Year 5 Junior Primary Poster Kit Activities

What you need to know

1. To obtain your free set of posters email info@ausmepa.org.au
2. Go to the website www.ausmepa.org.au/poster to download information sheets to be used with the posters
3. The titles of the posters are:
    a. Anemonefish
    b. Cuttlefish
    c. Dangers
    d. Hermit crab
    e. Fairy penguin
    f. Seahorses and seadragons
    g. Sharks and Rays
    h. Turtle
4. These activity sheets cover the Australian Curriculum for Foundations Year to Year 6
5. In the future we hope to also provide some smartboard activities which will be available on the AUSMEPA website .

Year 5

Australian Curriculum	Content description
Science	Living things have structural features and adaptations that help them to survive in their environment (ACSSU043) Light from a source forms shadows and can be absorbed, reflected and refracted (ACSSU080) Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena (ACSHE081) Scientific understandings, discoveries and inventions are used to solve problems that directly affect peoples' lives (ACSHE083) Scientific knowledge is used to inform personal and community decisions (ACSHE217)
Geography	The influence of people, including Aboriginal and Torres Strait Islander Peoples, on the environmental characteristics of Australian places (ACHGK027) The influence of the environment on the human characteristics of a place (ACHGK028) The influence people have on the human characteristics of places and the management of spaces within them (ACHGK029) Present findings and ideas in a range of communication forms, for example, written, oral, graphic, tabular, visual and maps; using geographical terminology and digital technologies as appropriate (ACHGS038)
English	Understand how to move beyond making bare assertions and take account of differing perspectives and points of view (ACELA1502) Use metalanguage to describe the effects of ideas, text structures and language features on particular audiences (ACELT1795) Plan, rehearse and deliver presentations for defined audiences and purposes incorporating accurate and sequenced content and multimodal elements (ACELY1700) Plan, draft and publish imaginative, informative and persuasive print and multimodal texts, choosing text structures, language features, images and sound appropriate to purpose and audience (ACELY1704)

Teacher planning

If you are considering a beach excursion as part of a marine unit, much of the detailed preparation in the AUSMEPA rockpool section www.ausmepa.org.au/rockpools is very relevant. This section provides ideas for student directed research. Teachers can work with students to plan their investigations at the beach and collect field observations and data.

Teacher and classroom preparation:

- Download and skim through the poster fact sheets before the lesson. Have the factsheets handy if you want to refer to them during the lesson.
- If you are going to use the worksheets, you will need to make copies.
- A touch table of material commonly washed onto the beach would be valuable.

- Equipment to show powerpoint presentations.

Prior learning – What are these features?
- Do not show the class the posters or the information sheets.
- Divide the class into seven groups.
- Each group will try and recall the features of the marine animals that they have assigned. The animals are:
    - Cuttlefish
    - Sharks
    - Penguin
    - Sea turtle
    - Anemonefish
    - Sea horse
    - Hermit crab

- Once they have made their list of the features on a page they should draw a line underneath the list.
- Provide each group with the relevant poster.
- Each group observes their poster and adds to the bottom of their list.
- Again student draw a line under their list.
- Printout the information sheets or provides them online.
- Students read the information about their animals and add to the list if they can find more features.
- Once completed each group takes turns to present their poster and describe the animal's features.
- After each group has presented their animal and features ask for feedback from the class
    - Can the class find more features?
    - Does the class agree on the names given to the features?
    - Is their further information the class wants to find out?

Creature Features

Lesson 1 – The marine environment?

- View the powerpoint, *The marine environment*. (download from the AUSMEPA poster curriculum materials website)
- List the places or habitats where animals can live in marine environments.
- Use the worksheet *Animal habitats* to describe the environments.
- Use maps (could use google maps or google Earth) to find where these habitats occur. Which habitats occur in the students' State? Where can they get easiest access to them?
- Use **google ocean (part of google Earth)** to explore the sea. What other habitats can students find using google ocean? Google has a section that can be found by searching google ocean. It has some very good video summaries.

Lesson 2 – Marine animal features

- As a class view the powerpoint, *Marine animal features*. (download from the AUSMEPA poster curriculum materials website)
- Discuss and compare the features on each slide. The last slide is of a sawfish. Students will do some research on this animal towards the end of the lesson.
- Provide students with the activity sheet *How animals use their features*. Place the AUSMEPA posters around the room. Ask students to recall the features they observed in the powerpoint.

- Keep the last slide of the powerpoint on view. When student have completed the activity sheet, they observe the powerpoint photo of the sawfish and suggest what each feature could be and how it is used. They then use the internet to research sawfish and find out if they were able to identify the features and how each feature is used. Ask someone in the class to compare a sawfish with a swordfish and report back to the class.

