if it was not looked after?
- What might happen if you do not have some equipment?


Major activity
Name: _____
2 Topic
Topic 2 – Survival Kit
You are off on a boating trip with two friends. You have to pack a survival kit for your trip. There is not much room so it cannot be too big and you are only allowed to bring 10 items.
What will you take?
In a group of three, decide what you will pack in your survival kit.
Rank these in order of importance and explain your choice. (Use a separate piece of paper if you need more room).
Share your survival kit with others in their groups.
Our List (in order of importance) and Why
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
Parachute Flare
EPIRB
PLB
H2O
EVDS
Page 11

Topic 3 – Keep your boat afloat

Demonstration of learning

At the end of this topic the students can demonstrate that:

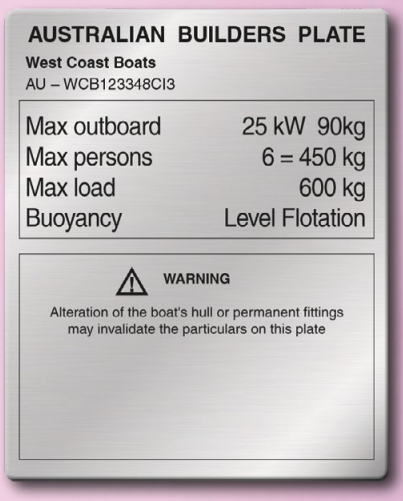
- too much weight can sink a boat;
- by shifting weight around in a boat, it can alter the stability;
- loading a boat correctly is important;
- there are consequences to their actions;
- objects that roll around a boat become dangerous; and
- weight distribution and lifting the centre of gravity of weight (standing up) on a boat can alter the stability.

Teacher resources required

- Worksheets 11 and 12.
- Flashcards 25 to 32.
- Boat building resources as outlined in the major activity materials on page 27.

Background information and pre-reading

Never overload a boat with too many people or too much gear. Boats that were built after 2006 will have a builder's plate showing maximum capacity. This indicates how many people or how much weight can be carried safely on that boat. It is also important not to overload your boat with nets, crab pots and fishing gear. Sometimes it may be necessary to take less people to compensate for the extra weight in gear.



Buoyancy

Buoyancy is the ability of the boat to float. Boats stay afloat when they are buoyant. It is very important to know that your boat will stay afloat if it is ever swamped or capsized. Most boats have foam or air compartments placed in them so they do not sink. This is called buoyancy. All boats currently manufactured in Australia must have this buoyancy.

Safety and survival of all people on board depends on the boat staying afloat. Older small boats without buoyancy fitted can fill with water and sink very quickly. If a boat with adequate buoyancy swamps with water, it should still stay afloat.

Benefits of a boat staying afloat include:

- opportunity to reach life saving equipment;
- occupants can attempt to bail the water out;
- gives you something to hold on to;
- search and rescue can locate a boat more easily than a person in the water; and
- riding on the upturned boat can keep you warmer and save energy.

Underway

Children must be very careful when the boat is moving (underway) because:

- people moving around in boats can often affect the balance and angle of the boat;
- boats can tip very easily if weight is distributed unevenly; and
- everyone should be seated to keep the boat balanced.

The safest position for Junior Crew members to sit is where the skipper tells them to – low in the boat and holding on to a fixed part of the boat. Junior Crew members should always listen to the skipper's directions. Don't all sit on the same side and do not all rush to one side of the boat to look at something or when fishing. It is also important to find something to hold onto.

As well as sitting evenly around the boat, also make sure that gear and equipment is stowed evenly. Do not put all your gear in one spot. Spread it around the boat and also put it down low. Stowing items on the floor and securing them out of the way to stop them moving is recommended.

Within the 'Skip the Boat Safe Bird' story, the following three 'kids in boats' rules are highlighted for children to follow:

1. Be safe – wear a lifejacket;
2. Keep your arms and legs inside the boat; and
3. Always do what the skipper says.

While completing this topic, please emphasise the 'kids in boats' rules to students.

Lesson Plan

Prompt questions and discussions

Open the discussion to this topic with the following prompt questions:

- What is the effect of too many people on a boat?
- What should you do if you have too many people on your boat for a trip?
    - Should you do two trips?
    - Could you take less gear?
    - Could you leave some gear at home?
- Why is it important to sit down in small boats?
- What would happen if we all sat on the same side of the boat?

Classroom activity

Discuss (Introduce Flashcards 25 to 32)

- How many people do we put on a boat? (Flashcard 25)
- What is buoyancy? (Flashcard 26)
- Why is buoyancy important in boats? (Flashcard 26)
- Where is buoyancy placed in boats? (Flashcard 26)
- Who will help me find out about buoyancy? (Flashcard 26)
- How do I use the information I get about buoyancy? (Flashcard 26)
- What happens if on a boat everyone sits in the middle? (Flashcard 27)
- What happens if everyone stands up in a boat? (Flashcard 28)
- What would happen if everyone moved to the front? (Flashcard 29)
- What would happen if some of the passengers moved to one side? (Flashcard 30)
- What happens if they lean out at the same time? (Flashcard 31)
- Will a boat with positive buoyancy sink? (Flashcard 32)

Discuss (Skip the Pelican's 'kids in boats' rules)

- Be safe – wear a lifejacket;
- Keep your arms and legs inside the boat;
- Always do what the skipper says.

Worksheets and answers *(Don't forget to sign off completed worksheets in the Junior Crew Logbook)*

Worksheet 11 Name: _____

3 Topic

Colour the sinking boat

Do you know all the "s" words?

1. Our favourite safety pelican is called S**k i p**.
2. One of Skip's rules is to "Always do what the s**k i p p e r** says."
3. Be s**a f e**, wear a lifejacket at all times on a boat.
4. Buoyancy will help a boat s**t a y** afloat.
5. Too many people or too much weight on a boat will s**i n k** it.
6. The best way to stay low in a boat is for all junior crew members to s**i t** down and hold a s**t r o n g** part of the boat.
7. Everyone sitting on one side of the boat will tip them into the s**e a**

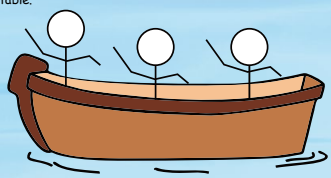
Why is the boat sinking?
Circle the two numbers above that could be the reason.

Worksheet 12 Name: _____

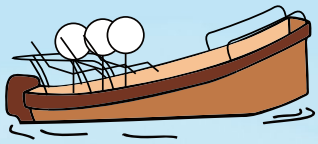
3 Topic

Where do we sit?

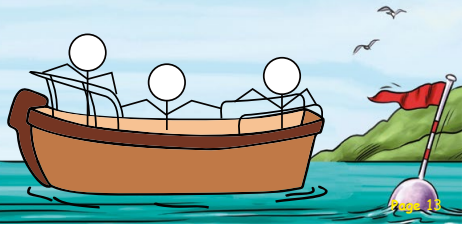
1. Skip, Surfer and Diver are going boating. Can you draw them sitting in a position that would make the boat stable.



