



Mary Rose Resource

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To celebrate the 40th anniversary of the raising of King Henry VIII's warship, Mary Rose, we have put together a special challenge pack for you, with a range of activities suitable for all sections.

Leaders are welcome to adapt any of these activities as they like to make them suitable for their units or circumstances—feel free to mix and match!

To enhance these activities, a loan box of resources and objects is available for collection and return from Portsmouth Historic Dockyard. Alternatively, for local units, it may be possible for a volunteer to come and talk at your unit. Please email education@maryrose.org



We recommend that each section completes the following number of activities:

Rainbows	3 Activities
Brownies	5 Activities
Guides & Rangers	7 Activities

Once completed, you will have earned the limited-edition Challenge badge! The badge is available to buy for £1 (plus postage and packaging) from the Region's online shop at [Girlguiding SWE Online Shop - Home \(girlguidingsouthwest.co.uk\)](http://GirlguidingSWEOnlineShop-Home.girlguidingsouthwest.co.uk)

Mary Rose History

- Research Mary Rose facts and produce a poster for young people.
- Jobs on board - what were they? Which was most important - why? Which would you choose?
- A day in the life - how did the sailors keep happy and healthy?
- Why were there no women on the Mary Rose? What impact would that have on the ship and the lives of those on board?

The Magnificent Mary Rose

- Fly your flag - design your own flag for your own ship. Choose colours and decorations that mean something to you.
- Make your own Mary Rose model.

STEM activities

- Ship Ahoy! Try boat-building using plastic food trays or wood with different sail shapes. Run a challenge in paddling pool.
- Make a sundial or compass and compare to modern timekeeping
- Cartesian Diver experiment. Pop bottle and basic 'diver' required

Tudor Treats

- Bring in a selection of packaging and use the resources to find out "Tudor or not?" How does a Tudor diet compare to ours?
- Recreate some Tudor inspired treats. Remember, there was no chocolate in Tudor times!
- Celebrate! Tudors were well known for their banquets. Ask each member of your unit to bring in a Tudor inspired treat or dress up

Tudor Fun and Games

- Write, talk or dance like a Tudor!
- Sea-themed Simon Says: climb the rigging, swab the decks, shoot an arrow, captain's coming
- Chocolate Challenge. The use of forks to eat, did not become popular until the 17th century. In small groups play the chocolate game using only a knife and spoon.

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Safety Reminders

Cooking Activities

- Ensure everyone follows good hygiene practices e.g. wash hands, tie long hair back, wear aprons, clean work surfaces etc
- Ensure girls have appropriate supervision for the activities
- Be aware of allergies within your group

Craft Activities

- Ensure girls have appropriate supervision for the activities
- Ensure the work surface they are using is covered for the craft activities
- Be aware of any allergies within your group

Games and Dance Activities

- Ensure girls have appropriate supervision for the activities
- Ensure they have enough clear space without obstacles to be able to move safely
- Ensure girls have appropriate clothing and footwear

Visits to The Mary Rose

- Each Leader is responsible for ensuring appropriate risk assessments have been carried out and consent forms received from parents as necessary
- To book a visit to the museum on another occasion, please contact education@maryrose.org

The *Mary Rose* King Henry VIII's Great Warship



THE BEGINNING

In 1509 King Henry VIII ordered new purpose-built warships for his navy. One of the first warships was the *Mary Rose*. She was built in the Royal Dockyard in Portsmouth, very close to where the half of the ship that remains is today.

WHY WAS SHE CALLED THE MARY ROSE?

Some people believe that Henry's favourite ship, the *Mary Rose*, was named after his sister MARY and also for the Tudor ROSE, the symbol of Henry's family. Others think that because people in Tudor times were very religious, the *Mary Rose* was named after the Virgin Mary.



HOW IMPORTANT WAS THE MARY ROSE?

The *Mary Rose* was a very important ship in the English Navy. She was strong, with lots of powerful cannons, and very fast.

The *Mary Rose* sailed for 34 years and played an important part in all three of Henry VIII's wars with France!

WHEN DID SHE SINK?

On 19th July 1545, the *Mary Rose* and the sailed from Portsmouth with the rest of the English fleet. They were protecting England from the invading French navy. During the battle the *Mary Rose* sank in the Solent. Legend tells us that King Henry VIII watched his favourite ship sink from his castle at Southsea.

WHY DID THE MARY ROSE SINK?

There are lots of different ideas about why the *Mary Rose* sank in 1545:

- The *Mary Rose* was overloaded with soldiers and heavy guns
- The crew of the ship were badly behaved and the officers were bad at their job
- The ship took on too much water through the open gun ports
- French gunfire sank the ship
- The wind caught the sails as she turned, causing her to capsize

We will probably never know for sure how the *Mary Rose* sank.

What do you think happened?

HOW WAS THE MARY ROSE DISCOVERED?

Right after the battle, Henry VIII tried to rescue the *Mary Rose* but she could not be saved.

For nearly 300 years she lay at the bottom of the Solent, just off the coast at Portsmouth. In the 19th century, divers discovered the wreck of the ship and found some artefacts, like guns.

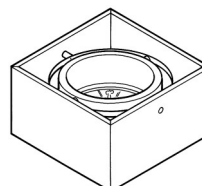
In the 1960s, a historian called Alexander McKee was looking for the *Mary Rose*. After many years, divers found the remains of a ship buried in the silt near Southsea Castle. They had re-discovered the *Mary Rose*!

Very carefully and for a long time, archaeologists and divers excavated the ship and over 20,000 artefacts! Finally in 1982 people all over the world watched on tv as the *Mary Rose* was lifted out of the water and brought back to Portsmouth Dockyard.

WHAT ELSE WAS FOUND?

Lots of the ship's equipment and personal possessions of the crew have been found over the past 40 years.

Bronze guns, hand weapons, navigation and carpentry tools as well as food supplies were found.



Compass



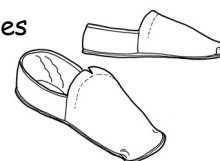
Bell

Wooden tankards, combs, gold coins, musical instruments, clothing and shoes were found. These belonged to the officers and the crew.



Tankard

Shoes



WHAT IS LEFT?

Because the *Mary Rose* was underwater for so many years, only about half of the ship remains. The other half was washed away with the tides, collapsed or was eaten away by shipworm and other sea creatures!



TODAY

The *Mary Rose* with her amazing collection of objects, is in the *Mary Rose* Museum in Portsmouth Historic Dockyard

Our website has all the latest news:
maryrose.org

Jobs on Board



Artefacts – what to do:

What am I?

- Photocopy and cut out the pictures and text on pages 6-9 or use the object from the loan box.
- Pass out objects or pictures to different people.
- Leaders: using the descriptions give clues about each object e.g. leather, shiny, heavy, decorated, has holes.
- Everyone else: if the description matches your object, hold it up high! How quickly did you get it?

Then and now

- Photocopy and cut out the pictures and text on pages 6-9 or use the object from the loan box.
- Hold up any objects we still use today. Are they made out of the same materials or are they different?
- Hold up objects which have changed a lot—do we still use them for the same job? Are they only used sometimes? Who might use these things?
- Hold up any objects we don't use at all anymore – why don't we have them today?

Ship's crew—what to do:

Debate: who is the most important crew member?

- Give each group a crew member. From pages 10-15, use the information to make the case for who is the most important person on the ship.
- Encourage a debate to decide who is the most valuable member and why. You should discover everyone has an important role to play in a team – we need everyone to play their part!
- You can print out the template in the additional resources to help your debate.

Women on the Mary Rose

- Did you notice there are no women on the *Mary Rose*? Why do you think this is?
- What jobs were women doing in Tudor times?
- Many of the same jobs can be found in the modern navy. Which job would you like to do today?

Secret diary of Thomas the ship's boy

- Leaders: read out the diary of Thomas, aged 12, from the additional resources pack.
- Everyone else: play along! Do the actions e.g. big yawn, snoring, climbing the rigging. What else can you come up with – make it as active as possible?

Hired or fired?

- Do you have what it takes to work on board the *Mary Rose*? Try our quiz on page 16 to find out!
- Answer the questions by moving to different parts of the room. Do you all agree? If not, why?
- Justify your answer – did you choose the best option?

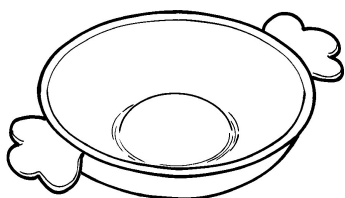


Arrow spacer

Used by the **Archer**.

It is an **arrow spacer** which kept the arrows separate to protect the feathers (flights) on the end, to keep them flying straight.