Lesson 3 – Marine feature project

- Please note that students can use all images in the AUSMEPA slide library without any restrictions. www.ausmepa.org.au/photos.asp
- Students in groups or as individuals choose any two marine animals. This activity is competitive and the goal for an individual or groups to identify the most features on and inside a marine animal. Allow student ten minutes for each animal. They should do a simple diagram and label the features on the diagram.
- Compare how many features students identified on individual animals. Ask students with the top four or five animals with the most identified features to describe their creatures.
- Students have the rest of the lesson to create a marine creature. Their creature will be an illustration without any labels. Their creature needs to move at some stage in their life cycle, work out what is happening around them feed and protect itself. Once the illustrations are completed they are to be handed around. Students should be able to work out:
    - How or when in its lifecycle it moves
    - What senses it has
    - How it feeds and what it feed on
    - How it protects itself
    - Where it could live

Lesson 4 Marine feature experiments

- Many marine creatures hang onto rocks, plants and sand. Compare how some marine creatures and plants hang on by making comparisons with
    - Suction caps
    - Plastic hooks we glue to walls
    - The roots of weeds in the school garden

  Which animals or plants have features like suction caps, glue or roots?
- Students will try and mimic the movement of different marine creatures.
    - They use the internet to see how different animals move which should include swimming, walking, crawling, floating and animals glued to one spot.
    - They then use their bodies to mimic the animals.
    - As a challenge they should compare the way whales, sharks and penguins swim.
- In this experiment students will work out strategies for camouflage. Their challenge is to draw and cut out the shape of a marine creature and then colour it so it can be hidden in a specific type of place in the school garden. See which strategies work best. Discuss and research what animals actually do for camouflaged. Allow students to have a second attempt to improve on their first design.

Lesson 5 – What are sunglasses?

- Provide students with examples of sunglasses.
- Ask students to describe them and their purpose.
- Make a list of practical and non-practical (eg fashion) purposes for sunglass.
- Discuss with students how they can test and demonstrate how sunglasses work and how they are different to prescription glasses without tinting.
- Some experiments student can do include;

    - Shining torch light through sun glasses against a white background and seeing the difference.
    - Take a photo of a scene. In one photo place a sunglass lens over the camera lens and then compare without.
    - On a sunny day have two people look at a light coloured wall with the sun on it. One person wears sunglasses. After of few minutes, compare the size of the eye's pupil.
    - Borrow a pair of prescription glasses they become tinted in the sun. How long does it take to become tinted? How long does it take for the tint to disappear when the glasses are taken indoors? What is different to the light indoors compared with outdoors? Find out more about UV light that is produced by the sun and how it can damage eyes.
- Find out about polarising sunglasses.
    - What symbol is used on polarising sunglasses when they are on a sales stand?
    - How do polarizing sunglasses work? What are polarising sunglasses supposed to do?
    - You will need three sets of glasses. Two will need to be polarising sunglasses and the other could be prescription glasses and non- polarising sunglasses (which are now hard to come by). Face two polarising sunglasses against each other and note if light passes through the two lenses. Rotate one of the sunglasses 90 degrees. When one lens is rotated 90 degrees can light pass through the two lenses opposite each other?
- If you can predict a hot sunny day in summer (could also be done at the beach on an excursion), obtain two raw sausages, aluminium foil and UV suncream. Cover one of the sausages in suncream and make sure the other remains free from suncream. Leave outside in the hot direct sunlight all day. (may need to provide protection from birds or dogs taking them, but don't cover with glass, plastic etc as it will affect the results. Compare the sausages towards the end of the school day.
- At the conclusion of the lesson, review the health benefits of regularly using sunglasses in bright locations such as the beach.

Coastal Australia

Lesson 1 – Famous Australian beaches

- Type into a search engine such as Google 'Australian beaches.' Divide the research questions below up among groups and ask them to report back to class.
    - What kind of web information comes up on the first page of hits?
    - Which beaches get mentioned most?
    - Which beaches are students most familiar with?
    - What is occurring on the beaches?
    - What activities occur on the most famous beaches which are part of Australia's cities?
    - Are different activities done on famous beaches further from cities?
    - Why is Bell's beach famous?
- As a class use a map of Australia (eg a smartboard and google Earth) and locate Australia's most famous beaches.
    - How close are they to cities?
    - How close are they to public transport?
- In small groups use maps of your region to locate the beaches most accessible to where students live. Work out the best route to get to one or more beaches.
- As a class discuss what people need to take when visiting the beach on a warm or had day.
    - How do people protect themselves from the sun?
    - How do people protect themselves from things in the water?

- What should people do to stay hydrated?
- What can kids take to stay afloat in the water?
- How can people provide their own shade?

