

GO SCIENCE!

FROM
QUESTION
TO
ANSWER

8+ 2-6 PLAYERS

wasser cluster lutz

INSE

WISSENSCHAFT · FORSCHUNG NIEDERÖSTERREICH

FTI-STRATEGIE NIEDERÖSTERREICH 2021-2027

GESellschaft FÜR FORSCHUNGSPÖRDERUNG

GEFÖRDET IM RAHMEN DER FTI-STRATEGIE NIEDERÖSTERREICH 2027

1 POND LIFE

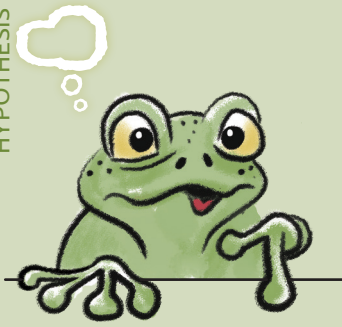
QUESTION ?



Why are there fewer frogs in the pond than last year?

2 POND LIFE

HYPOTHESIS



The water is dirtier and it's harder for frogs to live there.

3 POND LIFE

EXPERIMENT



Test the water quality in the pond and count how many frogs live there.

4 POND LIFE

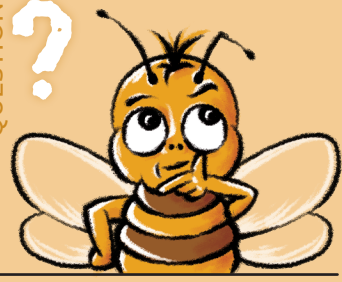
CONCLUSION !



The water is more polluted this year, and frogs need clean water to survive.

BEE POPULATION DECLINE

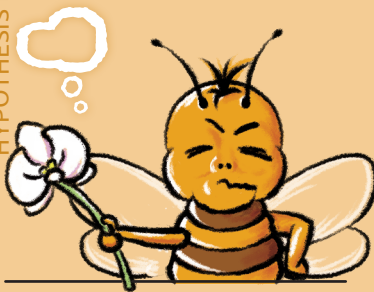
QUESTION ?



Why are there fewer bees in our school garden?

BEE POPULATION DECLINE

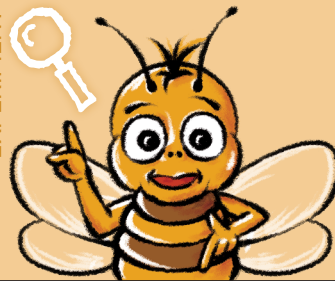
HYPOTHESIS



The bees don't like the flowers we planted.

BEE POPULATION DECLINE

EXPERIMENT



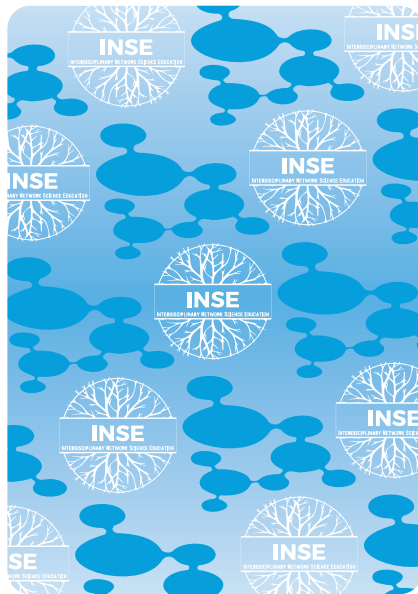
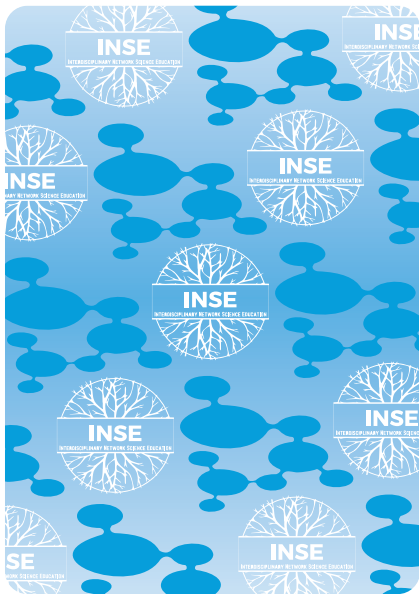
Plant different types of flowers and see which ones attract most bees.

BEE POPULATION DECLINE

CONCLUSION !



Bees like wildflowers best. We should plant more of those to help them.