There were at least 185 archers on the *Mary Rose*.

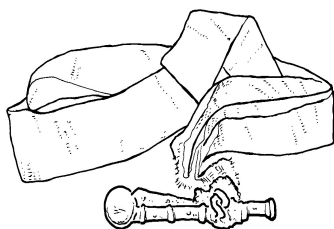


Bleeding Bowl

Used by the **Surgeon**.

The Tudors thought that illness could be caused by bad blood or too much blood in the body! The Surgeon would try to cure his patients by making a cut and catching their blood in his metal **bleeding bowl**.

This **bleeding bowl** has the letters WE—maybe his initials?

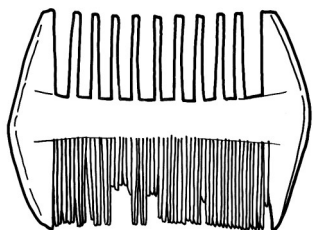


Bosun's Call

Used by the **Gun Captain**.

The **Gun Captain** would use a **call or** whistle to give orders when it was noisy during battle. It was also like a badge showing that he was an important person on the ship.

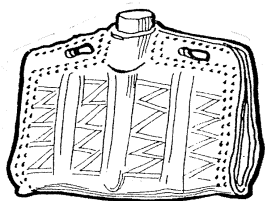
It took up to six men to fire each gun on the *Mary Rose*.



Comb

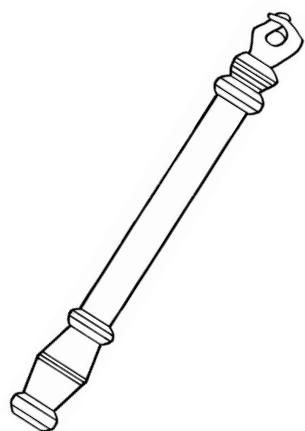
Used by the **crew**.

These wooden **combs** were used to brush hair, beards and to get rid of nits! It was very crowded on the *Mary Rose* so lice spread very quickly — some of the 82 combs that were found still had Tudor lice in them!



Leather drinking flask

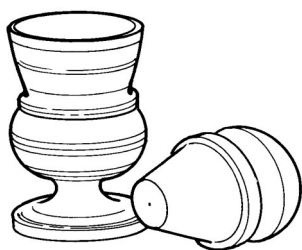
Used by the **crew** as a portable drinking bottle. This leather **flask** would be lined with pitch (tar) to stop it leaking. The ordinary men would drink beer, while the officers had wine.



Linstock

Used by the **Gun Captain**.

This wooden **linstock** was used like a giant match to light the guns. It was very long, so the Gun Captain could stand as far away as possible when he lit the gun. Why would he have to do that?

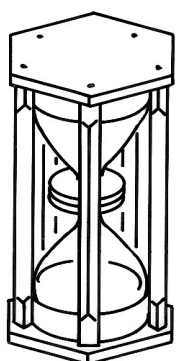


Peppermill

Used by the **Surgeon**.

This wooden **peppermill** was used to grind up herbs and spices, like pepper, as a medicine for sick patients.

Pepper was very expensive, so it would only have been used for very important people.

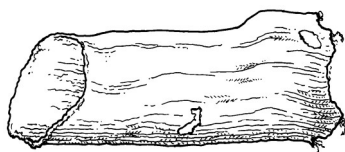


Sandglass

Used by the **Navigator**.

The **sandglass** was used to tell the time on board the ship and would have lasted for 30 minutes before it was turned over.

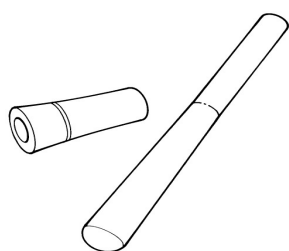
One watch (or shift) would last for four hours. How many times would the Navigator need to turn over the **sandglass** to measure one watch?



Scogger

Worn by the **crew**.

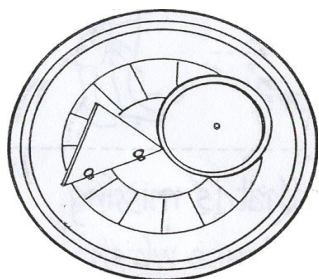
Woollen **scoggers** were worn on the arm or leg to keep warm. It's like a Tudor legwarmer! Clothes didn't always have sleeves and trousers stopped at the knees like our shorts today.



Spile and shive

Used by the **Cook**.

All of the liquids on the *Mary Rose* were stored in sealed barrels. The **spile** was used to put a hole in the barrel to let out beer or wine and the **shive** plugged it up again.

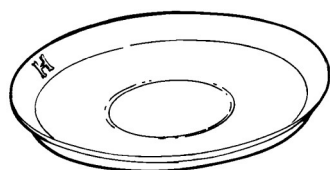


Sundial

Used by the **Navigator**

This was used to tell the time. The built-in compass pointed to North. If you face North, the shadow from the sundial shows you what time it is.

The Navigator also used a sandglass to keep track of time.

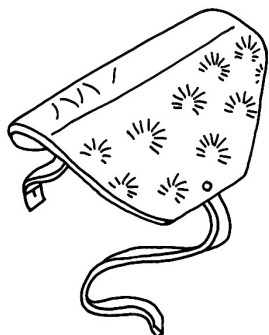


Wooden bowl

Used by the **crew**

Wooden bowls were used by the ordinary men, and they often had symbols carved in to show who used them.

'H' stands for Henry—the King paid for the ship's equipment.

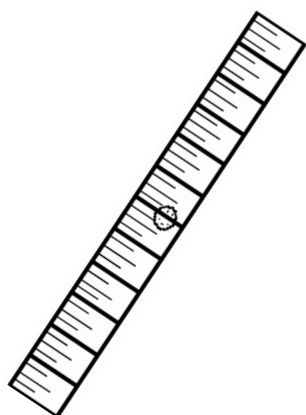


Wristguard

Used by the **Archer**

When the archer fired an arrow, this leather **wristguard** protected his wrist from the string of his bow as it snapped back.

Lots of the **wristguards** were decorated with patterns. Some had the Tudor Rose on them.



Ruler

Used by the **Carpenter**

The carpenter used a wooden **ruler** when fixing things on board the ship, and even the ship itself.

There are no numbers on the ruler, and the units measure in inches — there were no centimetres in Tudor times.

The Archer



- ◆ All Tudor men were expected to be good at archery in case of war.
- ◆ Henry VIII passed a law saying all boys from the age of seven must practise every Sunday with their bow and arrows.
- ◆ Archers were very important for the *Mary Rose*. They had to be strong to pull a bowstring, quick at firing, and be on target.
- ◆ The arrow spacer held 24 arrows. A skilled archer could fire an arrow every 5 seconds. How long would it take for him to use all the arrows in his spacer?
- ◆ Archers were in great demand as King Henry VIII was at war with France and Scotland.

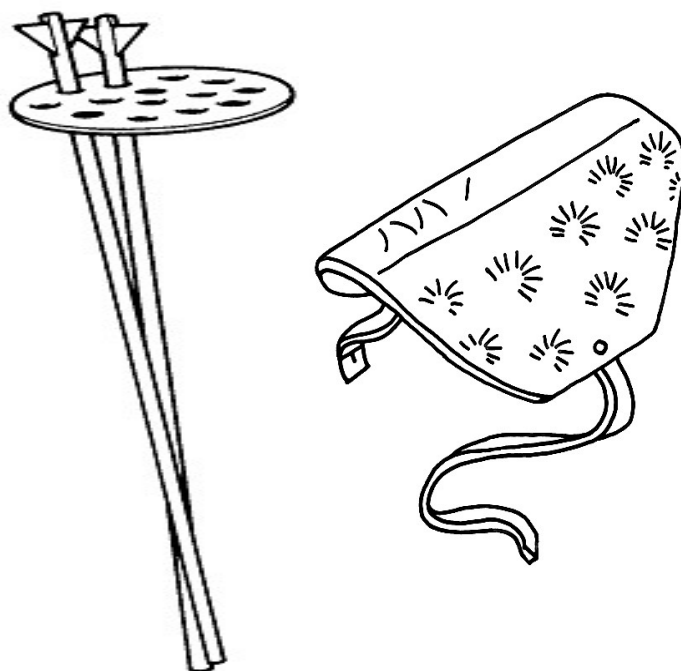
Archer's Tools include:

Bow

Arrow

Spacer

Wristguard



The Surgeon

- ◆ The Surgeon was the ship's doctor. He would treat the men for everything from sniffles and colds, to big operations, like amputating an arm or leg.



