

# Sfida STEM

Category 1 : Year 1 & 2

## Rescue me!



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## Instructions:

- Rescue the frozen plastic toy.
- You have to defrost the toy in the shortest time possible.
- Use the suggested materials or similar only!
- Electric/gas ovens & microwave ovens are not to be used!

## Suggested materials:

(Other similar materials may be used)

- Ice cube tray
- Baking soda
- Vinegar
- Water
- Salt
- Large container
- Towels/paper towels
- Stopwatch
- Hands

## Top tips:

- Freeze the plastic toy overnight.
- If using the baking soda and water make sure to mix well before pouring the mixture in the ice cube tray!
- Measure the time taken for the toy to defrost.
- Conduct research and gather ideas!



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Category 2 : Year 3 & 4

## Keeping Frosty the Snowman frozen



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## Instructions:

- Freeze water inside plastic bottles or plastic containers and use them as model Snowmen. \*
- Devise a way to keep the Snowman frozen for a few hours.
- You may decorate the Snowman using any materials.

\* Do not fill the container up to the top

## Suggested materials:

(Other materials may be used)

- Water
- Plastic bottles (small water bottles)
- Materials for decoration
- A large flat container
- An old glove / sock
- Tea cosy / kitchen towel
- Stopwatch / timer

## Top tips:

- Do some research to gather ideas and the best materials used in insulation!
- Will a coat keep the Snowman frozen or will it warm him up?
- Use these links if you want to investigate virtually (download):

<https://drive.google.com/file/d/1Jvv4kY0p3VHFHR9gl7sjGHGN2HVvyVET/view?usp=sharing>

<https://drive.google.com/file/d/1EBR3CMB5tupDDwvt39eKHwRtWJRHrx7p/view?usp=sharing>



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# Sfida STEM

Category 3 : Year 5 & 6

## How do Arctic Animals stay warm in icy water?



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## Instructions:

- Come up with a solution to prevent your hands from getting cold when immersed into a bowl full of ice and water.
- You must be able to keep your body temperature from dropping for at least 5 minutes.

## Suggested materials:

(Other materials may be used)

- Ice cubes
- Water
- Bowl
- Rubber/ latex/ plastic gloves
- Woollen gloves / fabric gloves
- Vaseline/ petroleum jelly
- Lard/ vegetable shortening/ fat
- Thermometer
- Stopwatch

## Top tips:

- Do some background research on Arctic Animals and on how they are protected from the cold weather.
- Put your bare hands in a bowl of freezing ice water. Do you think you can hold your hands in freezing water for a long time?
- Can you emulate the Arctic Animals special features?



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