GAME RULES

GOAL OF THE GAME: Collect complete research quartets! Each quartet consists of 4 cards on one topic: Question – Hypothesis – Experiment – Conclusion

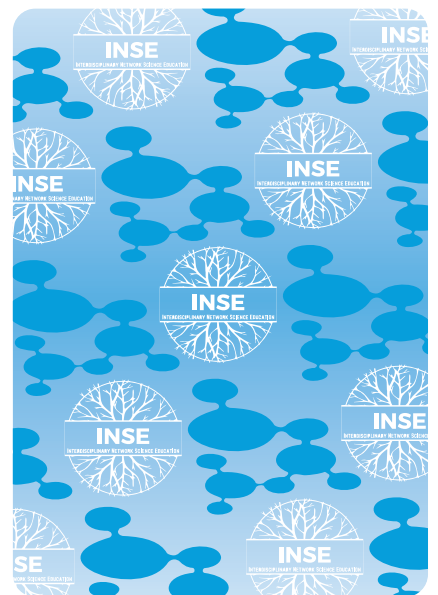
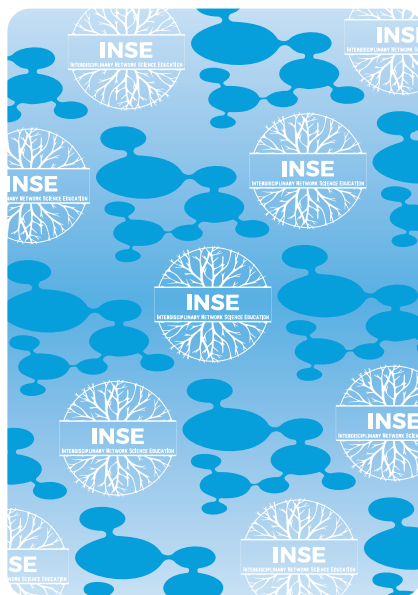
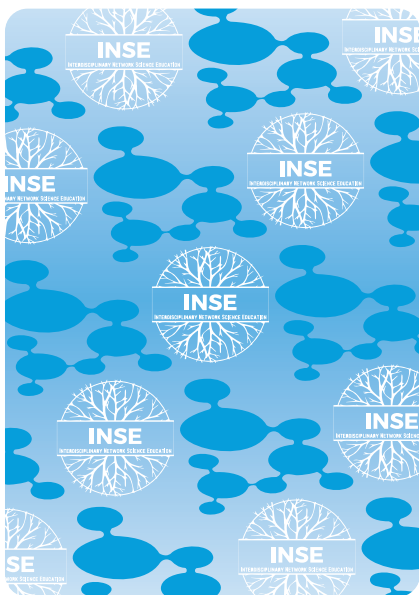
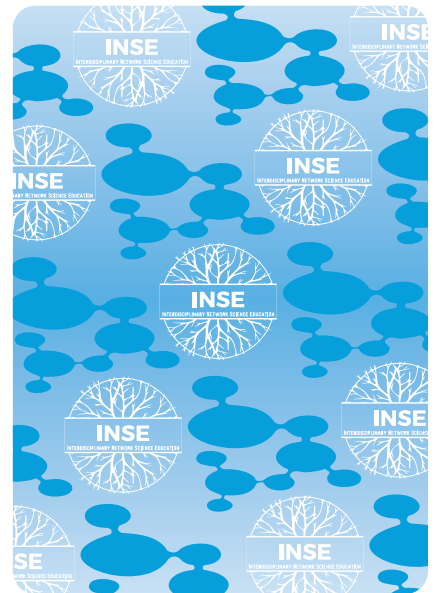
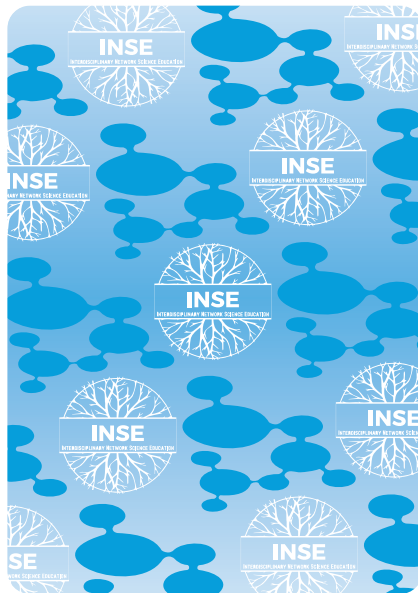
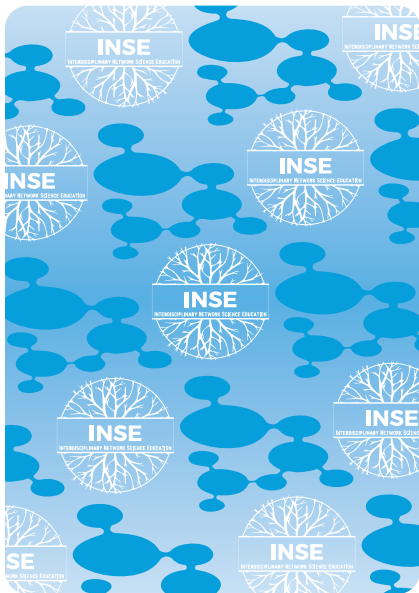
SETUP: Shuffle all cards well. Each player gets 4 cards. Place the remaining cards as a draw pile in the center.