- ◆ He had to make all of his own medicines—unlike a doctor today
- ◆ He was also the dentist!
- ◆ He had his own cabin in the centre of the ship.
- ◆ He was a well paid and very respected member of the crew.
- ◆ His assistant would also act as a Barber—shaving the men's beards and cutting their hair.

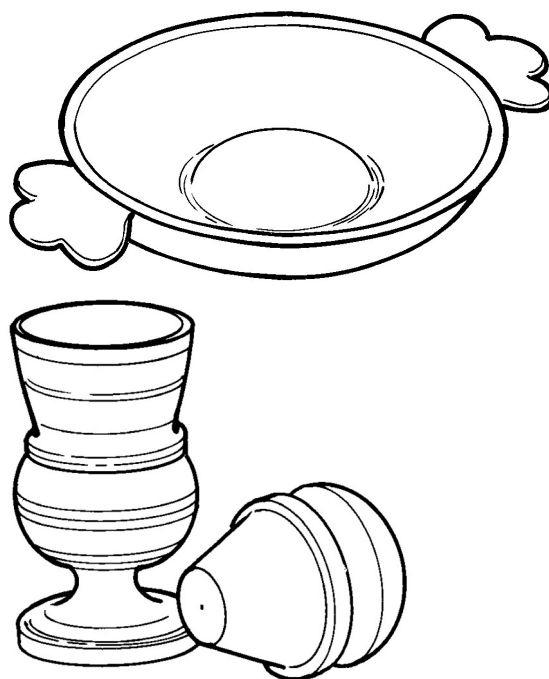
Surgeon's Tools include:

Bleeding bowl

Peppermill

Bone saw

Pestle and mortar



The Cook



Sailor's Menu

Ship's Biscuits
Beer
Salt Beef
Salt Fish
Butter
Cheese

Captain's Menu

Fresh Bread
Wine
Fresh fish
Salted meat
Butter
Cheese

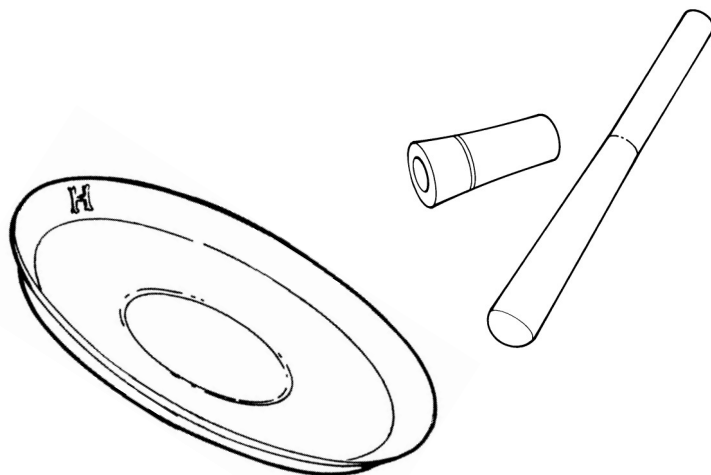
- ◆ Being the Cook on board the *Mary Rose* was not an easy job. It was very smoky and hot in the galley, and cooking three meals a day for 500 men was hard work.
- ◆ Sailors were given ship's biscuits, which were very hard, salty and dry. They had to be soaked in soup or beer before eating.
- ◆ With no fridges and freezers, meat and fish were salted and kept in barrels to preserve them. Fishing lines were used to get fresh fish.
- ◆ Butter and cheese were also an important part of the sailor's diet.
- ◆ Cherry pips and plum stones found in the wreck show us that the crew were eating some fruit and vegetables.
- ◆ The men drank 4 litres of 'small beer' a day—though it was not as strong as our beer today!

Cook's Tools include:

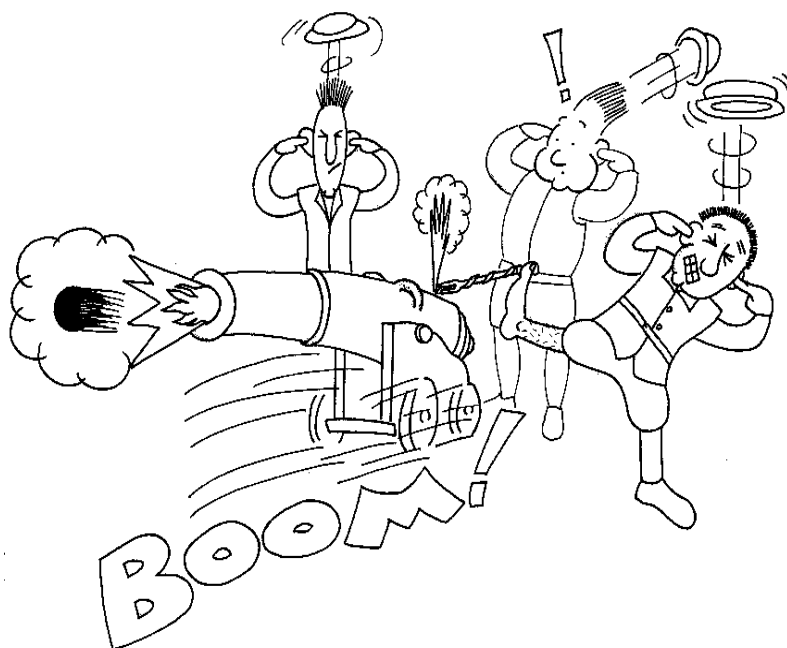
2 large cauldrons

Bowls, **plates** and spoons

Spile and **shive**



The Gunner



To-do list for firing a cannon:

- ◆ Clean the gun
- ◆ Find the correct ball
- ◆ Load the gun
- ◆ Add the gunpowder
- ◆ Light the gun
- ◆ Stand back!

- ◆ The Gunners worked in teams to use the heavy cannons.
- ◆ The Gunners had a very dangerous job. The recoil from the gun as it moved back could easily crush bones, the gunpowder could explode before you were ready, or the enemy could hit you with their cannon fire.
- ◆ They had bad backs from the heavy lifting.
- ◆ Lots of the crew would be deaf from the loud explosions.

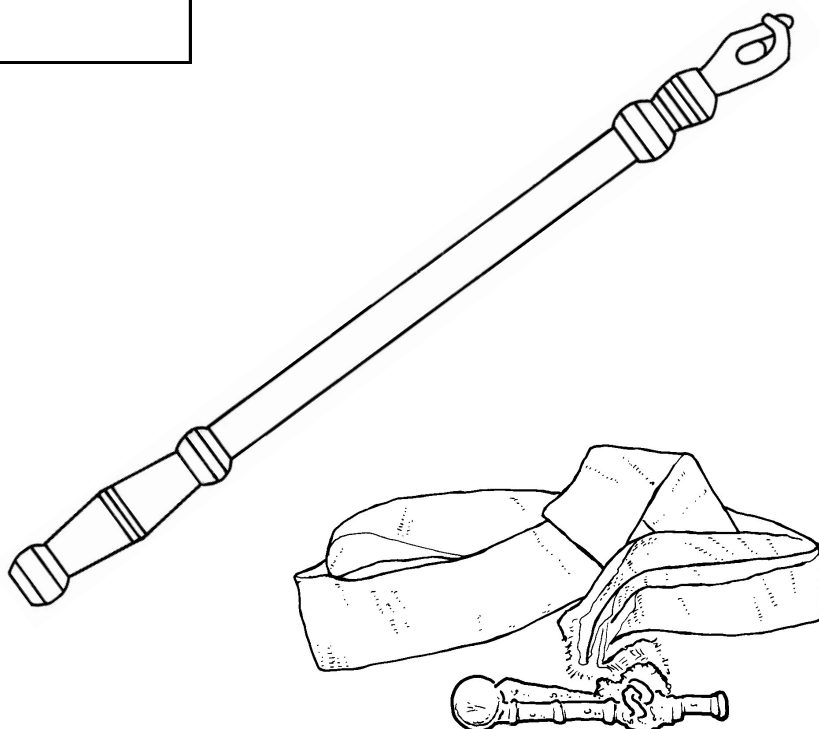
Gunner's Tools include:

Linstock

Call (whistle)