Lesson 2 – Coastal landforms and their use

- Use the powerpoint '*Coastal landforms'* to explore the different kind of landforms along the coast. With students answer the questions on each of the slides. Find out which landforms they are familiar with and examples they have been to. Look at each slide for evidence of action from weather, waves, currents etc.
- At the conclusion of the powerpoint ask students if any of the landforms:
  - Only occur in tropical areas
  - Only occur in cool areas
  - Only occur if exposed to the open sea
  - Can only occur in flat areas
- Did any students know that coral cays are made from the broken up skeletons of coral?
- Provide students with a choice of drawing materials. Ask them to make a drawing of a large number of coastal landforms that can occur in a tropical or cooler coastal environment.
- Identify some of the uses made of different landforms. Which are used for:
  - Recreation
  - Housing
  - Fishing
  - Fish farming (aquiculture)
  - Transport
  - Kept as natural habitat

Lesson 3 – How much development is too much development?

Use the powerpoint called '*Development*' along with the activity sheet called '*Development*.'

- Go through the powerpoint and discuss each image and compare the images.
- Then student can go through the powerpoint again and chose one of the images. Students provide their detailed views about the following:
  1. How is the area being used?
  2. How has the area been changed over time?
  3. What are the best features of the area?
  4. How might the use in the area affect the environment and the local community?
  5. Provide an opinion and give your reasons if the level of development seen in the photo is too great.
  6. Suggest how government has controlled development.
- How is the area in the photo different to the area you live in?
- How would the photo look different and how would the environment and community be affected if there were:
  1. A large factory near the coast?
  2. A large freeway built along the coast?

Lesson 4 – How should zoning control development?

- Local governments are often also called councils, shires or cities. Find out what the name is for the local government that students live in? Look at their website and from just looking at their homepage find out what some of the things the students' local government is doing?
- Discuss with students the concept of government zoning.
  1. As a class discuss what students think the zoning of land could mean? Discuss the different ways land is used eg homes, shopping centres, factories, farming, parks

etc. Make a list or a description of what is meant by zoning the way land can be used.

2. Use the internet to find out more about zoning.
    - What does the student's local government say about zoning?
    - What does the student's Sate government say about zoning?
    - What articles on the ABC website www.abc.net.au discusses zoning? (type zoning into the ABC search engine)
3. As a class make a map that can be photocopied of a coastal area. Students will zone the land so that a large town can be built, areas remain as farmland, places where people can shop and an area where small factories can be built (light industrial). The zoning of areas could be done with colour highlighters. Students produce a legend to describe what each colour represents. Which land should be protected in parks?
    - The coastal area is mostly used for farming but there is a need for a large town which will be home to 5,000 people.
    - 80% of the beaches have sand dunes and natural vegetation. 20% of the beach front is farmed up to the beach.
    - There is a small river with creek vegetation.
    - One road exists that goes behind the dunes and along the beach that has lost its trees. Other roads link into this road leading to different farms.
    - Some large hills might be useful for wind farms.
    - A small boating port will enable a fishing industry.
    - Besides the native vegetation along the coast and river, 5% of the land has native forest and 5 % of the land is a forest plantation for growing timber.

Lesson 5 – What do ports do?

As a class discuss which large ships students might be familiar with. This should include ships that transport containers (container ship), ships that transport coal, iron ore wheat etc (bulk carrier), those that carry oil (tanker) and passenger ships. Ask students why ports are necessary? Where do the ships go to? With the questions being asked, goods can refer to containers, oil, gas, wheat, iron ore, cars etc.

As a reference students should use these websites found in the student section of the Ausmepa website: www.ausmepa.org.au/ports-and-the-marine-environment/ and www.ausmepa.org.au/ships-and-the-marine-environment/

Students in groups do a short research project on one of the following questions:

- What kinds of goods are transported by ships? Which good are transported in containers?
- What kinds of jobs are there at port? What kind of work do these people do?
- How are different kinds of goods moved on and off ships?
- How are shipping ports kept safe? How is the environment around the port protected?
- How are goods transport to and from ports?
- Where are the biggest local ports in your State and what kinds of goods are transported from these ports.

Field work for a beach excursion

- For year 5 the Rockpool website curriculum materials can be easily adapted to take your students on a rockpool excursion. They will be able to collect data on their excursion which then can be analysed back at school. The field work will involve how the structures on marine and coastal plants and animals help them survive. They will describe the various landforms they can see from the beach. They will can describe how the coastal environment is being used, how the local planning regulations have influenced the area and how people have had an impact. Students will identify the positive and negative aspects of the

environment and support their opinions with evidence about how the area should be best managed including opinions about development.

- Download the PDF on this webpage http://www.ausmepa.org.au/rockpools/default.asp?pageid=64&nav=64
- Go down to page 14. You will find
    - 10. Finding out – field work planning
    - 11. Finding out – gathering data in the field
    - 12. Finding out – analysing data
    - 13. Drawing conclusions, finding solutions.