2. For the boat to tip like this, where do the 3 friends have to sit? Draw them in.



3. The skipper should ask you to sit down low in the boat and hold on to something strong. Draw the 3 friends following the skipper's rules.



Major activity

Name: _____

3 Topic

Topic 3 — Float-a-boat

1. Sink or Float

Examine the following pictures and tick the ones that you think will float.

Water Bottle ☐

Life Ring ☐

Anchor ☐

Torch ☐

Oars/Paddles ☐

Fire Extinguisher ☐

Distress Beacon ☐

Metal Bucket ☐

2. Make a boat.

In a group, draw a simple plan of how your boat will look using the following objects. You will need a variety of boat building materials.

Materials needed:

- Cut out the base from a milk carton, soft drink bottle or aluminium can. You could also fold heavy card or aluminium foil into a boat shape.
- A sail could be made with fabric or paper and taped on to a pencil or popstick.
- Plasticine can be used to hold the sail and mast onto the boat and for making passengers.
- You may also need glue, tape and scissors.

Major activity

3 Topic

Float-a-boat

3. Using the materials, design a boat that floats and will carry some weight.
4. Make your boat.
5. Measure the height of the side of your boat. Record the height here _____cm
6. Select your passengers for the boat.

Using a water tank complete the following activities:

7. Experiment with the balls of plasticine. What happens when you drop them in the water? Can you make a shape out of the plasticine that will float?
8. Experiment with the passengers in your boat. How many will your boat hold before it sinks? Use the table below to record the class answers.

Junior crew name	Boat name	Made from	Passengers held	Height of the boat sides

9. How can you make your boat sail in a straight line if you blow on the sails?

_____

_____

_____

_____

_____

_____

Major activity - Float a boat

Materials needed

You will need a variety of boat building materials.

- Cut out the base from milk cartons, soft drink bottles, ice cream containers, margarine containers or any lunch boxes. Different shaped small plastic tubs, card or aluminium foil (all to represent boats) can also be used. It is best to have a lot of different building materials. The freeboard (height of the sides of the boats) should all be similar to allow comparison. A guide would be to have equal 5cm sides on all boats.
- Plasticine, washers, coins or marbles to simulate passengers – each group/student will require the same weight and type of passenger. Plasticine is preferred to enable all students to complete all of the activities.
- Scraps of fabric or paper and pencils to make sails.
- Tape, glue and scissors.
- Tub filled with water to float the boats once they have been made.
- Float a Boat activity sheets.

What to do

- Issue the Float a Boat Activity Sheet (can be found on page 14 and 15 of the Worksheet Pack)
- In small groups and using problem solving skills (Appendix 1 - page 41) students design a model boat that can carry around 40g, this weight represents passengers in a boat. So that the boat is not overloaded and stable when underway (moving) you must test to see if this is a safe weight for your boat. If it is not, then you will need to make changes to your boat so that the boat and passengers are safe.
- Load the boats until they sink. Ask the students which boat was the most buoyant? Why?
- Load the boats with different types of passengers. Ask the students which passengers make the boat tip easiest? (Marbles that move are least stable as they roll around and unbalance the boat.)

Useful advice

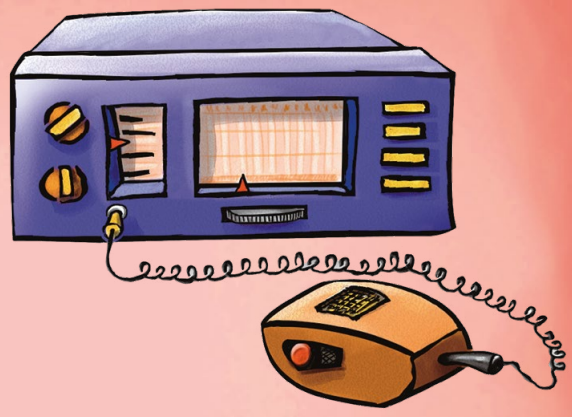
- Keep the boat models small. They can be made out of plastic bottles (300 ml) cut in half or aluminium foil. The boats should be made at school from materials provided at school, this ensures collaborative practice.
- The boats can be tested in a sink, trough, a blow up paddling pool (or a pond!).
- The loads (or passengers) in boats can be plasticine people, marbles, coins, washers, sand.
- The boat can be moved by simply pulling the boat using string or blowing on the sails.
- Placing the load in different areas of the boat, then testing how it moves can test boat balance or 'trim'. For example, placing the passengers at the very back, front, or sides and seeing if this is stable or if they can be moved safely.
- Discuss with the students how they can observe whether or not the boat is safe.
- Social skills for collaborative learning practices can be discussed with students and set as 'rules' for group work. Use the 'Group Planning and Evaluation Sheet' provided (Appendix 2 - page 41).

Problem solving

- Demonstrate to students the six steps to problem solving. Students need to be taken step by step through the 'problem solving' exercise. Students should record their progress through each step of the problem solving cycle. How they record this is up to them, a formal report is not needed but description, pictures and photos could be used. Use the 'Six steps to problem solving' (Appendix 1 - page 40). At this level, some students may only demonstrate the first few steps.

Topic 4 – Tell someone where you are going!

Demonstration of learning



At the end of this topic the students will demonstrate that:

- you can not be found easily if you don't tell someone where you are going;
- telling someone where you are going makes you trip safer; and
- if something goes wrong, you may not be able to tell someone where you are.

Teacher resources required

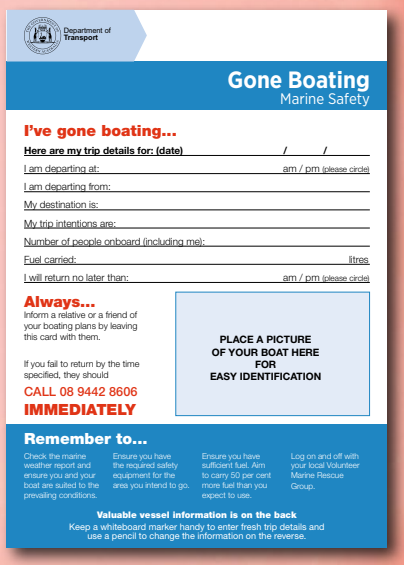
- Worksheets 13 to 18.
- Flashcards 33 to 35.
- Trip Tag activity sheet (see page 22, Junior Crew Worksheet Pack).I

Background information and pre-reading

Before you go boating, it is important to tell someone where you are going and when you expect to return. A full list of vital 'Log-on' information is outlined in the Recreational Skipper's Ticket Workbook (page 83). The information should be left with a responsible person who will act on it should you not return. It could be a neighbour, family member or friend not going on the trip or perhaps a volunteer marine rescue service (via the marine radio). When you do return, always make sure that you let this person know that everyone on board has returned safely. Otherwise they may notify search and rescue authorities that you are missing when, in fact, you are safe at home. Alternatively, if you are overdue, authorities can start looking – usually within half an hour. They will automatically know where to start searching as your 'log-on' information should include where you were going and what you were doing.

