SUPPORT MATERIALS

SAVING OURSELVES AND OTHERS IN PEMBROKESHIRE COAST NATIONAL PARK

Learners consider what they already know about RNLI lifeboats and those in their locality. They search for information about recent rescues and write a Tweet/X as a news reporter. Then, they investigate recent launches across Wales. Learners are introduced to the RNLI's strapline for water emergencies. They consider the concept of floating and how best to float before viewing the RNLI's Float to live video. Learners direct and film their own short video about how to float to live using models in a pond or stream. After considering the concept of floating more scientifically, learners explore how best to make an object out of clay that floats. Exploring two different local RNLI lifeboats, gives learners the opportunity to think about when each lifeboat might be best deployed. Then, learners design and build their own lifeboat out of recycled materials, considering throughout the criteria for success. Finally, learners consider the Sea Empress disaster and write a diary/vlog as a bird caught up in the disaster.

CURRICULUM FOR WALES

Areas of Learning and Experience explored:

- Health and Well-being
- Humanities
- Languages, Literacy and Communication
- Mathematics and Numeracy
- Science and Technology

Activity also incorporates aspects of cross-curricular skills outlined in the LNF and DCF.

RESOURCES

Internet enabled device and internet access.
Means of recording and editing video (e.g. smart phone, tablet, camera), doll models.
Modelling clay, bowls of water, 10p coins or washers.
Selection of recycled items (e.g. plastic bottles, string, cardboard, plastic bags, pieces of wood) an electric motor, batteries and wires, some 10p coins or washers or heavier masses.

DOING THE ACTIVITY

- Most tasks require learners to work in pairs or groups.
- Encourage learners to share their ideas, and through open questioning, explain and justify their ideas when possible. Focus questions have been suggested to guide learners through the tasks.
- To access the scale in Google maps, click on 'View larger map'.
- When taking learners outdoors, it is essential that the Countryside Code is adhered to and any relevant risk assessments have been carried out with risks mitigated.

TASK 1

WHAT DO WE KNOW ABOUT RNLI LIFEBOATS?

Explain to learners that this task should help them to understand where local RNLI lifeboats are and their recent rescue missions.

Screen 3

This screen gives information about the RNLI. Invite learners to consider the questions posed.

Focus questions

- When have you seen a RNLI lifeboat? Where was it?
- Where do you think the RNLI lifeboats are stationed in Pembrokeshire Coast National Park?
- Which RNLI lifeboat stations have you seen in Pembrokeshire Coast National Park?
- Where have you seen lifeguards on beaches? What time of year was it? Why are lifeguards needed more at this time of year?

Screen 4

Ask learners to use the map to view the RNLI lifeboat stations in Wales and discuss the questions posed.

Focus questions

- Which lifeboat stations did you know about?
- Which lifeboat stations have you been to?
- Which is the nearest lifeboat station to school? How did you work this out?

Screen 5

Ask learners to choose one of the lifeboat stations in Pembrokeshire - Angle, Tenby, Fishguard, Little and Broad Haven or St David's. Invite them to search on the internet to find out...

Focus questions

- When was the lifeboat last launched? Why was it launched?
- What were the outcomes of the launch?

Ask them to consider how to make their research more effective by:

Before researching think about...

- What search terms could you use? Which are the best? Why?
- What type of sites will be the best to use, why?

When assessing information/data think about...

- Could the information/data be biased? Why do you think that?
- How reliable do you think the information/data is? How could you find out?

Screen 6

This screen asks learners to write a Tweet/X about their research findings - as a news reporter. Remind them that they only have 280 characters.

Screen 7

Invite learners to explore the RNLI's live map showing recent lifeboats launches at Latest lifeboat launches around the UK and Ireland – RNLI and to discuss the questions posed.

Focus questions

- Where was the nearest recent launch?
- How far is the nearest launch to your school? How did you work it out?

Screen 8

Ask learners to try the short quiz about RNLI lifeboats.

TASK 2

WHY IS FLOATING IMPORTANT?

Explain to learners that this task will support their understanding of floating and how to do so in an emergency.

Screen 3

Ask learners to consider the RNLI's strapline about emergency in water. Then, to consider the questions posed.

Focus questions

- Why do you think each of these stages is important?
- Imagine you fall into cold water, what happens? How do you know?
- What do you know about rip tides? What could happen if you try and swim through a rip tide?
- What do you know about calling 112 in an emergency?

Invite learners to investigate on the internet if they are unsure of any of their answers.

Screen 4

Ask learners to discuss the questions with their partner about floating.

Focus questions

- How do you float in water? What do you do? List what you need to do.

Then, to list their ideas on screen.

Screen 5

This screen gives the RNLI's advice about how to float:

- Fight your instinct to swim hard.
- Lean back in the water.
- Push your stomach up, extending your arms and legs.
- Gently move your hands and feet to help you float until you've controlled your breathing.

Ask learners to compare their own list with that of the RNLI.

Screen 6

Invite learners to watch the RNLI video Float to live (about 1 minute). Then, to discuss the questions posed.