Gunpowder scoop

Sponge



The Carpenter

14



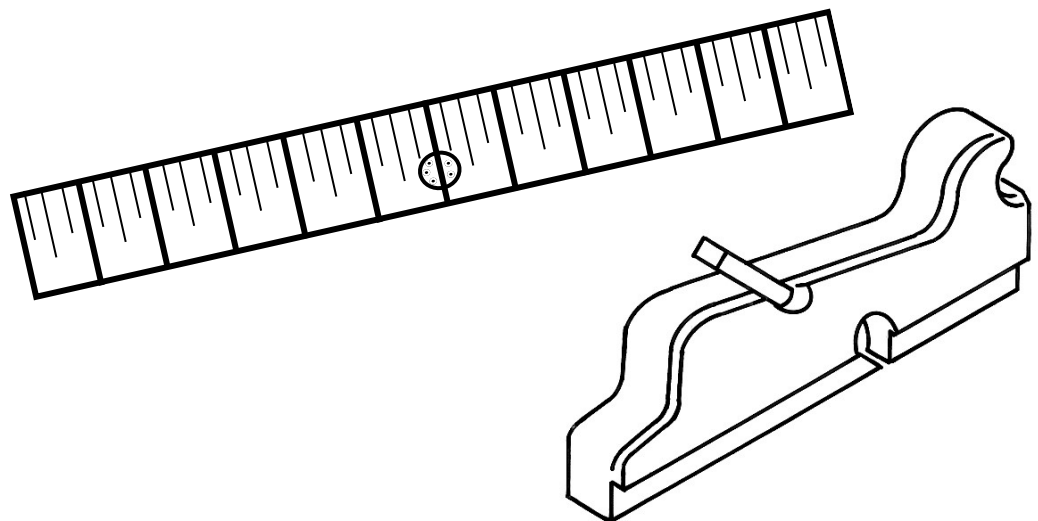
- ♦ The Carpenter had a very important job on board the Mary Rose. He repaired the ship when it was damaged and fixed any wooden objects that were on board.
- ♦ He had lots of valuable things, including a book and pewter plates, so he would have been quite rich.
- ♦ There was a chest full of tools in the Carpenter's cabin. Many of the tools he used nearly 500 years ago are similar to those still used today.
- ♦ He had a large cabin because he needed lots of space to work with his tools. He had also cut himself a window through the side of the ship to bring in more light.
- ♦ The Carpenter had a dog—Hatch—who probably helped to catch the rats on the Mary Rose.

Carpenter's Tools include:

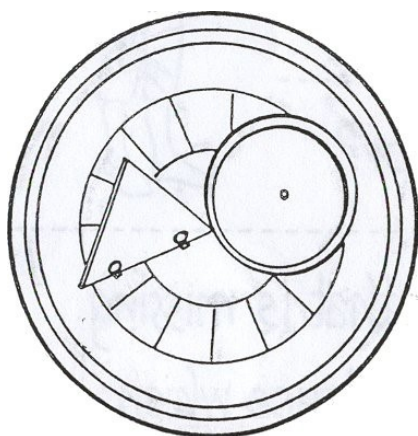
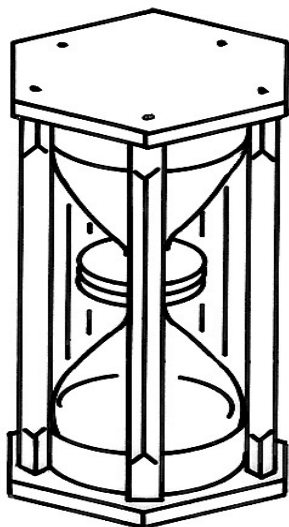
Saws and drills

Plane

Ruler



The Navigator



- ♦ The Navigator was in charge of sailing the ship. He used charts (like maps) of the sea find his way.
- ♦ He had to measure speed, direction and sea depth in order to sail the ship to its destination safely.
- ♦ He had a compass to show him which direction was North.
- ♦ A sounding weight was used to test the depth of the sea. This was a heavy metal weight on a long rope which was dropped into the water.
- ♦ A log reel was used with the sandglass to determine speed by measuring distance and time.

Navigator's Tools include:

Charts

Sandglass

Sundial and compass

Sounding weight

Log reel



Sounding weight

Hired or Fired?

16

The Captain of the Mary Rose wants new sailors who are good team players, obey orders and respect the officers and fellow crew.

What would you have done in these situations?

- 1) You see Henry VIII on Southsea Common, do you:
 - a. Have a peek but carry on with your work
 - b. Run to the side of the ship and wave madly
 - c. Stop working and stare
- 2) Sir George Carew gives orders to close the gun-ports. Pedro, a fellow sailor who is Spanish, does not understand the order, do you:
 - a. Tell Pedro that the Vice-Admiral wants him to get you some beer
 - b. Explain what to do and then go back to work
 - c. Ignore him and carry on with your work
- 3) You see a maggot in your biscuit, do you:
 - a. Carry on eating
 - b. Decide to throw the biscuit away and go hungry
 - c. Go and see the cook, who tells you it's a good source of protein. You throw a temper tantrum
- 4) You see a hole in the side of the ship which is leaking, do you:
 - a. Go to see the carpenter and tell him about the problem
 - b. Do nothing
 - c. Decide to carry out your own repairs
- 5) You and crewmate are playing a game of dice; the bell goes to change watch [shift], do you:
 - a. Decide to wait until you are ordered to go
 - b. Stop playing immediately and go and take your place on watch
 - c. Ignore the bell and keep on playing
- 6) You see a fellow crew member stealing from the stores:
 - a. Look the other way
 - b. Report him at once to the captain
 - c. Tell him if he shares it with you then you won't tell anyone
- 7) You are called 'bacon brains' by another sailor, do you:
 - a. Ignore the insult
 - b. Lose your temper and hit him
 - c. Call him a foul-smelling rogue
- 8) King Henry is coming on board to inspect the crew, do you:
 - a. Decide you would rather hide in the hold and sleep
 - b. Polish your shoes, wear your best clothes and comb your hair
 - c. Turn up in your dirty work clothes
- 9) Tomorrow is the day of the big battle against the French, do you:
 - a. Pray that you survive and carry out your duty with honour
 - b. Drink lots of beer
 - c. Go to the Barber-Surgeon and pretend you have a cold
- 10) You are trying to escape from ship whilst it is sinking, but you see an officer is trapped, do you:
 - a. Remember that he flogged you and push him under the water
 - b. Try and help him and run the risk of drowning
 - c. Ignore his cries and save yourself

What to do:

Mary Rose Model

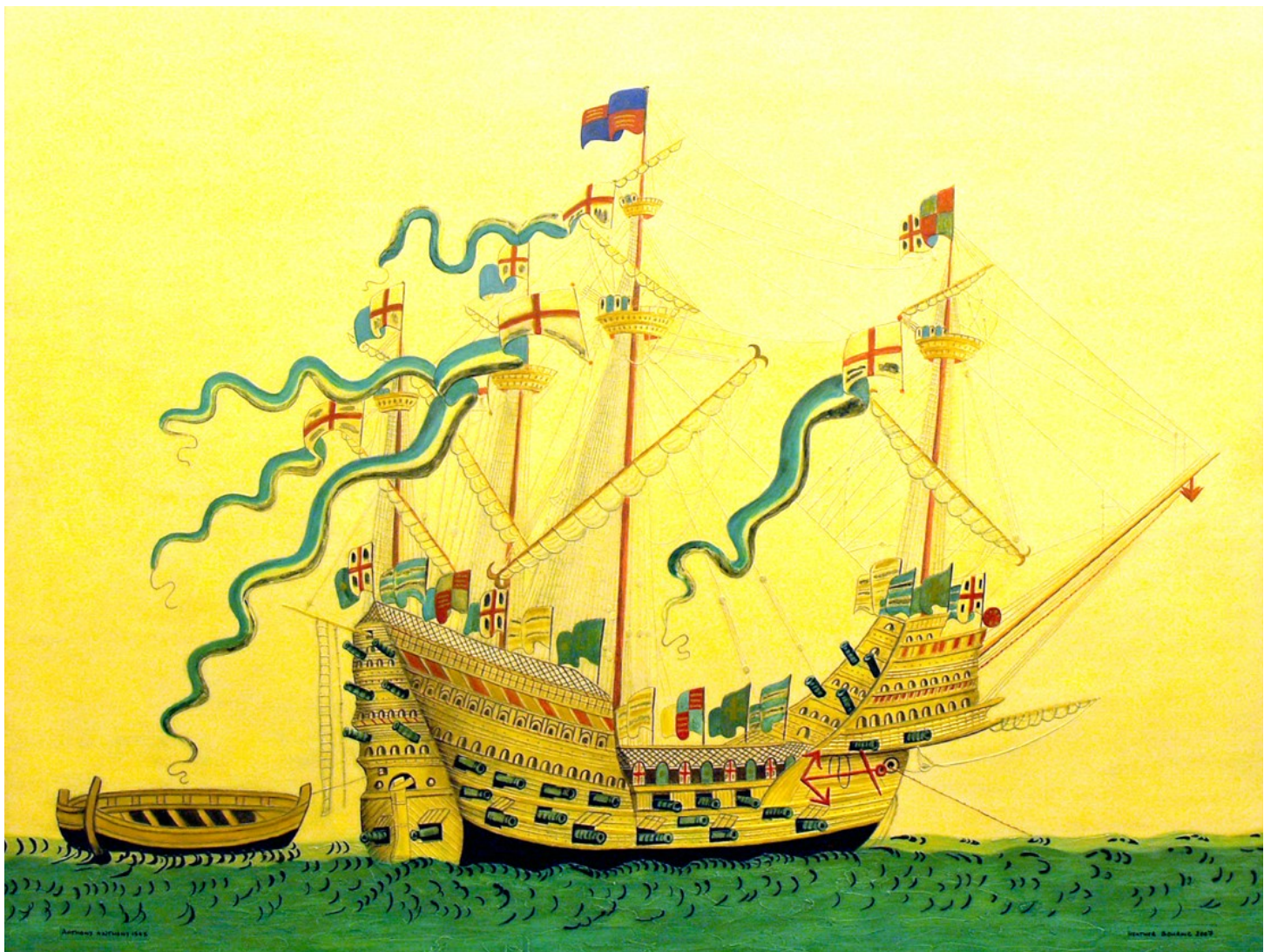
- Use the templates in the additional resources pack to make your very own model of the *Mary Rose*. There is a trickier 'pop up' version for any budding engineers.
- We recommend you colour in the ships before you cut them out. Masts can be made out of paper straws, stirring sticks, pencils, anything you can find.
- For inspiration you can look at the only picture we have of the *Mary Rose* from the Tudor times (below) – or make up your own design completely!