Basic 'log-on' information includes:

- start and finish places and times for the voyage
- the number of people on the boat
- a description or name of the boat
- fuel carried on board
- activities while on the water
- destination.


Department of Transport

Gone Boating
Marine Safety

I've gone boating...

Here are my trip details for: (date) / /

I am departing at: am / pm (please circle)

I am departing from:

My destination is:

My trip intentions are:

Number of people onboard (including me):

Fuel carried: litres

I will return no later than: am / pm (please circle)

Always...
Inform a relative or a friend of your boating plans by leaving this card with them.

If you fail to return by the time specified, they should
CALL 08 9442 8606
IMMEDIATELY

PLACE A PICTURE OF YOUR BOAT HERE FOR EASY IDENTIFICATION

Remember to...

Check the marine weather report and ensure you and your boat are suited to the prevailing conditions.

Ensure you have the required safety equipment for the area you intend to go.

Ensure you have sufficient fuel. Aim to carry 50 per cent more fuel than you expect to use.

Log on and off with your local Volunteer Marine Rescue Group.

Valuable vessel information is on the back
Keep a whiteboard marker handy to enter fresh trip details and use a pencil to change the information on the reverse.

Printable "Gone Boating" forms are available on the Junior Crew CD (pictured opposite) and the information can simply be filled in and left with a responsible person (Flashcard 33). Students are not expected to complete this form; however, it is highly recommended that skippers do so prior to any voyage. Log-on information can also be radio-transmitted to a local marine rescue group.

The phonetic alphabet

The phonetic alphabet is sometimes used while making radio calls when the signal is not strong. To avoid miscommunication, skippers will use the phonetic alphabet to spell words or give radio call signs. Each letter of the alphabet has a corresponding word starting with that letter as listed below. (Flashcard 35).

Lesson Plan

Prompt questions and discussions

Open the discussion to this topic with the following prompt questions:

- When should you tell someone that you are going boating?
- Why is it important to tell someone responsible where you are going (especially when you are on your own)?
- Why is it important to let them know when you have returned?
- Who could you notify before you go?

Classroom activity

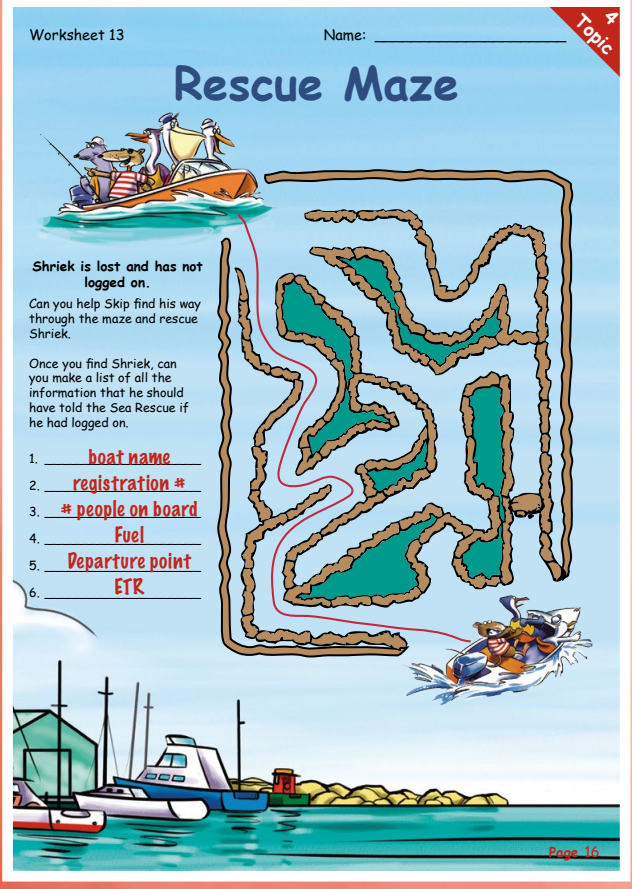
Students design their own way of giving information to a responsible person on where they are going and what they are doing when leaving home with friends. The initial discussion can be in groups where students put forward ideas of the information they would need to let their parents know if they were going to a friend's house.

Related questions:

- If you left this information with your parents, would they have a good idea about your trip?
- If the trip was on a boat instead of to a friend's house, would the information you gave your parents change? How?

It is important to give the ideas students come up with an audience to see the thought process they complete for logging on information.

Worksheets and answers *(Don't forget to sign off completed worksheets in the Junior Crew Logbook)*


Worksheet 13 Name: _____ 4 Topic

Rescue Maze

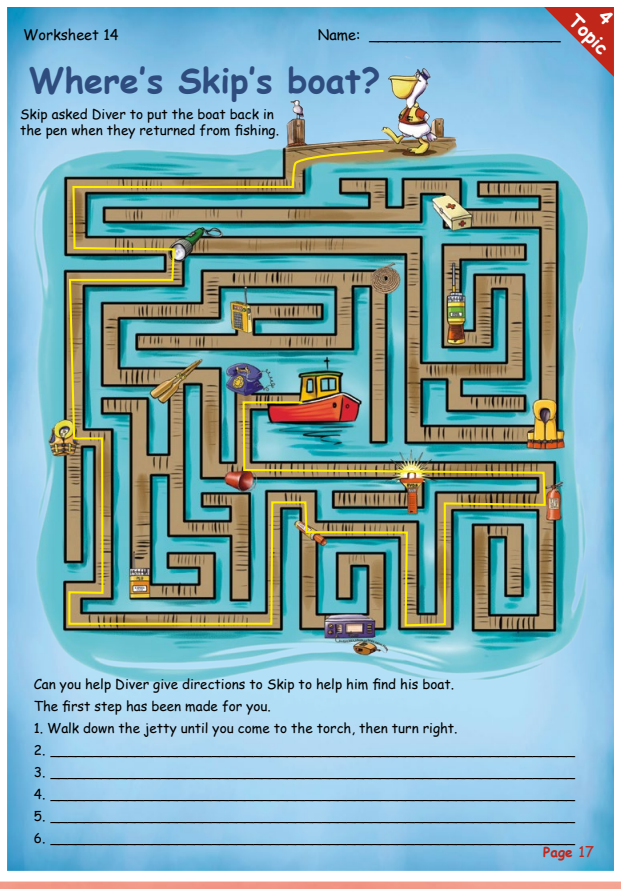
Shriek is lost and has not logged on.

Can you help Skip find his way through the maze and rescue Shriek.

Once you find Shriek, can you make a list of all the information that he should have told the Sea Rescue if he had logged on.

1. boat name
2. registration #
3. # people on board
4. Fuel
5. Departure point
6. ETR

Page 16


Worksheet 14 Name: _____ 4 Topic

Where's Skip's boat?

Skip asked Diver to put the boat back in the pen when they returned from fishing.

Can you help Diver give directions to Skip to help him find his boat.
The first step has been made for you.