HOW TO PLAY: The youngest player starts. Play continues in a clockwise direction. On your turn, ask another player for a specific card. For example: "Do you have the hypothesis for Pond Life?" You may only ask for cards from quartets of which you already hold at least one card. If the other player has the card, they must give it to you, and you may continue your turn. If the player does not have the card, you must draw one card from the draw pile. Then, it's the other player's turn to ask for a card. Whenever a player collects a complete quartet (Question, Hypothesis, Experiment, Conclusion), they place it face up in front of them.

END OF THE GAME: The game ends when all quartets have been collected. The winner is the player with the most complete quartets.

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GLACIAL MELT

QUESTION



Why are glaciers getting smaller every year?



GLACIAL MELT

HYPOTHESIS

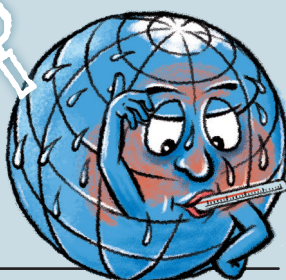


The Earth's temperature is getting warmer.



GLACIAL MELT

EXPERIMENT

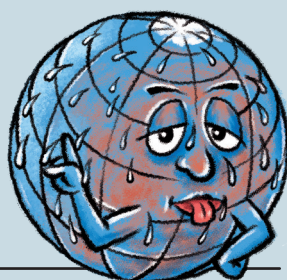


Measure ice melting at different air temperatures using ice cubes.



GLACIAL MELT

CONCLUSION



The warmer it is, the faster the ice melts - like glaciers on Earth.



SODA AND TOOTH HEALTH

QUESTION



Is soda bad for your teeth?



SODA AND TOOTH HEALTH

HYPOTHESIS

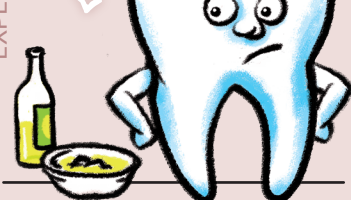


Soda might damage teeth because it's sugary and fizzy.



SODA AND TOOTH HEALTH

EXPERIMENT



Soak eggshells (like tooth enamel) in soda and observe changes.



SODA AND TOOTH HEALTH

CONCLUSION



The eggshells got soft and stained — soda can hurt teeth over time.