Fly your flag

- Fly your flag – design a flag for your own ship. Flags had lots of different meanings in the Tudor period and could tell a story. Choose colours, symbols and decorations that mean something to you.
- In pairs, explain what your design is and why it is important to you.

For more Tudor-inspired crafts, check out our website:

maryrose.org/things-to-make-and-do/#artefacts



Mary Rose STEM

18

What to do:

Make your own sundial

- Use the template to make a Tudor sundial and test it out
- Look carefully at the numbers—do any seem odd?
- Consider how daylight savings time affects a sundial

Cartesian diver

- Watch our video on YouTube to see how to set this experiment up. There are lots of others to give you more help
- You can make the diver out of different materials and can also try different liquids to see how the result changes.
- What makes a liquid and a gas different?

Tudor diet

- Bring in food packaging—is it Tudor or not? Where does our food come from now, do we still eat seasonally?
- Why is it better for the environment to eat local and seasonal food? What can we change?
- Look at the Tudor menus and discuss the differences between modern and Tudor diets—do you think things have changed on modern warships?
- Try out a Tudor gingerbread and ship's biscuit recipe. Have our tastes changed in 500 years?

STEM Heroes

- In pairs/groups read the information
- Tell the rest of the unit about how amazing this person is
- Think about the questions and talk about them in your group

Make your Own Sundial

There were no watches in Tudor times but the men of the Mary Rose could tell the time using a sundial. Why not try making one for yourself?

Resources

- ◆ Compass
- ◆ Photocopy of Sundial template
- ◆ Card
- ◆ Scissors
- ◆ Glue/tape

What to do:

- Photocopy the sundial template on the next page and cut out the gnomon (pointer) of the sundial and fold it in half along the **blue** dotted line
- Fold over the two flaps at the bottom of the gnomon
- Cut out the base of the sundial along the **red** dashed lines and carefully create a slot for your gnomon by cutting along the **red** dashed line on the 12 o'clock line. (start at the point where all the lines meet and stop when you reach the small mark) *this bit is tricky so you may need some help from an adult*
- Slot in the gnomon (with the dotted line pointed towards the 12)
- Glue your base to a piece of card for stability—and decorate if you like!
- Place your dial in the sun. Use a compass to find North. Turn the sundial so the number 12 points North
- The tip of the gnomon's shadow will fall on the number of the hour of the day

Why does this work?

The sun moves across the sky from East to West every day. As a result, its light will be coming from a different direction at different times of the day. Shadows are caused when an object gets in the way of light causing a dark patch behind it. If the light source moves, the shadow will be in a different place. The sun moves in the same way at about the same speed every day so you can use it to find the time. For example at exactly 12 noon the sun is right in the middle of the sky and there would be no shadow on your sundial.

- How accurate is your sundial? How close to the real time is it?

.....

- Did you have any problems when trying to read it?

.....

- Can you think of any improvements we could make to it?

.....

- Could you use a sundial all the time? What are the advantages of a sundial over a modern watch? What are the disadvantages?

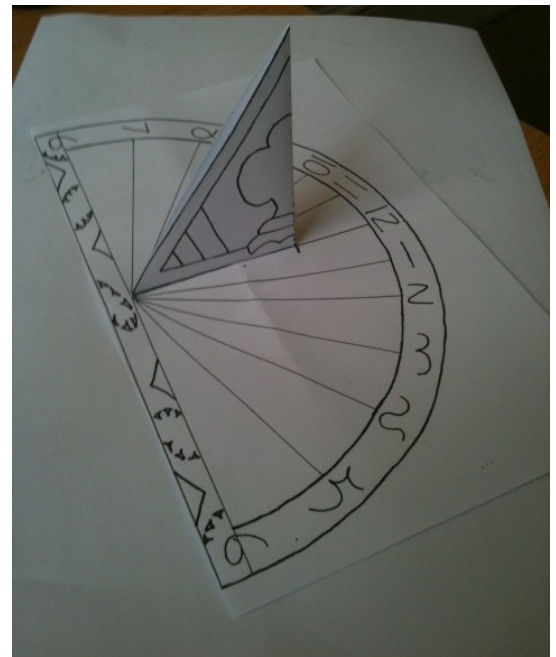
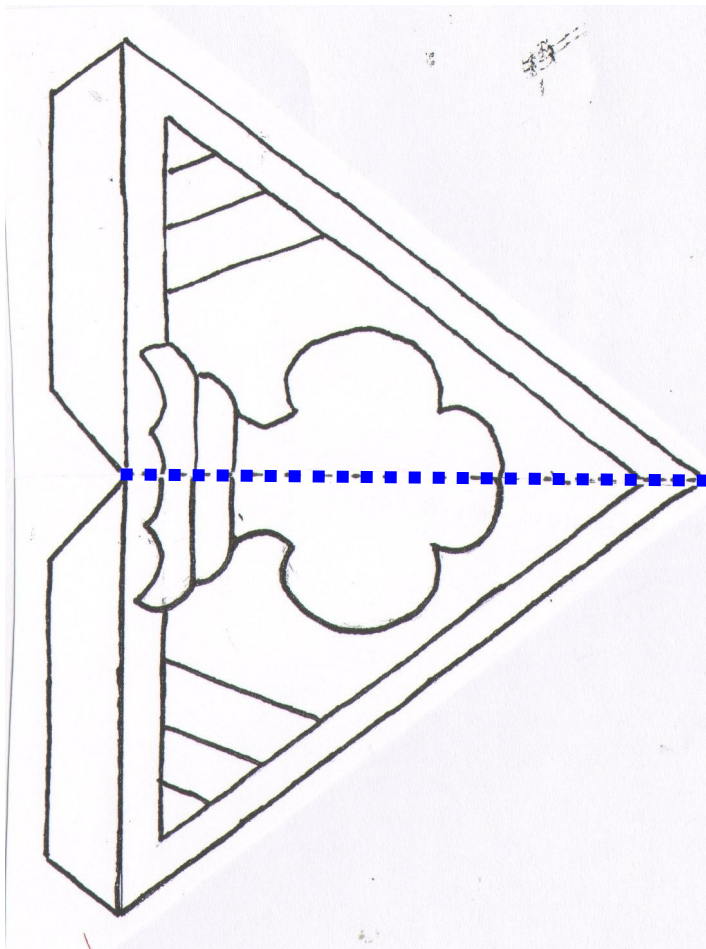
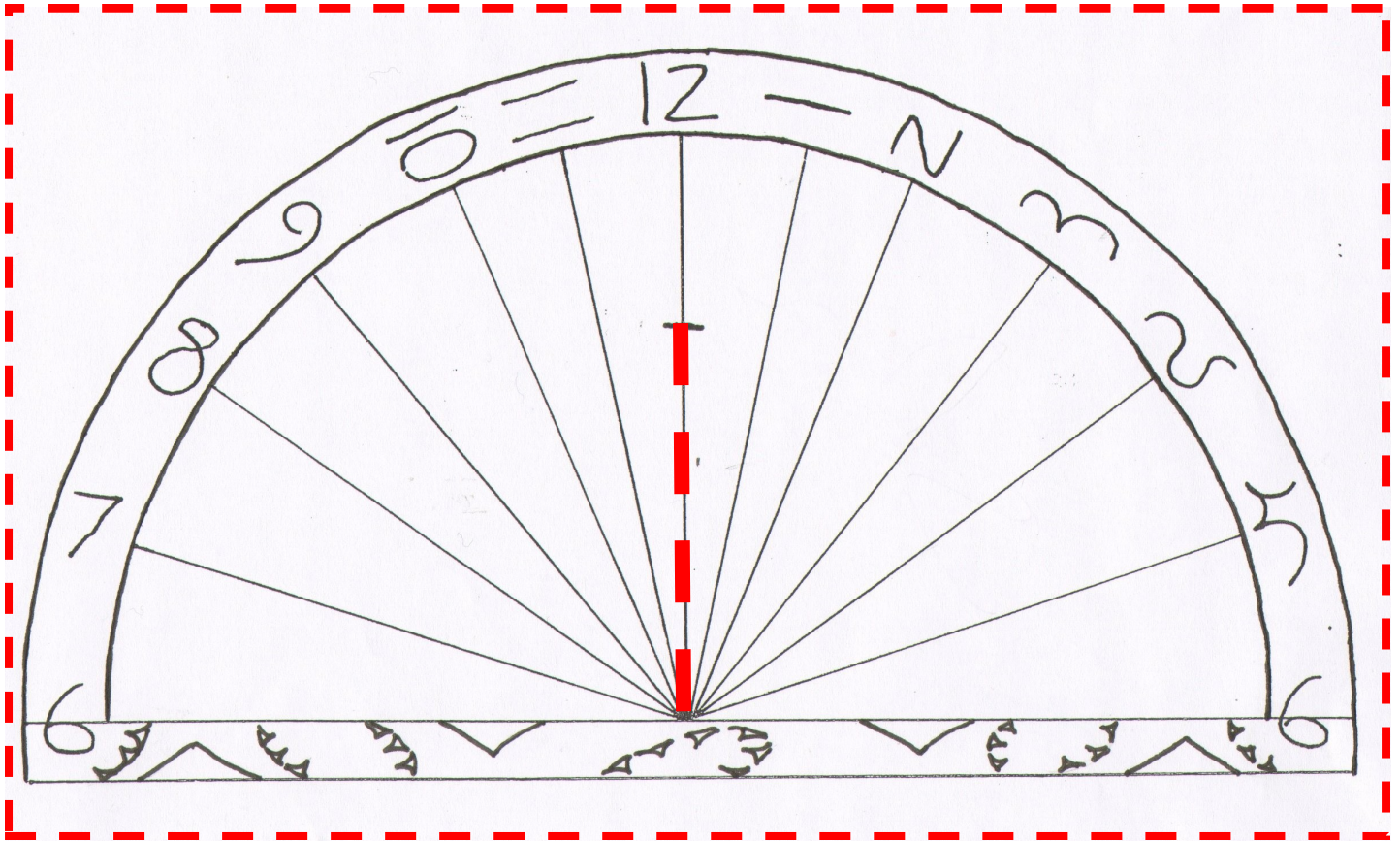
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- Can you think of any examples of sundials in your local area?
- The Tudors didn't have daylight savings' time, when the clocks go back or forward an hour. How will this affect the time shown on your sundial in the summer?