1. Walk down the jetty until you come to the torch, then turn right.
2. _____
3. _____
4. _____
5. _____
6. _____

Page 17

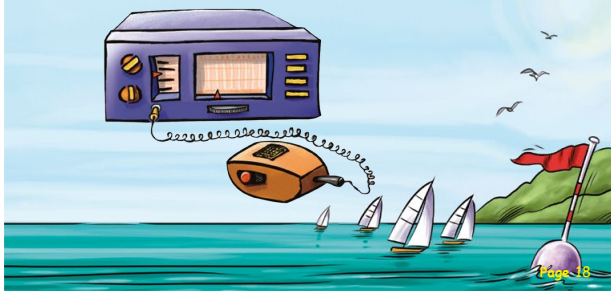
Worksheet 15 Name: _____

Where are we going?

Help Shriek to log on information

Match the information needed to log on by connecting the question with the correct answer.

Time we are leaving	Fishing
Time we are returning	6pm
Boat name	Three people onboard
People on board the boat	PV Pilchard
Fuel	12 noon
Information left with	10 litres of fuel
Activities	Marine Rescue

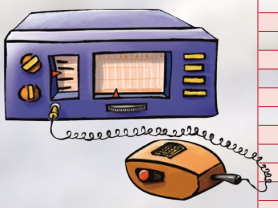


Worksheet 16 Name: _____

Phonetic Alphabet

The phonetic alphabet is used to spell words when using radios if it is difficult to hear. Each letter has a code word starting with that letter.

Using the phonetic alphabet, decode the examples of log-on information below.



	Phonetic Word	Pronounced
A	ALPHA	AL-FAH
B	BRAVO	BRAH-VOH
C	CHARLIE	CHAR-LEE
D	DELTA	DELL-TAH
E	ECHO	ECH-OH
F	FOXTROT	FOKS-TROT
G	GOLF	GOLF
H	HOTEL	HOH-TELL
I	INDIA	IN-DEE-AH
J	JULIET	JEW-LEE-ETT
K	KILO	KEY-LOH
L	LIMA	LEE-MAH
M	MIKE	MIKE
N	NOVEMBER	NO-VEM-BER
O	OSCAR	OSS-CAH
P	PAPA	PAH-PAH
Q	QUEBEC	KEH-BECK
R	ROMEO	ROW-ME-OH
S	SIERRA	SEE-AIR-RAH
T	TANGO	TANG-GO
U	UNIFORM	YOU-NEE-FORM
V	VICTOR	VICK-TAH
W	WHISKY	WISS-KEY
X	X-RAY	ECKS-RAY
Y	YANKEE	YANG-KEY
Z	ZULU	ZOO-LOO

Mike alpha romeo india november echo romeo alpha delta india oscar ___marine radio___

Lima oscar golf - oscar november..... ___log on___

Foxtrot uniform echo lima papa echo oscar papa lima echo..... ___fuel people___

Delta echo sierra tango india november alpha tango india oscar november___destination___

Tango india mike echo oscar foxtrot alpha romeo romeo india victor alpha lima

..... ___time of arrival___

Lima echo alpha victor echo..... ___leave___

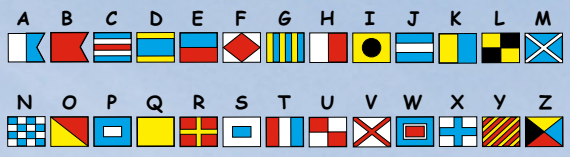
Spell your name using the phonetic alphabet. _____

_____

Worksheet 17 Name: _____

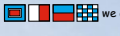
Crack the code

Using the International Code Flags below - can you crack the code?

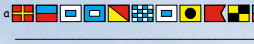


1) You should always   before going on the water in a boat. ___log on___

2) The information should include the number of  on board. ___people___

3) We should also include  and  we are going ___where when___

4) This information is important in case the authorities need to  for us. ___look___

5) Trip details needs to be left with a  person. ___responsible___

6) Draw the flags for the following words

a) Fuel 

b) Time 

c) Name 

d) Place 

Worksheet 18 Name: _____

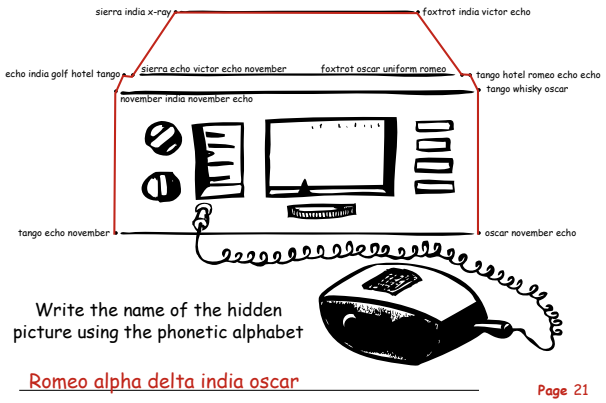
Phonetic Dot-to-Dot

The phonetic alphabet is used to spell words when using radios if it is difficult to hear. Each letter has a code word starting with that letter.

Using the phonetic alphabet, decode the numbers and complete the dot to dot.

	Phonetic Word	Pronounced
A	ALPHA	AL-FAH
B	BRAVO	BRAH-VOH
C	CHARLIE	CHAR-LEE
D	DELTA	DELL-TAH
E	ECHO	ECH-OH
F	FOXTROT	FOKS-TROT
G	GOLF	GOLF
H	HOTEL	HOH-TELL
I	INDIA	IN-DEE-AH
J	JULIET	JEW-LEE-ETT
K	KILO	KEY-LOH
L	LIMA	LEE-MAH
M	MIKE	MIKE

	Phonetic Word	Pronounced
N	NOVEMBER	NO-VEM-BER
O	OSCAR	OSS-CAH
P	PAPA	PAH-PAH
Q	QUEBEC	KEH-BECK
R	ROMEO	ROW-ME-OH
S	SIERRA	SEE-AIR-RAH
T	TANGO	TANG-GO
U	UNIFORM	YOU-NEE-FORM
V	VICTOR	VICK-TAH
W	WHISKY	WISS-KEY
X	X-RAY	ECKS-RAY
Y	YANKEE	YANG-KEY
Z	ZULU	ZOO-LOO