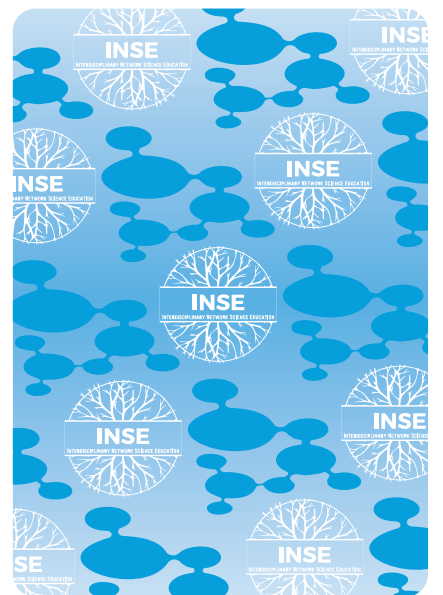
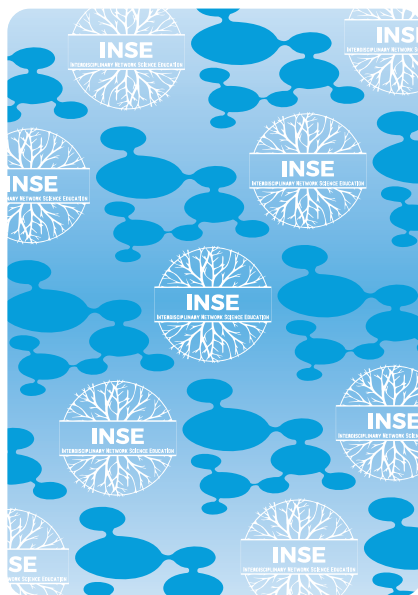
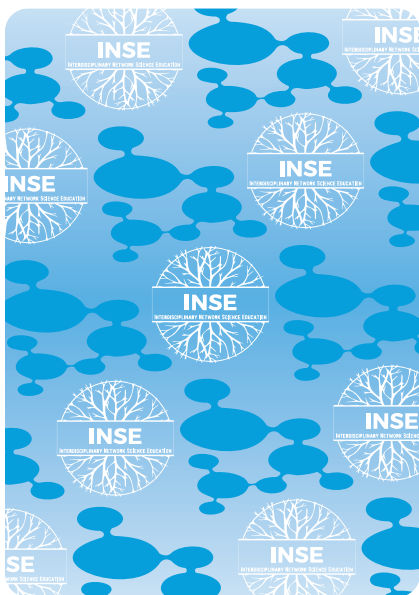
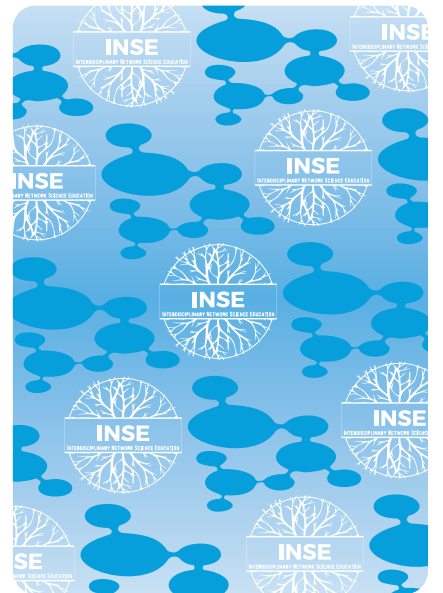
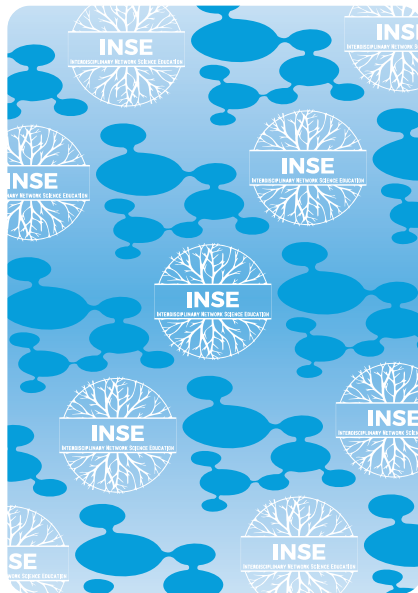
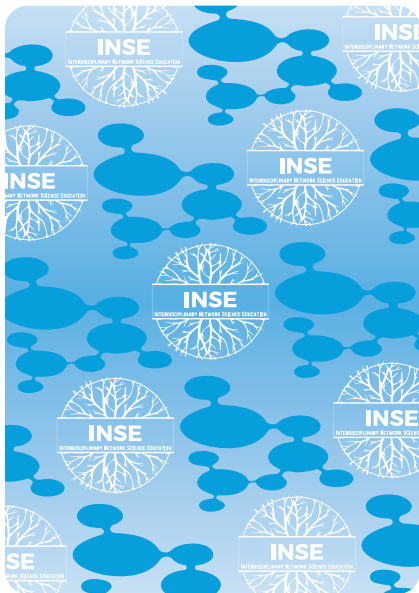
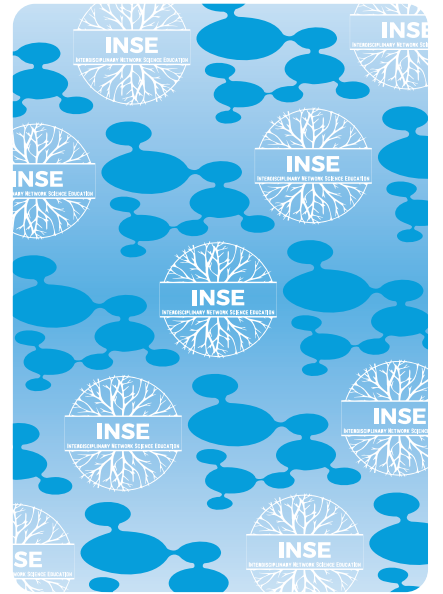
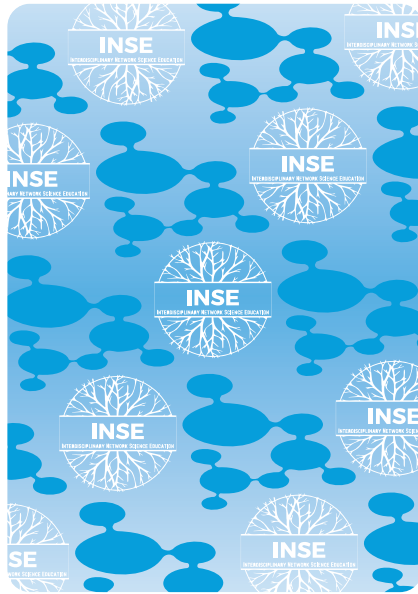
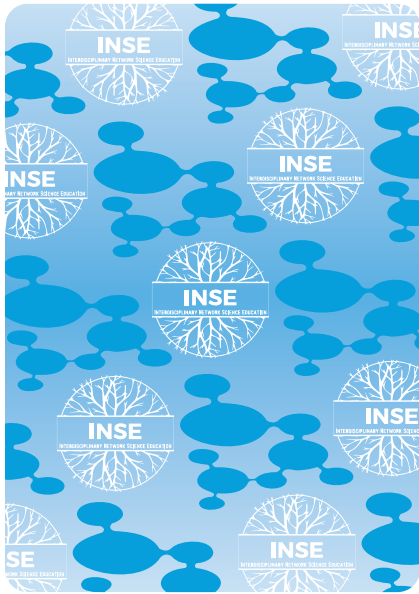


ENERGY USE AT HOME

QUESTION



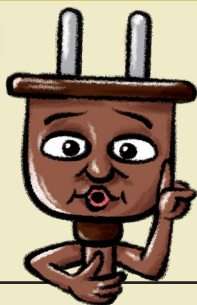
What uses the most electricity in our house?



