Doctor

STAGE 2 SUGGESTED CLASSROOM ACTIVITIES

Science

ST2-4WS - Investigates their questions and predictions by analysing collected data, suggesting explanations for their findings, and communicating and reflecting on the processes undertaken

Student Activity:
Students watch a clip online about the
skeletal [http://www.youtube.com/watch?v=fPBDrgG0vvs](http://www.youtube.com/watch?v=fPBDrgG0vvs)
circulatory [http://kidshealth.org/kid/htbw/CSmovie.html#cat20580](http://kidshealth.org/kid/htbw/CSmovie.html#cat20580)
nervous [http://www.youtube.com/watch?v=dah-4mtAnsQ](http://www.youtube.com/watch?v=dah-4mtAnsQ)
and respiratory systems [http://www.youtube.com/watch?v=RPdGQ-A_yM4](http://www.youtube.com/watch?v=RPdGQ-A_yM4)
Discuss what they noticed about each of the systems. Why would this be essential information for a doctor to know? If you were a doctor which ‘system’ would you most interest you? Divide the class into four groups in order for them to study each ‘system’ further.

- What makes up the system?
- How does the system work?
- How can people look after that system better? (exercise helps your respiratory system)
- Is there anything people do to ruin their system or make it sick? (smoking, pollution makes the respiratory system sick)

Each group presents their findings to the class.

ST2-16P - Describes how products are designed and produced, and the ways people use them

Student Activity:
Brainstorm and then draw your own Da Vinci robot to perform an operation you think would be difficult. Maybe it could remove teeth from toddlers or replace brains in brain surgery. Think about the potential jobs a robot could do in your home? Cleaning, feeding, dressing you in the morning? Use your imagination to create the most useful robot in the world!
Personal Development Health and Physical Education

DMS2.2 - Makes decisions as an individual and as a group member

**Student Activity:**
Teacher plays hangman with students. Place 8 lines on the board for missing letters. Tell students the word in this game of hangman is an important word to every doctor. Ask students to guess letters one by one. As they get a letter correct put it in its correct place, if they get a letter wrong draw part of the hangman. Discuss with students the following questions;

- Are doctors the only people who use teamwork?
- Who else uses teamwork?
- Do students and teachers use teamwork?
- What is important when doing teamwork?

1. Students should divide into groups of 3 or 4. (The teacher can put students into groups or the students can make their own groups). Each group should be given a deck of cards. Students are given 10 minutes to design and create the highest card tower. The highest tower wins (make this a simple reward like a sticker or table points).

2. Students work together as a whole class for this activity. All students should stand on a small tarpaulin. As a team they have to flip the tarpaulin over to the opposite side without anyone stepping on the ground.

3. Students work together as a whole class to play balloon juggle and sort. Students who can blow up balloons help blow up 30 balloons. All students stand in a designated area. Teacher explains the rules and the aim. No balloon can touch the ground, no balloon can be held, they have to be kept in the air by hitting them up. If students can keep all balloons in the air for 2 minutes, go to the next level. Students must sort the balloons into colours and have all the balloons of one colour together but still keeping them up in the air. If they achieve this within two minutes they have won. (Make it tougher and don’t allow speaking.)

What did we learn about teamwork? How can we improve teamwork in the classroom? How would doctors improve teamwork in surgeries and in hospital? Who would be the other team members that doctors depend on?

SLS2-13 - Discusses how safe practices promote personal wellbeing

**Student Activity:**
Play the three games on this website: [http://www.sensoryworld.org/kitchen_hygiene.html](http://www.sensoryworld.org/kitchen_hygiene.html). They will teach you about safe practices to promote your personal well being.

