

Heart Lesson Plan

Resources Provided

- "Introducing the Heart" video can be viewed using the following link: <https://youtu.be/Mb4EL93zvfk>
- Heart PowerPoint Presentation
- Heart Rate Lesson Plan
- Heart Rate Logic Puzzle
- Extra video: "How To Fix A Broken Heart"-A 9 minute animation created by CÚRAM Artist in Residence, Siobhan McGibbon, illustrating how the heart works, problems that can occur and treatments being developed by CÚRAM using biomaterials. The animation can be viewed using the following link: <https://www.youtube.com/watch?v=4owpAvYFX8c>.

Keywords and Definitions

	Keyword	Definition
1.	Blood Vessel	A tube shaped structure that carries blood to all of the parts of the body.
2.	Artery	Blood vessels that carry blood with oxygen away from the heart.
3.	Vein	Blood vessels that carry blood without oxygen to the heart.

4.	Pulse	The blood stopping and starting as it moves through the arteries.
5.	Coronary	Relating to the heart and especially to the vessels that supply blood to the heart.
6.	Biomedical Engineering	The combination of engineering and medicine to help improve people's health.
7.	Medical Device	Any material, apparatus, software or other article that is used to: Diagnose, prevent, monitor or treat a disease or injury; Investigate, replace or modify a part or process of the body.
8.	Biomaterials	Material that can be engineered to help the body to heal itself.
9.	Chamber	The four different parts of the heart where blood enters and exits.
10.	Right Atrium	The chamber at the top right side of the heart where blood without oxygen enters.
11.	Right Ventricle	The chamber at the bottom right side of the heart where blood without oxygen exits.
12.	Left Atrium	The chamber at the top left side of the heart where blood with oxygen enters.
13.	Left Ventricle	The chamber at the bottom left side of the heart where blood with oxygen exits.

Extra Info / Files

	Web Address	Brief Description
1.	www.youtube.com/watch?v=_eVG45_iF9U	"How Your Heart Works"
2.	www.youtube.com/watch?v=huzs3Q4-CGc	"How Does the Heart Work?"
3.	kidshealth.org/en/kids/the-heart/heart-activities/?WT.ac=en-k-heart-center-h	Heart activities for kids

Materials Needed

- A partner to play the game with
- Large sheet of paper approximately 160cm in height x 160cm in width. **Note:** Alternatively, smaller sheets of paper can be taped together, the back of a Twister game, or a white bed sheet can be used.
- Pencil
- Rubber (in case of mistakes)
- Ruler or tape measure
- Red, blue, green, yellow and black markers
- Scissors
- Tape
- Materials to fix the heart attack. Some ideas are first aid gauze, cling film, aluminium foil, white or blue tack or sponges.
- Twister spinner or online Twister spinner (can be viewed using the following link: <https://wheeldecide.com/wheels/board-games/twister-spinner/>).

Instructions

- For Activity 1 (Heart Twister):
 - Using the diagram on slide 16 in the PowerPoint presentation as a guide, draw a heart with a pencil on the large sheet of paper that is 120cm in width and 120cm in height. **Note:** The size of the heart can be adjusted depending on your age and size.
 - Using the black marker, trace the line you drew with a pencil to make it darker.
 - Using the diagram on slide 17 in the PowerPoint presentation as a guide, divide the heart with red and blue markers into four sections. Use blue lines on the right side because the blood does not have oxygen, and red lines on the left side because the blood has oxygen.
 - Using the diagram on slide 18 in the PowerPoint presentation as a guide, label the four chambers of the heart with blue (right atrium), yellow (right ventricle), green (left atrium), and red (left ventricle) markers.
 - Have your partner spin the Twister spinner.
 - Place your hand or foot on the chamber of the heart determined by the spinner.
 - Have your partner keep spinning until you fall, or until time runs out. (Example: Two minutes)
 - Repeat with the game with your partner playing the game and you spinning the Twister spinner.

- For Activity 2 (Fix a Heart Attack):
 - Draw damage on the left ventricle with the black marker.
 - Using the materials available around the house, fix the damage to the left ventricle caused by a heart attack.
 - Possible materials include first aid gauze, cling film, aluminium foil, white or blue tack, or sponges. **Note:** The materials should: 1) Feel the same as the heart, 2) Stretch with the beats of the heart, and 3) Be easy for the surgeon to use.