2

ENERGY USE
AT HOME

HYPOTHESIS



The TV and computer
use the most energy.

3

ENERGY USE
AT HOME

EXPERIMENT

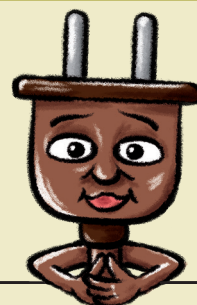


Use a power meter
to help track energy
use of these devices.

4

ENERGY USE
AT HOME

CONCLUSION

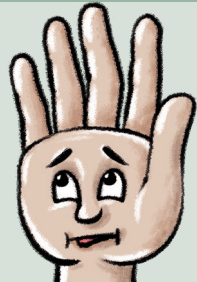


The TV uses
the most energy,
even when turned off
and put on standby —
unplugging helps!

1

HANDHYGIENE

QUESTION

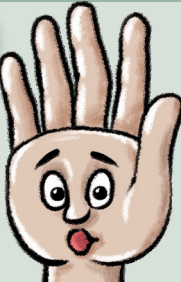


How do germs spread
in a classroom?

2

HANDHYGIENE

HYPOTHESIS

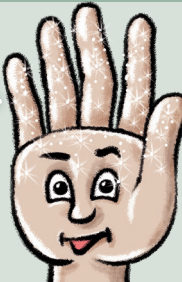


They spread through things
everyone touches.

3

HANDHYGIENE

EXPERIMENT

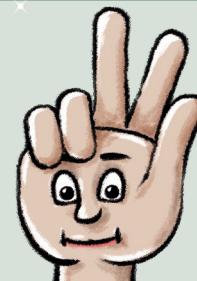


Put glitter on one person's
hand and see how far
it spreads after a few hours
of a normal school day.

4

HANDHYGIENE

CONCLUSION

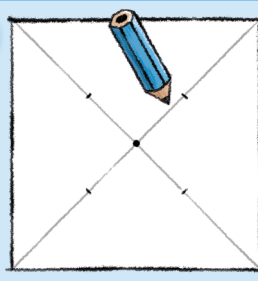


Germs (like glitter!)
spread easily — that's why
washing hands matters.

1

WINDPOWER

QUESTION

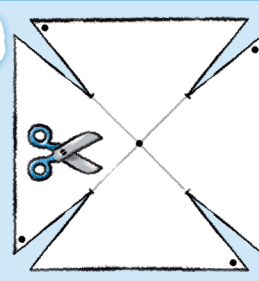


How can we use
wind to create energy?