Focus questions

- Why is it important not to swim hard when you fall in cold water?
- How do the people in the video float?
- Where do you think the video was filmed? Why?

Screen 7

Inform learners that they are going to make their own one-minute video about how to float to live, using models in a pond, a stream or shallow seawater. Invite them to discuss the posed questions in their group.

Focus questions

- What are the key messages needed in the video?
- How can you demonstrate the key messages using models?
- How will you get the key messages across to the viewer? Will you use subtitles, voiceover, music or another means?
- Who in your group will do what? Why?
- How will you ensure your video is only one minute long?

Screen 8

Take learners outside to film their video.

Screen 9

Ask learners to edit their video ready to present it to the class, and to check that they have included all their key messages and they are clear to the viewer.

Screen 10

Ask learners to present their video and to ask for peer feedback using:

Two things in the video they thought were good and why.

One thing that could be better in your video and why.

TASK 3

DESIGNING FLOATING OBJECTS

Explain to learners that this task will explore how to design and make floating objects.

Screens 3-4

These two screens describe and explain floating with a short quiz about this on screen 4.

Screen 5

Invite learners to create an object out of clay that floats, using modelling clay and test it in a bowl of water.

Ask them to make sure the clay is dry before retesting or shaping into a new design.

Screen 6

Ask learners to now design an object out of clay that can carry the largest load of 10p coins and to continue to make improvements every time their object sinks.

Invite them to draw a diagram of their 'winning object' and label its special design features that helped it to float carrying the most 10p coins (or washers).

Screen 7

To reflect on the task, ask learners to discuss the questions posed.

Focus questions

- What did you notice while building your floating objects?
- Why did you make the changes you made?
- Which designs seemed to work best? What is it about these designs that made them successful?
- Which designs did not seem to work well? What is it about these designs that made them less successful or unsuccessful?
- How did your design change throughout the activity?

Screens 8-10

Ask learners to read about the RNLI lifeboats, look carefully at the images and discuss the questions posed about each image.

Focus questions

- How many people do you think the lifeboat will hold?
- What do you think the total mass of these people would be? How did you estimate this?
- What types of emergency do you think the lifeboat might be used for? List as many as you can.
- What types of weather and sea conditions do you think the lifeboat might be used in? Why?

Screen 11

Explain to learners that they are going to design, build and test their own lifeboat. In their group they need to think about the criteria that make a lifeboat successful and list as many as they can. Then, prioritise their success criteria and type their top five criteria in the box provided.

Screen 12

Give each group a selection of recycled items, an electric motor, batteries and wires, and some 10p coins or heavier masses. Invite learners to design a lifeboat, remembering their success criteria. Ask them to draw their design and label it with the features that help it meet their success criteria.

Screen 13

Tell learners that they are going to test their lifeboat outside.

As they test their lifeboat, they will need to adapt its design to improve it. Therefore, remind them to take the recycled items, construction materials and equipment with them.

Screen 14

Ask learners to go outside and test their lifeboat.

Screen 15

Invite each group of learners to draw the finished design of their working lifeboat and to label with the features that help it meet each of their success criteria. Then, to discuss the questions posed.

Focus questions

- How well does your design meet each success criterion?
- Are there any other success criteria you would like to add to your original list? If so, what are they?

Screen 16

Invite learners to start at the base of the triangle and think about the ways they worked: individually, groups, online, paired work. Then, to consider the strategies they used from: reading, researching, drawing, reviewing prior work, classifying, discussing, making prototypes, using models, using examples, making lists. They can also suggest other strategies used. Finally, ask learners to consider which strategies worked the best. This latter information will be useful for similar future activities.

TASK 4

SAVING BIRDS

As the first screen in this task is a source square, please avoid telling learners that this task is about the Sea Empress oil disaster.

Screen 3

This is a source square with an image to interrogate of a Guillemot covered in oil after the Sea Empress tanker disaster. Ask learners to consider the questions posed to interrogate the image.

Screens 4-6

These screens give details of the Sea Empress disaster in 1996.

Screen 7

Invite learners to imagine they were a bird living on the coast in Pembrokeshire when the Sea Empress disaster occurred and to write a diary or make a vlog about their life before and after the oil spill. Ask them to consider the questions posed.

Focus questions

- What your life was like before the oil spill. Where did you live? What did you eat? How did you catch your food?
- When did you notice the oil spill? What did you see? How did this make you feel?
- What your life was like after the oil spill. How did you find food? What physical affects did the oil have? How did you feel? How were you rescued?

They may need to do some more research about the species of bird and how it lives on the coast and/or the disaster before they write their account.

Screen 8

The final screen in this task offers learners a chance to use one or more of the sentence starters provided to reflect on the task - I understood better when...; One thing we did today that made me realise...; The thing that really helped me today was...; To improve I could...; After reading, I...; I could use this strategy when...; The next time I could...; After talking to...; The thing I found most difficult was...; One idea/thing I still don't understand is....