Creative Arts

VAS2.4 - Identifies connections between subject matter in artworks and what they refer to, and appreciates the use of particular techniques

**Student Activity:**
Research the human skeleton and draw a model of the skeletal bones. Label your diagram and present the information to your family or the class. Use this model as a basis to create an amazing piece of art work. Choose your technique and materials and get started!
Human Society and Its Environment

CUS2.4 - Describes different viewpoints, ways of living, languages and belief systems in a variety of communities

Student Activity:
Indigenous Australians are less likely to engage in physical activity. Lack of regular exercise increases the risk of health conditions such as obesity, diabetes and heart disease for Aboriginal people. Research the role of doctors in Indigenous communities and present your findings in any way that you like. Be creative!
Complete this table. It is an ‘historical timeline’ of medicine. You will need to research approximate dates to complete this table.

<table>
<thead>
<tr>
<th>Year</th>
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<tbody>
<tr>
<td>500BC</td>
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<tr>
<td>910</td>
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<td>1590</td>
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<td>1701</td>
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<td>1922</td>
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<td>1927</td>
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<tr>
<td>1937</td>
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<tr>
<td>1950</td>
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<tr>
<td>1964</td>
</tr>
<tr>
<td>1983</td>
</tr>
<tr>
<td>2006</td>
</tr>
</tbody>
</table>

How has technology impacted on surgery in the past 100 years?

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What is the ‘skeletal’ system?

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- [ ]
- [ ]

What is the ‘circulatory’ system?

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- [ ]
- [ ]
- [ ]
- [ ]
- [ ]

What is the ‘nervous’ system?

- [ ]
## Doctor

### STAGE 3 SUGGESTED CLASSROOM ACTIVITIES

<table>
<thead>
<tr>
<th>Personal Development Health and Physical Education</th>
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<tbody>
<tr>
<td><strong>INS3-3</strong> - Acts in ways that enhance the contribution of self and others in a range of cooperative situations</td>
</tr>
</tbody>
</table>

**Student Activity:**

Doctors work as part of a larger medical team. Each team member has a role and responsibility within the team. It is important that all members of a team work co-operatively. Here is a game to teach students how to work as a team, co-operatively:

Students are grouped so that there is an even number in each team of about 6 – 9 members. The object of the game is to get your team from point A to point B (about 20 metres) Rules:

1. All of the players in the group must stay connected.
2. The group may only move on a certain amount of body parts. To start the game, allow the students a number of body parts equal to their group number. 7 members may use 7 body parts. They will solve this quickly, usually by holding hands and hoping on 1 foot. This is fine as it is an early success and it will show you that they get the idea. After each success, the team must now attempt the challenge with 1 less body part. The object of the game is to move your team from A to B on the fewest number of body parts. To give you an idea of body part count, 1 person walking is 2 body parts, 1 person crawling is 4 body parts, etc.

<table>
<thead>
<tr>
<th>SLS3.13 - Describes safe practices that are appropriate to a range of situations and environments</th>
</tr>
</thead>
</table>

**Student Activity:**

Imagine you are a doctor performing surgery on a fractured arm. Discuss the important considerations. Go to this website to perform the surgery: [http://www.agame.com/game/arm-surgery-2](http://www.agame.com/game/arm-surgery-2). Make a written list of any safe practices that you were aware of during your surgery.

<table>
<thead>
<tr>
<th>Creative Arts</th>
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<tbody>
<tr>
<td><strong>VAS3-4</strong> - Communicates about the ways in which subject matter is represented in artworks</td>
</tr>
</tbody>
</table>

**Student Activity:**

Look up and print some images of ‘cataract surgery’. Use this as your inspiration to create a piece of art work, using any technique you wish. When all students have completed their art work, the masterpieces should be swapped around and handed out. Each student should then write a brief report on how the subject matter (cataract surgery) has been represented. Share art work and reports with the class.