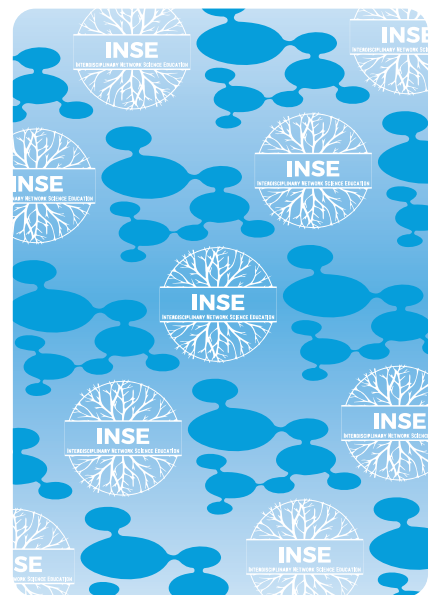
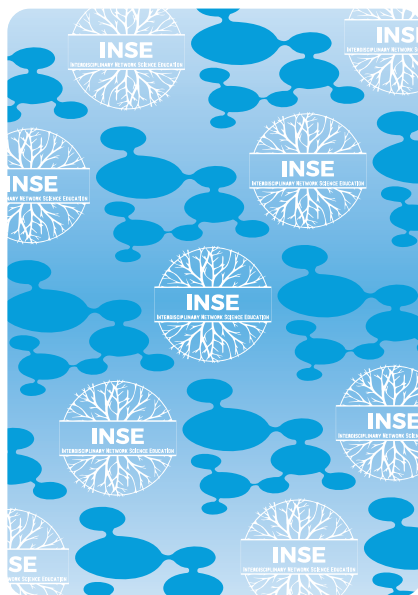
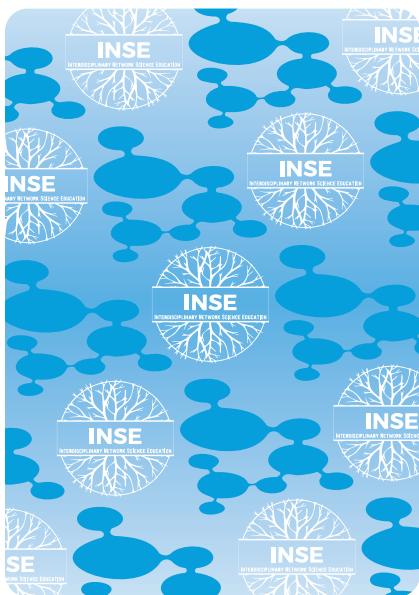
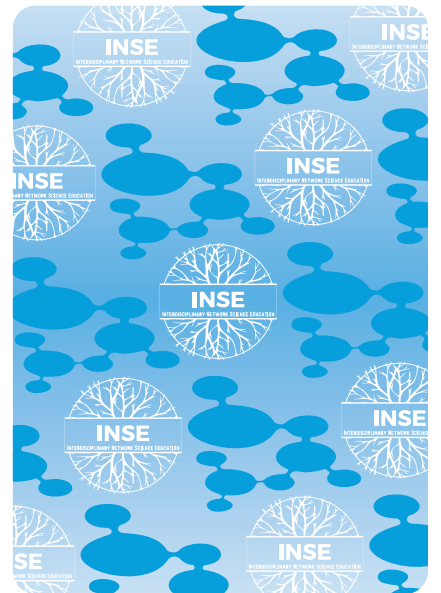
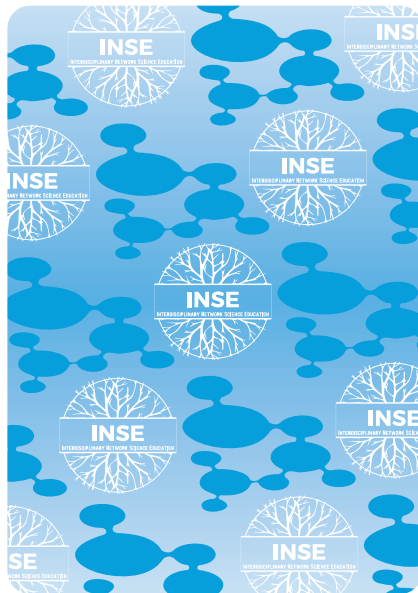
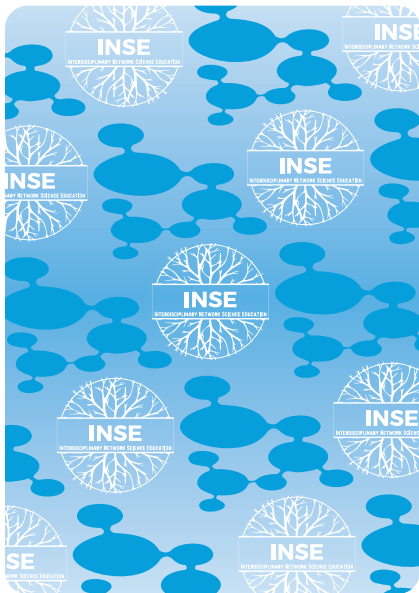
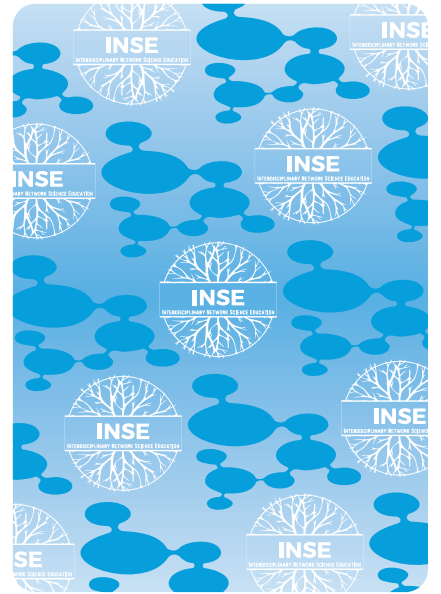
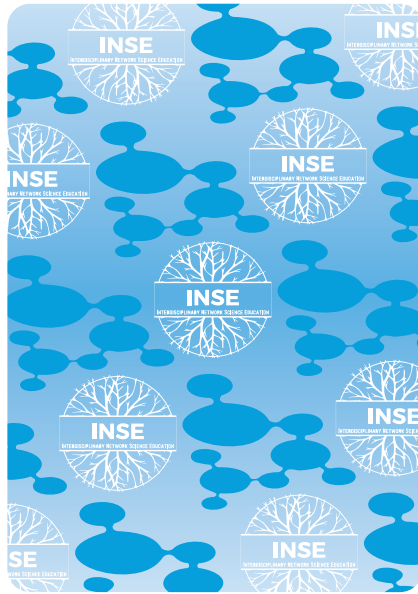
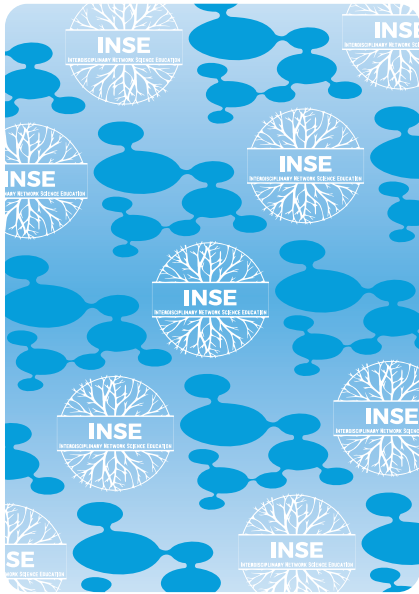
2