Write the name of the hidden picture using the phonetic alphabet

Romeo alpha delta india oscar

Major Activity Option 1
Complete the Trip Tag journey

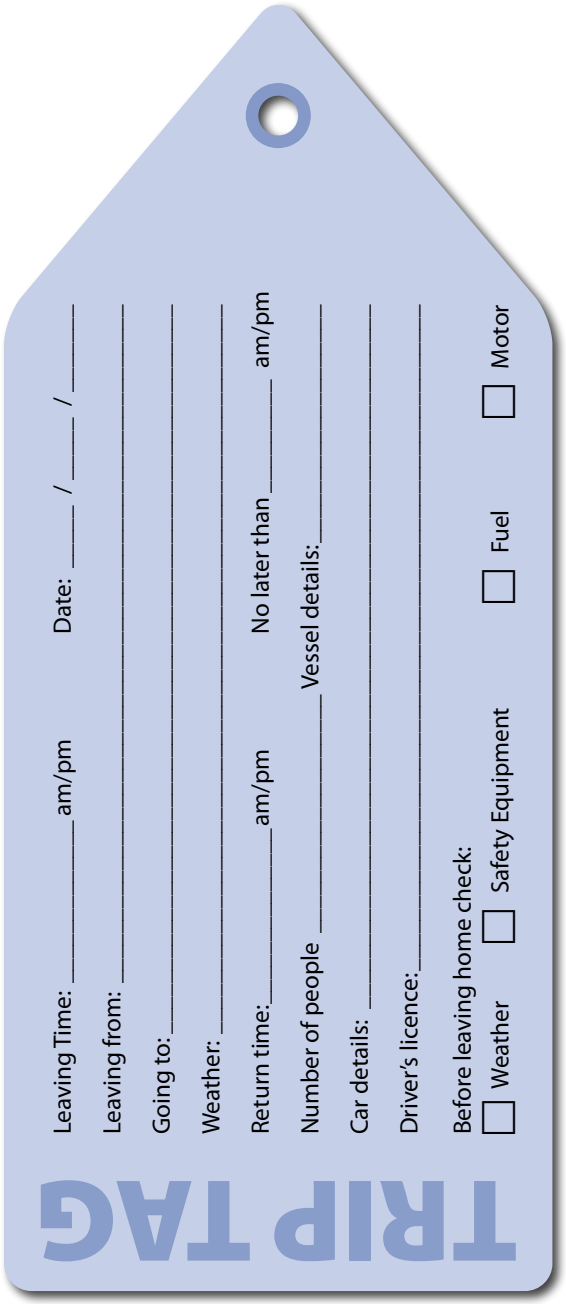
Students can log a journey for either a car trip or boat trip. The Trip Tag is a representation of the information they are required to supply for their trip. This activity will be completed outside of school and will be confirmed by a sign off from parent/guardian. (see page 22, Junior Crew Worksheet Pack for a photocopy version)

Major activity

Name: _____

4 Topic

Topic 4 — Option 1 — Trip Tag



Page 22

Major Activity Option 2
Classroom Log-on

Design a way of telling someone:

- where;
- when; and
- with whom you are going.

Design a message sheet for leaving the class room. Students take the information from the earlier Classroom Activity and expand it to a whole of class situation.

a. Students design a sheet which will have all of the relevant information required to know where the students leaving the room are going and for how long.

b. When a student leaves the room, they fill in the form noting name, time of departure, estimated time of return and anticipated destination.

c. Assign a person who is responsible for checking the return of the student within the given period. It is this student's responsibility to notify an authority (teacher) if the student does not return within that given time. They are the 'log-on' monitor and information will need to be given to the class and the monitor on their responsibilities.

d. At the end of a week discuss how the log on system went. Could it be improved by adding or removing any items?

e. If we design this for boating, what would change?

The 5 Ws +

Use the '5 Ws + ' to research the best way to tell someone where you are going boating (logging on).

The 5 Ws + are:

- What is the purpose for telling someone where I am going?
- Why do I need to tell someone where I am going?
- Where am I going?
- When am I going?
- Who will help me find out about what information I need to give when I log on?
- How do I use the information I get about logging on?

Topic 5 - In an accident and REVISION

Demonstration of learning

At the end of this topic the students can demonstrate that,

- they can be safe and responsible for their actions;
- they can communicate effectively;
- they can assess relevant information; and
- have the thinking skills to be aware of marine safety issues.

Teacher resources required

- Worksheets 19 to 24
- Flashcards 36 and 37 and 1 to 9 for Revision
- Skip the Boat Safe Bird story booklet

The Culmination Task - Be Boatwise

The Junior Crew program consists of five marine safety topics and a culmination task, "Be Boatwise". These five topics provide the learning foundations to support this overaching task. Be Boatwise, contained within this topic, is the final task that must be completed before a Junior Crew Certificate can be issued.

Background information and pre-reading

This topic is the culmination of the Junior Crew program and many of the worksheets rely on information learnt in the first four topics. It is therefore recommend that this topic is completed last. The students will bring together all of the information over these topics to equip them for the final task. In addition, the following information can be added to assist students to complete the Be Boatwise Task.

In an accident

Even if children and their parents do everything that has been covered in this kit, as well as other initiatives such as addressing servicing of engines and the condition of the boat, there is still always a possibility that something can go wrong. Children need to be able to know what to do in an emergency. Tell them:

- Wear your lifejacket at all times.
- If there is an accident, always stay with the boat – it will float and the energy you use to remain above the water is much smaller. You will also be more visible for rescue.
- Never try to swim to shore – the distance will always look closer than it really is and the energy used to swim can prove to be too great.
- If there are several people in the water, huddle together to conserve body heat.

Ways of letting people know that you require assistance after an accident may include: calling another boat or radio station on the radio, firing a flare or activating an EVDS, activating an EPIRB or PLB, waving your arms (by slowly and repeatedly raising and lowering outstretched arms).

Hypothermia

Hypothermia is the loss of body heat and can be fatal. It is a common problem in Western Australian waters and consequently children need to know how to minimise their body's temperature loss. Any person unable to swim (no matter how old) should wear a lifejacket for the entire journey on a boat as a minimum.

HELP (heat escape lessening posture)

Prompt questions and discussions

- Show a picture of the HELP position (Flashcard 36) and ask the children if they have seen it anywhere, perhaps in a water safety program.
- Ask the students why it is important to take up the HELP position?
- If you cannot get out of the water – take up this position. This position minimises heat loss by:
    - limiting movement of the body in the water;
    - reducing heat loss from armpits and groin area by holding the arms down the sides and up across the chest and by raising the knees; and
    - Keeping the head dry also limits the loss of heat leading to hypothermia (the major danger while in open water).

Huddle

If there are two or more people in the water it is important to form a group, keeping your head out of the water, arms hugging each other around the waist and legs intertwined facing inwards (Flashcard 37).

Prompt questions and discussions

- If there are many people in the water, why is it important to huddle together?
- When in the water for an unknown period of time, it is recommended you huddle with other people. The benefits include:
    - A larger object is created to be seen easier from the sky or rescue vessel if a search proceeds.
    - A better idea of the welfare of all of the people is established due to close contact.
    - Morale is higher due to communication being improved and a safer feeling through close contact.
    - Heat is retained. The water temperature can be up to two degrees warmer inside the huddle.
    - A 360 degree watch is established for search vessels as all in the huddle face different directions.
    - All participants are held by two others; this means even if a person falls asleep, they will not become detached from the rest of the group.

Classroom activities

Preliminary activity: Now that the children have seen the HELP position, ask them to demonstrate on the floor. Extend this activity by role playing the abandoning of a ship (boat) or a boat turning over including a huddle awaiting a rescue vessel. Some of the above benefits can be discussed to reconfirm the reasons for the huddle. Access to lifejackets will also add to the activity with students fitting them correctly before entering the imaginary water.