*Mapped to Australian Curriculum and NSW BOSTEC standards as at March 2014*
## Science

**ST3-4WS** - Investigates by posing questions, including testable questions, making predictions and gathering data to draw evidence-based conclusions and develop explanations

**Student Activity:**

Ask your students what they think the ‘Top Five Childhood Surgeries’ would be. Get them to document their answers. Now ask them to write one specific question about each of their ‘top five’. As the teacher, you will need to research the ‘top five’. Write these ‘top five’ on the board in random order and ask students to predict which order they would be in. Again, get them to document this. Once they know the ‘Top Five Childhood Surgeries’ get them to find the answer to each of their questions about their initial ‘top five’. Finally, see if they can research and find evidence of each surgery you listed on the board. Get them to briefly document this evidence as well.

**ST3-16P** - Describes systems used to produce or manufacture products, and the social and environmental influences on product design

**Student Activity:**

Students should research what tools a doctor requires to perform general surgery duties. For each tool, students should include a name, a picture, a description and an example of which surgery it may be used for.

**STS-10LW** - Describes how structural features and other adaptations of living things help them to survive in their environment

**Student Activity:**

Research the human skeleton and draw a model of the skeletal bones. Label your diagram. Do the same for an animal of your choice. What skeletal features, do you think, assist humans and your chosen animal, adapt and survive in its environment? Write a report about this environmental adaptation.
What is the ‘skeletal system’?

Scientific names of bones:

<table>
<thead>
<tr>
<th>Clavicle</th>
<th>Phalanges</th>
<th>Tibia</th>
<th>Vertebra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tarsals</td>
<td>Sternum</td>
<td>Mandible</td>
<td>Patella</td>
</tr>
<tr>
<td>Cranium</td>
<td>Femur</td>
<td>Humerus</td>
<td>Pelvis</td>
</tr>
</tbody>
</table>

Use these names of bones to label the skeleton below:

Pick five scientific names of bones and find out their common name:

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
Cranium
Mandible
Clavicle
Humerus
Ribs
Pelvis
Phalanges
Femur
Patella
Tibia
Tarsals
Phalanges
Certificate of Achievement

Congratulations

.................................................................
on completing your studies of
DOCTORS
From
“Enquiring Minds”.
You are well on your way to becoming an
PROFESSOR OF SURGERY

Signed_________________________ Dated_________________________
Doctor

STAGE 4 & 5 SUGGESTED CLASSROOM ACTIVITIES

Design and Technology

5.2.1 - Applies and justifies an appropriate process of design when developing design ideas and solutions
5.2.2 - Designs, produces and evaluates appropriate solutions to a range of challenging problems
5.2.3 - Critically analyses decision-making processes in a range of information and software solutions.

Student Activity:
Students to complete an investigation and report on an innovation in robotics - robotics used in medicine.

Resources:
These sites contain outlines on how robots are being used in medicine. Students could also look at the site for Macquarie University Hospital which details their extensive use of robotics within the hospital.
http://science.howstuffworks.com/robot.htm
The link below takes you to a unit on report writing. Parts of it should be useful if students need revision on the structure of a report http://dera.ioe.ac.uk/4825/2/nls_y6t1exunits075202report.pdf

Science

SC4-15LW - Explains how new biological evidence changes people’s understanding of the world
SC5-15LW - Explains how biological understanding has advanced through scientific discoveries, technological developments and the needs of society

Student Activity:
Ask students to write an account of how robots are being used in medicine. In their writing they should describe how building and using the robot requires people from many scientific backgrounds to work as a team to make the robot work as it is required.
http://science.howstuffworks.com/robot.htm

English

EN4-1A - Responds to and composes texts for understanding, interpretation, critical analysis, imaginative expression and pleasure
EN5-1A - Responds to and composes increasingly sophisticated and sustained texts for understanding, interpretation, critical analysis, imaginative expression and pleasure

Student Activity:
Have a class discussion on what students know about robots. Provide them with a graphic organiser to compile their ideas. Ask them to use the ideas on their graphic organiser to write a creative writing piece where a robot is pivotal to the piece.
Links to graphic organisers just go to Google Images and search for “graphic organizers for writing narratives” and you’ll even see an organiser shaped like a robot.

Mapped to Australian Curriculum and NSW BOSTEC standards as at March 2014