WINDPOWER

HYPOTHESIS



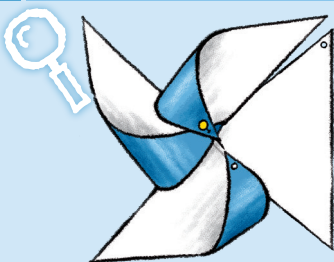
Spinning blades
can turn wind into power,
especially when shaped
properly.





WINDPOWER

EXPERIMENT



Build mini windmills and see which blade shapes spin fastest in front of a fan.



WINDPOWER

CONCLUSION

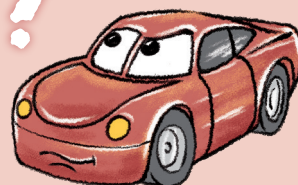


Some blade shapes work better — wind power needs good design!



MOTION AND FRICTION

QUESTION



What makes things slide faster?



MOTION AND FRICTION

HYPOTHESIS



Smooth surfaces make things go faster.



MOTION AND FRICTION

EXPERIMENT

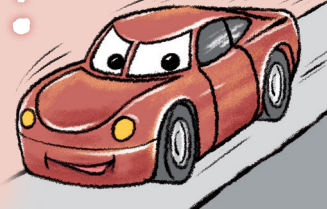


Roll a toy car down ramps made of wood, carpet, and plastic.



MOTION AND FRICTION

CONCLUSION



The smoother the ramp, the faster the car — less friction means more speed.



EMOTIONS AND MUSIC

QUESTION



Can music change how we feel?



EMOTIONS AND MUSIC

HYPOTHESIS



Happy music makes us feel happy, and sad music makes us feel sad.