Sundials are a form of ancient technology. Which early people used sundials long before the Mary Rose? Do some of your own research to find out.

Mary Rose Sundial Template



Your finished sundial should look like this

Cartesian Diver

21

First go to YouTube and watch our video on how to make a cartesian diver—search “Mary Rose cartesian” or use the link below.

<https://bit.ly/MRcartesian>

Equipment you will need:

- 2L plastic bottle
- Plasticine, blu tack or modelling clay
- 4 small Lego blocks or a bendy plastic straw
- Water

Instructions:

- First make your diver. Build a column of Lego pieces and add a lump of blu tack or plasticine to the base. This will keep your diver upright and help it sink to the bottom of the bottle. You need just enough to hold the diver at the top of the bottle, but not so much that it sinks straight away.
- Fill the bottle with water right up to the top and gently pop in your diver.
- Screw the lid on very tightly and you're ready to go.
- Squeeze the sides of the bottle and watch the diver sink to the bottom. When you let go the diver will pop back up to the surface.

How does it work?

The Lego diver has little bubbles of air trapped between the bricks. Air is less dense or 'heavy' than water, making it easier to squash it into a smaller space. When the bottle is squeezed, water pushes between the Lego bricks and squashes the air into a smaller area. This makes the diver more dense (heavier) inside because there is now water inside, so it sinks to the bottom. When you let go of the sides of the bottle, the air expands and forces the water back out. This makes the diver lighter, so it rises back up to the top and floats.

If you don't have Lego, you can try using a pen lid or the 'elbow' part of a bendy straw with the ends both pointing down. You just need something which will trap a bubble of air and enough weight to keep it steady.

Tudor Diet

22

What's in your lunchbox?

There were over 500 people on the *Mary Rose* and they all needed lots to eat and drink—running a ship is thirsty work! The men drank 8 pints of small (weak) beer every day and 10 ship's biscuits. They also had salted meat, fish, salted butter, cheese and peas.

We have found evidence of food from the ship. Barrels had Tudor cherry stones and apple pips inside, and fishing lines mean they could catch fresh fish.

Tudor food was seasonal, so fruit was only available when it was ripe on the trees—unless it had been dried. Food from other countries was very expensive and usually only for rich people. Some countries (like America) had not yet been explored by the Tudors.

Do you know any foods from America that the Tudors wouldn't have been able to eat?

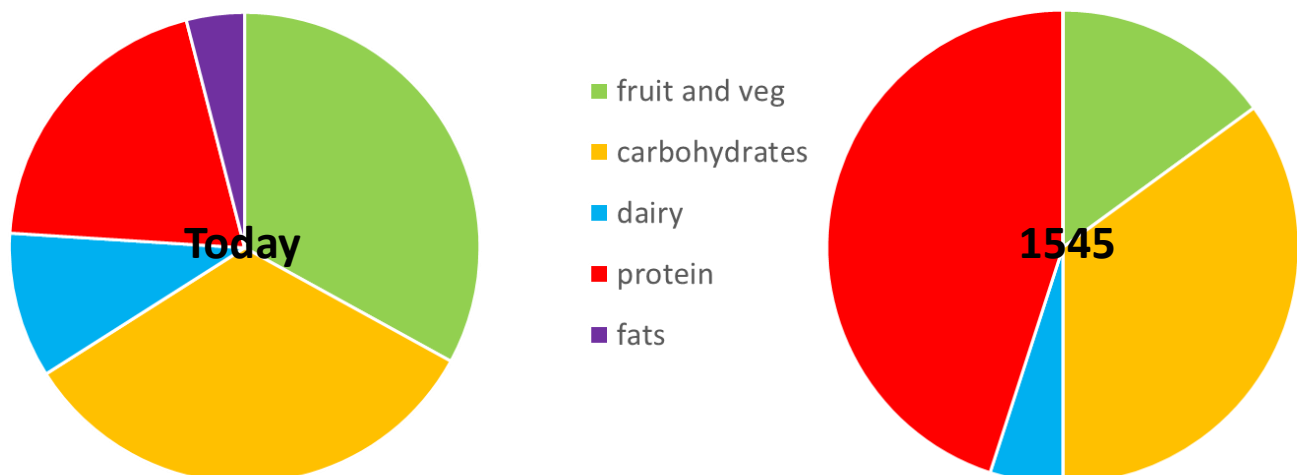
Bring in some packaging from your favourite foods and find out which ones are Tudor. Are any of them just for wealthy people? How can you tell?

Here is a typical menu from the *Mary Rose*. Does it look exciting? What's missing?

	Beer (4.5 litre)	Biscuits (1/2 kg)	Meat (1 kg)	Fish (1/2 kg)	Butter	Cheese	Peas (1/2 kg)
Monday							
Tuesday							
Wednesday							
Thursday							
Friday							
Saturday							
Sunday							

Make a menu for yourself, recording everything you eat and drink everyday. Is it like the one from the *Mary Rose*? Why or why not?

Here you can see the difference between our diet today and the Tudor diet.



How does the diet of a Tudor on board the *Mary Rose* compare with ours? Is it a healthy diet? Did the Tudors eat too much or too little of anything?