Worksheets and answers *(Don't forget to sign off completed worksheets in the Junior Crew Logbook)*

Worksheet 19 Name: _____

Safe Boating Crossword

Down

1. If there are several people in the water, __huddle__ together to conserve body temperature.
2. Boats can tip over very easily if weight is distributed __unevenly__.
3. In an __emergency__ always stay with the boat.
4. The __capacity__ is the amount of people or weight a boat can carry.
5. the swimming and water __safety__ program teaches the HELP position.
6. When the boat is in the water __everyone__ should be seated.

Choose from these words

emergency, unevenly, balance, huddle, everyone, wear, overload, capacity, foam, safety, buoyancy, stability, capsize

Across

1. __buoyancy__ is the ability of the boat to float.
2. People moving around in a boat often affects the __balance__ of the boat.
3. Never __overload__ the boat with too many people and too much gear.
4. It is important to stay with your boat in the event of an __capsize__.
5. __wear__ your lifejacket at all times.
6. Most boats have __foam__ or air compartments for flotation.

Worksheet 20 Name: _____

Fill in the Gaps

Use these words

Weather, Fits, Small, Bailer, Someone, Lifejacket, Arms, Skipper

Always wear a __lifejacket__ when boating.

Always tell __someone__ where you are going and when you will return.

You should always wear a lifejacket that __fits__ you.

All boats are recommended to carry a __bailer__.

Check the __weather__ before going boating.

Don't stand up in __small__ boats.

Worksheet 21 Name: _____

Kids in Boats

Copy down and try to remember the kids in boats rules.

1. Be safe, wear a lifejacket
2. Keep your arms and legs inside the boat
3. Always do what the skipper says.

1. _____
2. _____
3. _____

Find Skip and his friends and the weather for his trip.

Choose from these words: DIVER, ROBBA, SHRIEK, SKIP, STORM, STUMPY, SURFER, SWELL, WAVES, WEATHER, WIND

D	R	T	S	T	O	L	X	R	R
N	L	L	L	E	W	S	I	E	O
W	H	M	R	L	J	O	U	F	B
T	S	A	C	E	R	O	F	R	B
M	J	C	L	S	H	Y	R	U	A
D	L	F	T	S	P	T	I	S	U
G	I	O	E	M	U	W	A	F	R
H	R	V	U	S	H	R	I	E	K
M	A	T	E	X	J	U	E	N	W
W	S	Q	H	R	S	K	I	P	D

Secret Word

Can you find the secret word starting with "F"? forecast

Why does this word go with weather? it tells you know what the weather will be like in the near future

Worksheet 22 Name: _____

True or False

Answer true or false to the following sentences by ticking the appropriate box.

	True	False
You must wear a lifejacket if aged between 1-12 years old, when boating in the ocean.	✓	
It is important to check the weather forecast before going boating.	✓	
Before going boating you should tell someone where you are going and when you will return.	✓	
The weather forecast that you listen to the night before you go boating is the most up-to-date forecast available.		✓
If the weather is windy and cold and the seas are rough, cancle the trip and wait for a better day.	✓	
If your boat's engine breaks down, it is best to fire off all your flares.		✓
If your boat capsizes you should stay with the boat until help arrives.	✓	
It is compulsory to carry life jackets for everybody on board, a signaling device, (flares or an EVDS) and a distress beacon (EPIRB or PLB) when going more than 400m into the ocean.	✓	
When you are loading your boat you should fit as much gear in the boat as possible.		✓

Worksheet 23 Name: _____ Topic 5

Boating Safety Word Sleuth

M	A	L	W	P	A	B	E	B	O	A	T	S	A	F	E
Y	A	N	C	H	O	R	U	U	B	S	C	T	H	E	C
B	A	R	W	A	Y	L	K	O	A	R	S	T	H	S	E
D	W	F	I	R	E	T	L	Y	Y	A	I	F	A	L	H
E	T	H	E	N	R	M	I	U	M	N	F	P	O	I	Y
P	F	L	A	R	E	S	A	L	T	F	N	R	E	P	P
T	E	U	C	S	E	R	E	Y	I	I	U	C	C	S	O
H	A	S	T	F	L	O	A	T	D	B	O	E	Y	L	T
L	I	F	E	B	U	O	Y	D	B	A	A	N	L	O	H
C	A	P	S	I	Z	E	E	F	I	O	Y	T	R	P	E
G	N	I	D	A	O	L	R	E	V	O	E	G	S	S	R
O	I	N	G	B	D	R	A	O	B	R	A	T	S	L	M
O	A	T	I	B	A	D	W	E	A	T	H	E	R	A	I
N	G	X	F	I	R	S	T	A	I	D	K	I	T	P	A
R	E	H	S	I	U	G	N	I	T	X	E	E	R	I	F
N	A	V	I	G	A	T	I	O	N	L	I	G	H	T	S

Find the hidden words listed below.
They describe things that you should consider before you go boating.
Remember, words can run up, down, forwards, backwards and diagonally.

What is the hidden message? always check weather forecast before going boating

marine radio	mast	lifebuoy	flares
be boat safe	first aid kit	stability	float
anchor	bad weather	pollution	rescue
barway	slip slop slap	epirb	buoy
hypothermia	fire extinguisher	capsize	fire
navigation lights	may day	fuel	depth
buoyancy	overloading	starboard	oars

Worksheet 24 Name: _____ Topic 5

Going Boating Safely Quiz

Answer the following questions by ticking the correct box.

1. **Before heading out for a day boating, you should:**
   - [x] a) Tell someone where you are going and when you will return.
   - [ ] b) Make sure the boat is polished and looks good.
   - [ ] c) Check that all the fishing gear is packed on board.
2. **It is most important that the skipper instructs passengers about:**
   - [ ] a) How to bait their hook.
   - [x] b) The safety equipment on board.
   - [ ] c) How to tie the correct knots.
3. **Always check the weather before boating. The most up-to-date forecast is:**
   - [x] a) The internet, telephone or radio.
   - [ ] b) Television news from the night before.
   - [ ] c) The local newspaper.
4. **If the weather is windy, rough and cold you should:**
   - [ ] a) Wear more clothes and take a raincoat.
   - [ ] b) Go somewhere else and hope the weather is better there.
   - [x] c) Cancel the trip and wait for a better day.
5. **When you are loading the boat it is most important to:**
   - [ ] a) Fit as much fishing gear, nets and craypots as possible on board.
   - [ ] b) Fit as many of your mates as you can on board.
   - [x] c) Limit the amount of gear you carry.
6. **If your boat capsizes you should:**
   - [x] a) Stay with the boat until help arrives.
   - [ ] b) Leave the boat and swim to the nearest shore.
   - [ ] c) Take off your lifejacket so you can move more easily.
7. **If your boat suffers engine failure what do you do?**
   - [x] a) Drop your anchor and assess the situation.
   - [ ] b) Fire off all your flares and hope someone sees them.
   - [ ] c) Try to swim to shore, while wearing your lifejacket.

Culmination task "Be Boatwise"

Rewrite the Skip Story

Revision

Re-read the Skip the Boat Safe Bird story before beginning this Culmination Task.

What to do

Students are to complete a rewrite of the Skip the Boat Safe Bird story using the same setting and characters with a boatwise message. The message should incorporate boating safety as a main theme.