Tudor cooking—Ship's biscuits and gingerbread

23

This recipe for ship's biscuits are like the ones the crew of the Mary Rose would have eaten.

As you can see, weevils aren't one of the ingredients but you can add some if you really want to!

Equipment you will need:

- Wooden spoon
- Big bowl
- Rolling pin
- Baking tray
- Biscuit cutter
- Oven

Ingredients

- 1lb wholemeal flour
- 1/4oz salt
- Water

Instructions:

- Preheat the oven to 220°C
- Put the flour and salt into the bowl and add the water slowly until you have a stiff dough
- Leave the dough for 30 minutes
- Roll out the dough to 1inch thick and cut out biscuits
- Prick the biscuits with a fork and place them on the baking tray
- Bake for 30 minutes
- Place biscuits on a cooling rack to harden and dry out.

These ship's biscuits should last for decades, but we don't recommend you eat them if they are more than a few days old!

How do the biscuits taste? Would you be happy eating them every day? What could you do to them to make them softer—and perhaps more tasty?



This recipe for Tudor gingerbread is based on one from "*Tudor Recipes for The Modern Cook*" by Sally Murdoch

Equipment you will need:

- Saucepan
- Wooden spoon
- Big bowl
- Rolling pin
- Knife or biscuit cutter
- Stove
- fridge

Ingredients

- 1lb honey
- Knob of butter
- 1lb breadcrumbs
- 1tsp spice of your choice - Tudors used rare spices like cinnamon, ginger, black pepper, nutmeg or star anise
- Pinch of saffron (optional)

Instructions:

- Put the honey and butter in a saucepan and bring to a boil
- Turn the heat low and add the spices
- Slowly beat in the breadcrumbs until it is thick and well blended
- Remove from the heat and turn into a big bowl to cool
- When it is cool, roll out to 1/2 to 1 inch thick and cut into shapes with a knife or biscuit cutter
- Leave to set overnight at room temperature, or in the fridge for 1 hour
- Tudors would decorate gingerbread with small leaves attached with a clove or dried fruit. For a modern twist you could make leaves from icing or rice paper or use sprinkles or chocolate!

Does it taste like gingerbread you've eaten before?

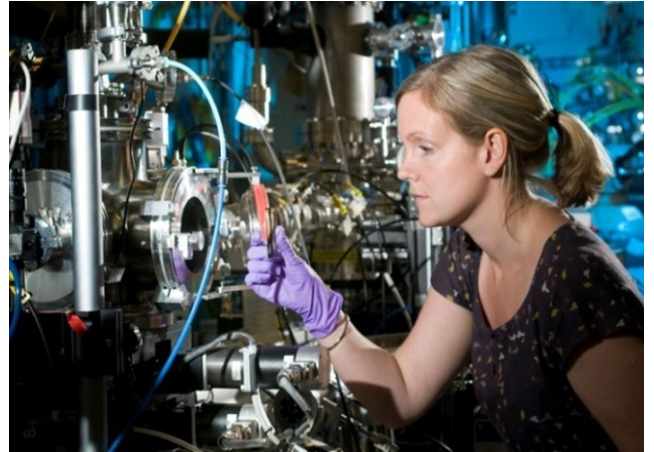
You can see why we call it *gingerbread* today!

STEM Heroes: Professor Eleanor Schofield ²⁴

Eleanor is a Materials Scientist.

Materials scientists study the properties of different materials like glass, wood, stone, leather, ceramics and fabrics. She uses her knowledge to find ways to preserve objects that have been underwater.

Eleanor looks after the hull of the Mary Rose - nearly half the ship is on show in the museum. She also looks after 19,000 artefacts! All the items are carefully monitored so they will last for future generations to study and enjoy.



Eleanor leads a team of conservators and engineers at the museum. She works with scientists all over the world to create new treatments for water-logged artefacts using the latest technology. Without them museums with amazing artefacts like the Mary Rose would not exist!

Over to you!

Do you know anyone whose work uses science?
What skills do you think you need to be a Materials Scientist?
For this job you need to go to university - do you know anything about university?
What STEM topics are you most interested in?

STEM Heroes: Dr Margaret Rule (1928-2015)

Margaret studied chemistry at university and became an archaeologist. Archaeologists dig underground for hidden artefacts. They investigate the objects and record their finds for future generations. Margaret worked at Fishbourne Roman Palace, near Chichester before moving to the Mary Rose project.

Margaret overcome her fears to learn to dive in order to see the Mary Rose site for herself when it was under the water. They worked together as a team. The divers taught her how to dive and she taught them how to dig and record the items they found.

She inspired others and her drive and determination made the excavation and raising of the Mary Rose the success it was. Her interest in the Mary Rose lasted a for lifetime.



There is a small statue of her in the museum in the gallery named after her.

Over to you!

What skills and knowledge do you think you need to be an archaeologist?
What qualities make a good underwater diver? Would you like to dive as a hobby or job?
Have you ever done something that scared you but you kept going?
How could you inspire other people to achieve something amazing?

STEM Heroes: Sarah Coggins

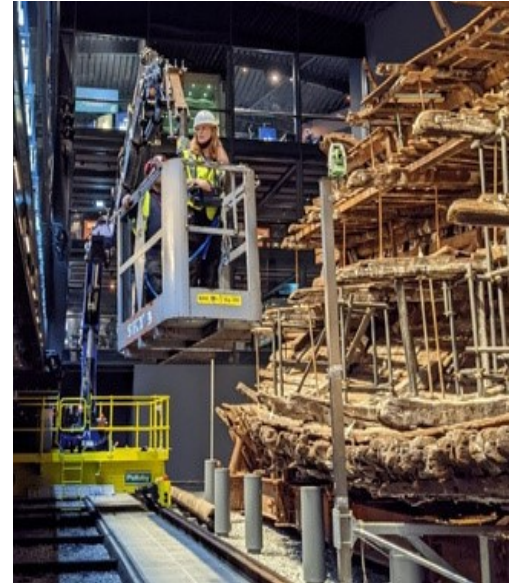
25

Sarah is the Conservation Engineer at the Mary Rose. She makes sure the systems in the building are working efficiently to keep the ship and the artefacts safe as well as making it comfortable for staff and visitors.

Sarah collects data using computer programmes on the temperatures and humidity levels in the museum and makes changes to heating in response. The ship doesn't like being too hot or too cold, too wet or too dry - it's a balancing act!

Sarah is also finding ways for the museum to reduce energy use and to be more sustainable - for example investigating the possibility of solar panels on the roof.

As well as understanding science and ICT, it's quite an active physical job. At the Mary Rose she uses a special crane to check the hull of the ship as the wood is too fragile to walk on.



In her previous job she created scaffolding towers to climb up and reach high objects.

Over to you!

Do you think sustainability is important?
What can we do at home to save energy?

STEM Heroes: Alexander McKee (1918-1992)

Alexander was a military historian and journalist. He was a very determined person; he learned to fly and went solo at the age of fifteen!

He wrote several books and created Project Solent Ships to look for the wreck of the Mary Rose, Henry VIII's warship, that sank in the Solent in 1545.

Alexander and a team of volunteers started looking for the wreck in 1965. Despite years going by with no discoveries, he continued to follow his dream to find the Mary Rose. When he found the ship in May 1971, Alexander invited Margaret Rule, an experienced archaeologist, to join the team and taught her how to dive on the wreck.



The volunteer divers gave their time freely and had to develop new ways of excavating the site. It was dangerous and uncomfortable as the water was cold and they couldn't see far. They had little money or equipment so Alexander had to be a good problem-solver.

In 1982, after a massive excavation project involving hundreds of divers, the Mary Rose was raised. Alexander helped to develop new ways of excavating underwater and without him, the ship would still be left at the bottom of the Solent.

Over to you!

Can you think of a time you have persevered (not given up)?
Have you ever had to be a problem-solver and think of a solution?
Have you ever volunteered to help with a project? Is there something you would like to volunteer for when you are older?

STEM Heroes: Dr Alex Hildred

26

Alex is an Archaeologist.

She joined a scuba diving club when she was studying prehistory and archaeology at Sheffield University. When she heard that the Mary Rose had been discovered she volunteered to help excavate the ship and artefacts. She later got a job. She still dives on the wreck site now to make sure all is well.

Alex is Curator of Ordnance (Weaponry) & Human Remains. Alex took part in some experimental archaeology (trying to find how people did things in the past) making and firing two replica cannons from the Mary Rose with real gunpowder.