The possible topics to include in their story are to be taken from the prior learning topics 1–5,

- including checking the weather before leaving on a voyage (Weather is king);
- having the correct safety gear on board and giving a briefing of it to others on the boat (Safety saves lives);
- sitting in a proper location once on board (Keep your boat afloat);
- telling someone where the journey will take them (Tell someone where you are going); and
- what to do in an accident (In an accident).

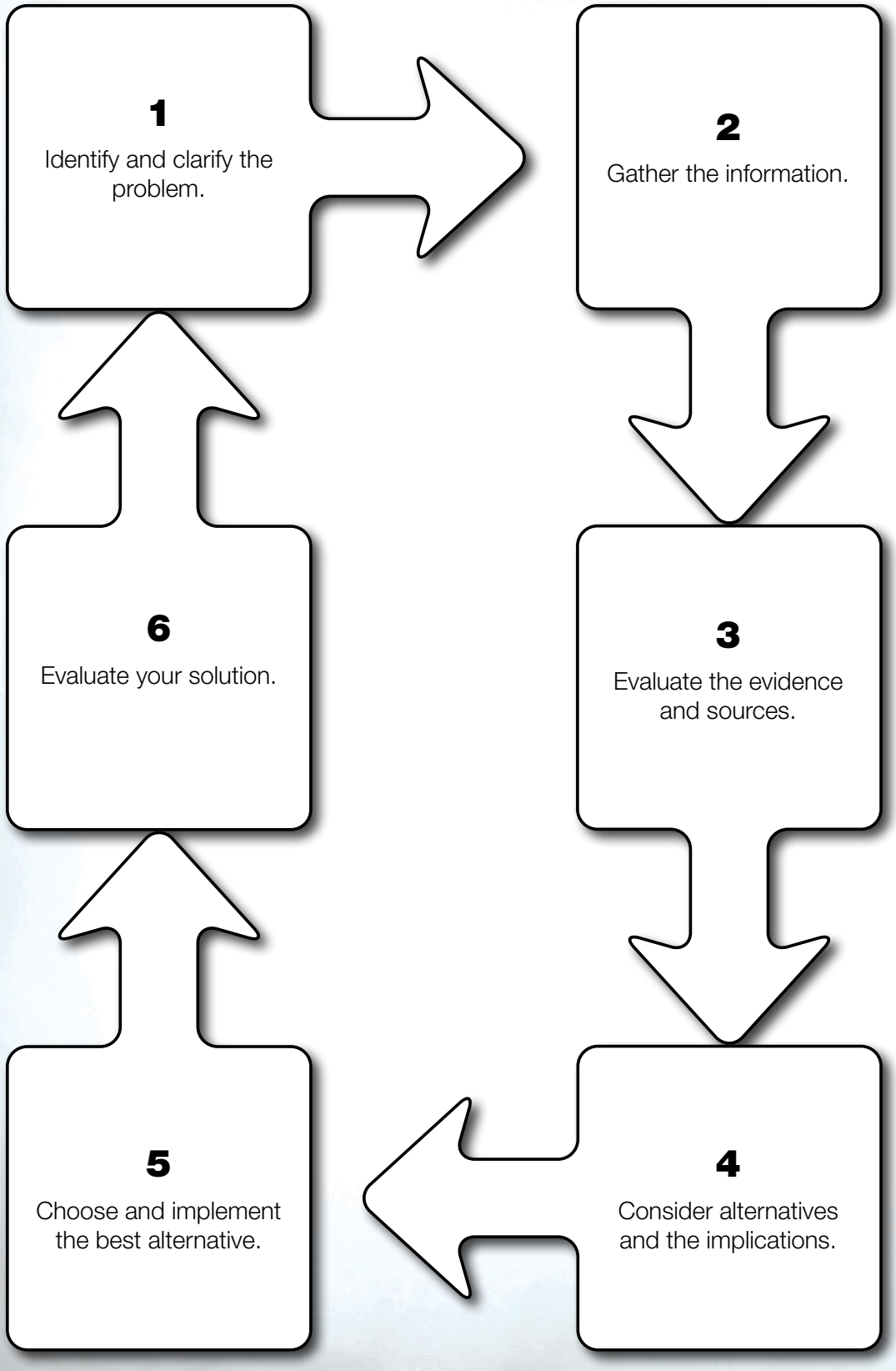
The story should be aimed at an audience level of kindergarten students and push the Junior Crew messages. Flashcards 1 to 9, from the Skip the Boat Safe Bird story, should be placed around the room to assist the students to place the characters within their own story.

Important features of the story include:

- Narrative structure;
- The audience the story is aimed at;
- The terms used within the story to be correct;
- The explanation of terms as required;
- The purpose of the story;
- To keep the story engaging for the audience – this can be in the form of reading it aloud; and
- A clear statement of the message being conveyed.

Appendix 1

Problem Solving



Appendix 2

Planning

The members of my group are:

1. _____

2. _____

3. _____

The social skills I need to work in a group are:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Evaluation

The social skills I used well were:

_____

_____

The social skills I need to do better next time I work in a group are:

_____

_____

Appendix 3

PMI

Set a problem or scenario: for example, "All the cars in Australia are yellow". Then get the students to write or discuss in groups in the table the plus's and the minus's and anything interesting. This skill can be used for social skills as well. If the scenario or social skill should have a positive outcome this will become apparent by carrying out this exercise.

Plus (positives)	
Minus (negatives)	
Interesting	

Glossary

Getting the words right. Jargon is often used to obscure meaning and to make the user look more knowledgeable. In boating, jargon has always been used for the opposite reason, clarity. The right words pass a quick and clear message. There is a lot of marine jargon, but just having a working knowledge of it will be useful.

Abaft
Towards the rear of a ship or boat.

Abeam
At right angles to the centre line of the boat.

Aft
Towards the stern or behind the boat.

Aground (run aground)
Hit or reach the ground with the bottom of the vessel.

Ahead
Towards the bow or in front of the boat.

Astern
In the driving sense, to put the engine in reverse.

Bailer
A bucket or container to remove (water) from a boat by repeatedly filling and emptying it over the side.

Beam
The width of the boat.

Berth
The place alongside a jetty or wharf where the boat is secured.

Bilge
The compartment at the bottom of the hull of a ship or boat where water collects so that it may be pumped out of the vessel at a later time.

Bitts
The piece of hardware on a boat's foredeck to secure a mooring line.

Bollard
The equivalent of bitts on a jetty or wharf.

Bow
The front of a boat.

Bulkhead
A boat's equivalent of a wall, separating compartments.

Buoyancy
The tendency or capacity to remain afloat in a liquid.

Cabin
A compartment for passengers or crew.

Cable
The line attached to an anchor. It may be all chain or a combination of chain and rope.

Capsize
To overturn a boat.

Chine
The intersection of the bottom and sides of a boat.

Cleat
A fitting to which lines are made fast.

Current
The horizontal movement of water, generally permanent or semi permanent. Currents caused by tidal movements are called tidal streams.

Draught
The depth of water a boat draws.

Ebb
A falling tide or the stream it makes.

EVDS
Electronic Distress Visual Signal

Fairway
Any navigable channel.

Flood
A rising tide or the stream it makes.

Following sea
A sea travelling in the same direction as the boat.

Fore-and-aft
In a line parallel to the keel.

Freeboard
The minimum vertical distance from the surface of the water to the gunwale.

Gale
A wind with a speed of from 34 to 40 knots (63 to 74 kilometres per hour), according to the Beaufort scale.

Give way
Changing speed or direction to avoid another vessel.

Give-way vessel
The vessel required by the rules to get out of the way of another.

Gunwale
The upper edge of a boat's sides.

Gust
A strong, abrupt rush of wind.

Hatch
An opening in a boat's deck fitted with a watertight cover.

Headway
The forward motion of a boat.

High Pressure
A weather system which rotates anti-clockwise in the southern hemisphere and usually produces fine warm conditions.

Huddle
The position taken up by a group of people in the water by facing each other and holding the next person close by. It assists in heat reduction in an emergency.

Hull
The main body of a vessel.

Hypothermia
A condition in which a person's core body temperature is dangerously low due to exposure to severe cold.

IALA
The International Association of Lighthouse Authorities (IALA for short) is a non-profit organization founded in 1957 to collect and provide nautical expertise and advice.

Inboard
More toward the centre of a vessel.

Isobar
Line on a weather map joining places of equal air pressure.

Keel
The bottom of a boat's centre line.

Knots (speed)
A speed of one nautical mile per hour (about 1.8 kilometres per hour).

Latitude
The distance north or south of the equator measured and expressed in degrees.

Lee
The side sheltered from the wind.

Lee shore
The shore onto which the wind blows.

Leeward
Downwind side of your vessel.

Leeway
The sideways movement of the boat caused by wind.

Longitude
The distance in degrees east or west of the meridian at Greenwich, England.

Low Pressure
A weather system which rotates clockwise in the southern hemisphere and usually produces cool winds and possible rain (especially during winter).

Making way
Vessel underway and moving through the water.

Midships
Approximately in the location equally distant from the bow and stern.

Mooring
An arrangement for securing a boat to a mooring buoy or a pier.

Nautical mile
One nautical mile is equal to 1.151 statute mile or 1.852 kilometres

Neap tides
Tides half way between full and new moons when there is the smallest rise and fall of tide.

Overload
To place too many goods or people in a vessel for it to remain balanced.

Personal Flotation Device (PFD)
A vest or jacket which assists in personal buoyancy.

PLB
Personal Locator Beacon

Port side
The left hand side of a boat looking forwards.

Protected waters
The waters contained in any lake, river or estuary, or by any breakwater, but does not include the waters of Cambridge Gulf or Lake Argyle.

PWC
Personal water craft (jetski).

Quarter
The sides of a boat aft of amidships.

Rudder
The underwater vertical plate that steers sailing craft and shaft driven power boats.

Running lights
Lights required to be shown on boats under way between sunset and sunrise.

Sailing vessel
A sailing vessel is only classified as a sailing vessel when propelled by sails only. A vessel under sails but propelled by engines is classed as a power-driven vessel.

Scope
The ratio of length of anchor cable in use to the vertical distance from the bow to the bottom of the water.

Screw
A boat's propeller.

Scuppers
Drain holes in the sides above the deck .

Sea room
A safe distance from the shore or other hazards.

Sea state
The combination of wind, waves and swell.

Secure
To make fast, to tie up.

Set
Direction toward which the current is flowing.

Sounding
A measurement of the depth of water.

Spring tides
Tides at new and full moons with the largest rise and fall of tide.

Squall
A sudden, violent wind often accompanied by rain.

Stability
The quality or attribute of being firm and steadfast. A vessel remains stable when it continues strongly in an upright position.

Stand on
To continue on the same course and speed.

Stand-on vessel
The boat that has right-of-way when meeting another boat.

Starboard side
The right side of a boat looking forwards.

Stem
Where the sides of a boat meet at the bow.

Stem the tide
Go forward against the current.

Stern
The back of a boat.

Swell waves
The regular longer period waves that are generated by the winds of distant weather systems.

Telltale
The stream of water from an outboard motor indicating that cooling water is circulating.

Tidal range
The difference in height of water between high and low tides.

Tide
Rise and fall of the sea caused by the gravitational pull of the sun and moon.

Tiller
A bar or handle for turning a boat's rudder or an outboard motor.

Transom
The stern of a square-sterned boat.

Transit
A transit occurs when a navigator observes two fixed reference points that are in line with the navigator. This creates a position line.

Trim
Fore and aft balance of a boat.

Trough
A long narrow area of low pressure.

Underway
Not at anchor or made fast to the shore or ground; if you are drifting you are underway.

Unprotected waters
All waters other than the waters contained in any lake, river or estuary, or by any breakwater, but includes the waters of Cambridge Gulf and Lake Argyle.

Wake
Trail of water disturbance left by a moving vessel.

Wash
Waves created by a vessel's passage.

Wave height
The vertical distance between the top of the crest and bottom of trough.

Way
Movement of a ship through the water such as headway, sternway or leeway.

Weather Forecast
An informed prediction of the upcoming weather pattern and conditions.

Wind Direction
The angle at which the breeze is derived from. E.g. - a Westerly wind will be produced from the west.

Wind Speed
An average over a ten minute period of the strength of breeze (measured in knots or kilometres per hour).

Windward
Toward the direction from which the wind is coming.

Notes

For more information

Visit the following websites for further information:

Junior Crew website: *www.transport.wa.gov.au/imarine/juniorcrew*

Department of Transport *www.transport.wa.gov.au/imarine*

ANZSBEG Kids and Boats *www.anzsbeg.org.au/kids.html*

Boat Safe Kids *www.boatsafe.com/kids/index.htm*

Kids and Water *www.wetpaper.com.au/kids&water*

Scootle *www.scootle.edu.au*

Further learning opportunities

Marine and Safety *www.transport.wa.gov.au*

ANZSBEG Kids and Boats *www.anzsbeg.org.au/kids.html*

Boat Safe Kids *www.boatsafe.com/kids/index.htm*

Bureau of Meteorology *www.bom.gov.au*

Acknowledgements

The Department of Transport acknowledges with thanks the contribution of the following to this kit:

Mrs. Sue Livingstone – WA Primary Teaching Consultant

Mrs. Joan Slattery – Curriculum Council WA

Mrs. Joanne Taggart – Curriculum Council WA

Marine Safety Tasmania

Marine Safety Victoria

Alinjarra Primary School

Hillman Primary School

Lancelin Primary School

North Mandurah Primary School

Point Peron Camp School

Richmond Primary School

Rockingham Beach Primary School

West Busselton Primary School

Contact

Department of Transport - Maritime: 13 11 56

Email: juniorcrew@transport.wa.gov.au

Website: www.transport.wa.gov.au/imarine/juniorcrew

www.transport.wa.gov.au/imarine

 Published: October 2022. 05-10-10-SE-0523