Part of her job is to look after and research the skeletons of the crew that were found with the Mary Rose. Recently, she worked with Dr Onyeka Nubia to find out where the crew were from. They chose eight skeletons to study and found one from Spain, one from Italy and another from Africa. Tudor Portsmouth was a lot more diverse than you might have thought!

Over to you!

If you could do some 'Experimental Archaeology' what would you like to find out? What can we tell from looking at skeletons? How do you think these bones should be treated? Do you have a hobby that could lead to a job? If you have a career idea, what could you volunteer for to help you get there?

STEM Heroes: Christopher Dobbs

Christopher is an Underwater Archaeologist.

He joined the Mary Rose team in 1979 and was in charge of excavating the contents of the wreck. He found the skeleton belonging to the ship's dog, who we call 'Hatch', in the Carpenter's Cabin.

Christopher then joined the Salvage Diving Team and made sure that every item they discovered was recorded properly.

He was still under water when the Mary Rose was raised in October 1982, making sure nothing went wrong.

Now Christopher is one of the Curators, researching and writing about the Mary Rose. He has travelled all over the world talking about the project and advising people about other shipwrecks.



Christopher worked closely with the architects of our current museum to help design the layout you see today. He wanted everyone to imagine what life was like onboard this amazing ship and make it a great experience for as many people as possible.

Over to you!

If you could design a museum what would you put in it? What do you think it was like to be underwater when the ship was raised? Why do you think is important to save historic objects/places?

Talk like a Tudor!

What to do:

Write your name in Tudor script

- Italic pens are good if you have them, if not felt tips are fine.
- Tudors used quills, made from feathers, why not make your own quill? You can use a feather, carefully sharpened by an adult, or even a sharp stick. If you don't have ink, you can water down poster paint.
- Try using the Tudor alphabet. Do any of the letters look the same? Which ones are the strangest?

Design your own sailor's mark

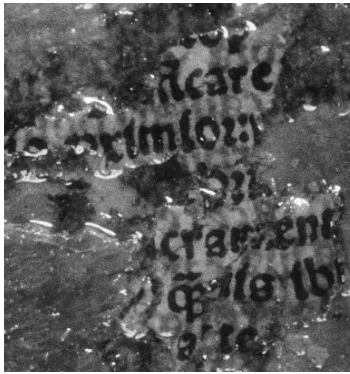
- Most of the crew couldn't read or write—it cost a lot of money to go to school! Instead they would have a special mark that meant their name, and we find these marks on things like tankards.
- Create a symbol which represents you, it can be as complicated or colourful as you like, but you need to be able to remember it.

Role play Tudor-style!

- Try talking like a Tudor—which words do we not use any more? Come up with your own script and put on a show for your unit.
- Try some Tudor dancing! We have given you the steps but it's up to you to find some music. You can look online for some Tudor tunes or make music yourself!
- Once you have mastered this dance, create your own and teach it to someone. Can you dance together?

Reading and writing on board the Mary Rose

28



Nine books were found on the Mary Rose. You can still see the leather covers. When they were found some still had pages inside, but they quickly rotted away once they were out of the water.

A horn inkwell and quill (feather) pens would have been used by some of the officers on board the ship.

Admiral Howard wrote a letter to king Henry VIII about the Mary Rose:

"Your good ship, the flower of all ships that ever sailed...is the noblest ship of sail that I know to be in Christendom."

There were over 500 men on board the Mary Rose. Not all of the crew could read and write. In the Tudor period only the rich could afford to go to school.

Sometimes we can tell if a person could read or not by looking at their belongings.



This signet ring probably belonged to an officer. It is marked with the letter K.

What could it stand for?

Some crew members carved their names on their personal possessions. "Ny Coep cook" has been scratched into a bowl and a tankard.

Can you guess what his job was?

Men who couldn't read or write still made their mark. Lots of objects have personal symbols scratched into them to show who they belonged to.

Imagine you're on board the Mary Rose. Can you design a symbol to use on your things?

Or can you write like a Tudor?

Look at the Tudor alphabet and compare it to the modern alphabet. Are any letters the same? Which ones are completely different?

Try writing your name in Tudor letters.

How easy is it? Is it difficult to read?

a	α	n	η
b	B	o	o
c	r	p	p
d	d	q	q
e	e	r	ε
f	f	s	ρ
g	g	t	f
h	b	u	u
i	i	v	v
j	j	w	w
k	k	x	x
l	l	y	y
m	m	z	z

Talking Tudor

Read the conversation and try to work out what is being said. Write your answers in modern English below.

Sometimes you have to choose which sentence to use.

Captain: What o'clock ist?

Navigator: Why tis but nearly eight bells my good Captain

Captain: Prithee set the swiftest course to Portsmouth for I must see the King.

Navigator—*pick one of the following*:

- A) There is a storm abrewing sir, we must take care lest the ship be torn asunder.
 - B) Yea verily I will carry out thine orders at once.
 - C) Alack, my compass worketh not, we are lost, God hast forsaken us.
-

Captain—*pick the best response*:

- A) What fooling is this, do thou not knowest how to sail by the stars.
 - B) Fie, for shame, bridle thy cowardly tongue, make haste for Portsmouth.
 - C) If we sight Southsea Castle ere nightfall, I will give thee a gold sovereign.
-

Navigator: By the mass, good sir, I shall see to it at once, God speed

Captain: Tarry not, get thee hence.

Glossary

asunder - apart
by the mass - an oath
eight bells - the end of a watch
ere - before
forsaken - abandoned
fooling - misbehaving
prithee - please
tarry - wait
verily - truly

Talking Tudor

Read the conversation and try to work out what is being said. Write your answers in modern English below.

Sometimes you have to choose which sentence to use.
Why not role play the scene? Will you use the Tudor speech or modern English?

Gunner: Good day to thee, Master Surgeon

Barber Surgeon: What ails thee?

Gunner—*pick one of the following*:

- A) Pray, hast thou a remedie to rid me of this foul and wretched back-ache?
 - B) I burned mine arm with gonnepowdere.
 - C) Yesternight I quaffed too much ale and now my pate troubles me.
-

Barber Surgeon—*pick the best response*:

- A) Let me look within this chest, wherein I have all manner of ointments.
 - B) Go to, thou should drink less, yet take this herb.
 - C) Be of good cheer, whilst I prepare a bandage.
-

Gunner: I thank you good sir, thou knowest in what way I may be healed.

Barber-Surgeon: Be gone, for I have much work to do.

Gunner: Fare ye well.

Glossary

ail—hurt, painful
gonnepowdere—gunpowder
pate - head
quaff – drink
remedie—remedy
yesternight—last night

Tudor Dancing

Dancing was very popular in Tudor times. There would be lots of new and exciting music in King Henry VIII's court with matching dance moves.

Below is a dance that Henry VIII might have seen. Dancers would be in pairs and would bow or curtsy at the beginning and end of each dance.

See if you can follow the instructions in groups.

This is called the Horse Dance—because you 'neigh' and tap the ground with your foot like a horse!

Face your partner:

Men - elaborate bow

Women - elaborate curtsy

Men - one step forward, one step back, spin around

Women - one step forward, one step back, spin around

Men - 1 step left, 1 step right, tap the ground, 'neigh'

Women - 1 step left, 1 step right, tap the ground, 'neigh'

Men - one step forward, one step back, jump 1 time

Women - one step forward, one step back, jump 1 time

Men - two steps left, two steps right, tap the ground, 'neigh'

Women - two steps left, two steps right, tap the ground, 'neigh'

Men - one step forward, one step back, jump 2 times

Women - one step forward, one step back, jump 2 times

Men - three steps left, three steps right, tap the ground, 'neigh'

Women - three steps left, three steps right, tap the ground, 'neigh'

Men - one step forward, one step back, jump 3 times

Women - one step forward, one step back, jump 3 times

Bow / Curtsey

Music was very important on the Mary Rose.

Archaeologists found the remains of lots of musical instruments. This Tudor fiddle was a bit like a violin.

Can you see which parts are missing?

What do you think it sounded like?



What sort of music do you need for dancing? Can you find any Tudor music online?

There are some good demonstrations on YouTube!

Does it work with modern music?

Invent some Tudor dance moves of your own, and teach them to the rest of the group!

Mary Rose in numbers:

Built: 1509

4 decks

4 masts

Weight: 400 tons

Length: 45 metres

Crew: 200 sailors, 185 soldiers and 30 gunners

34 years in service

Sank: 19th July 1545

Raised: 11th October 1982

New Museum opened: 2013

Discover more about our collection and the latest news and events on our website...

maryrose.org



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We would love to see your photos!

VISIT US

Why not visit us in Portsmouth Historic Dockyard?

CONTACT US

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