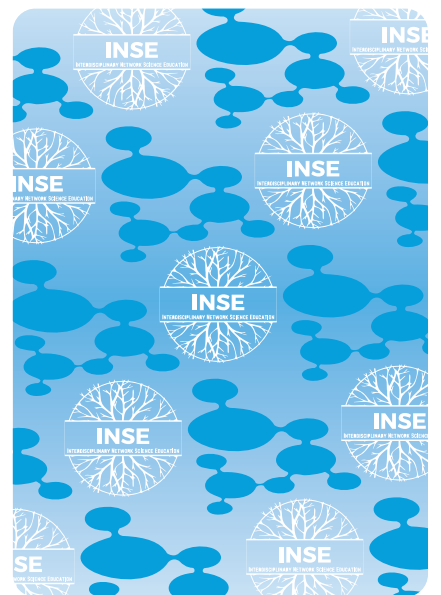
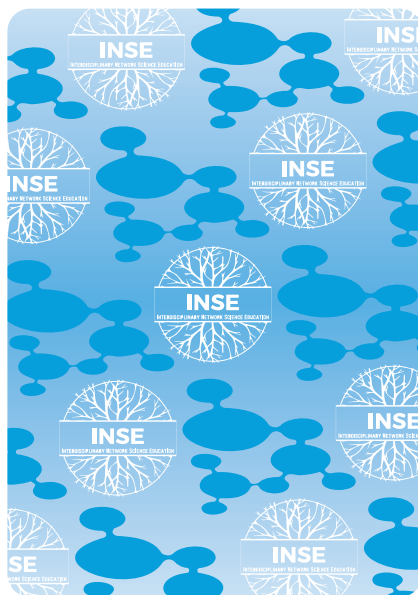
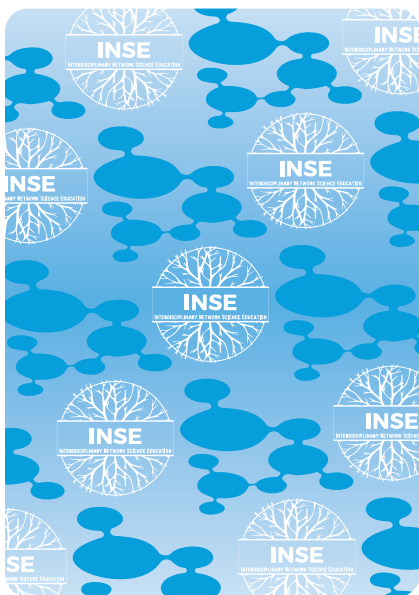
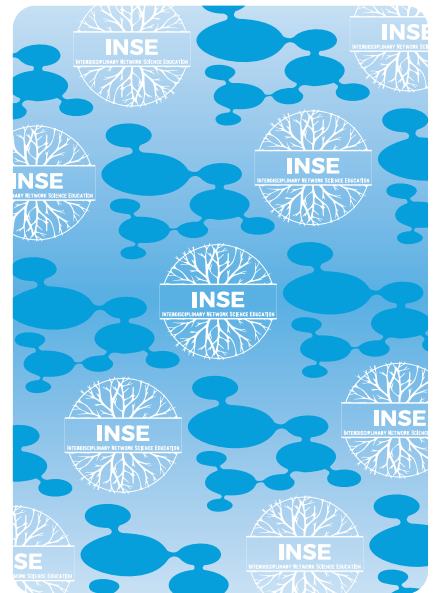
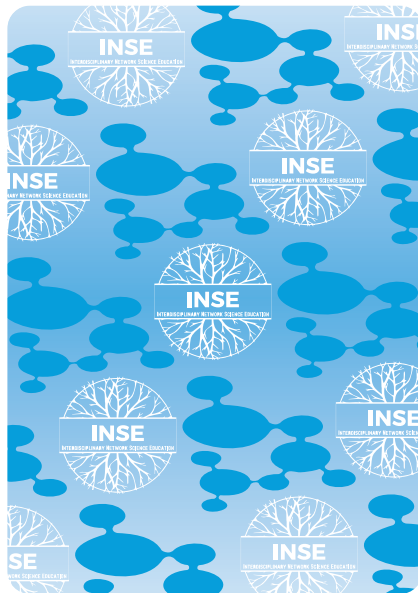
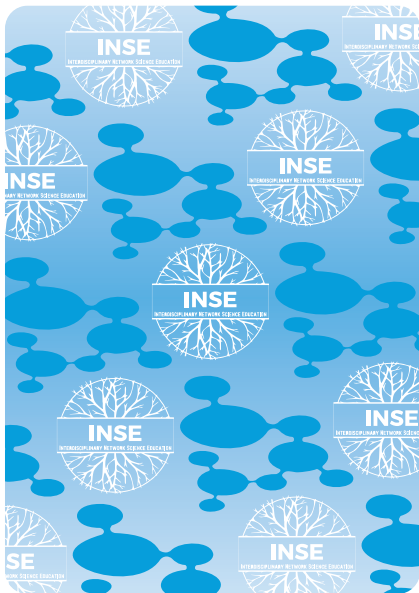
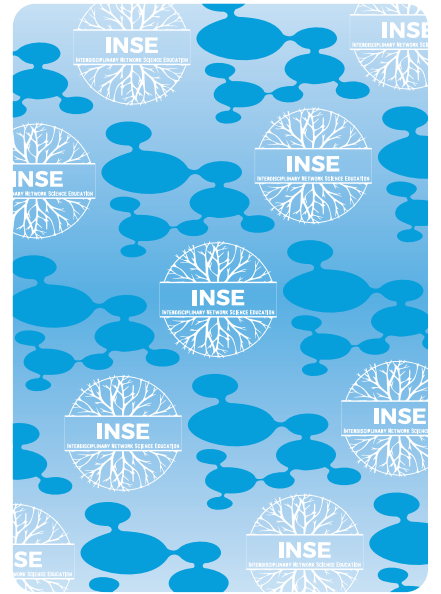
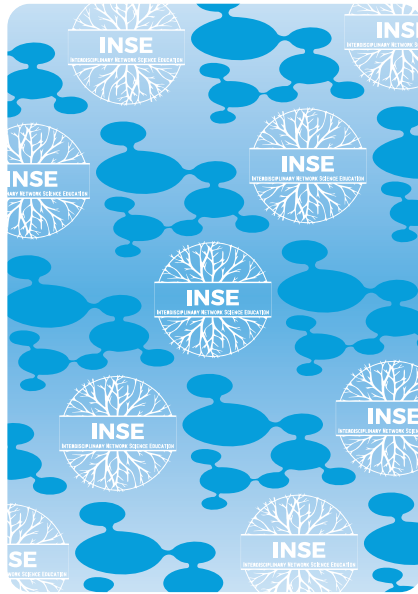
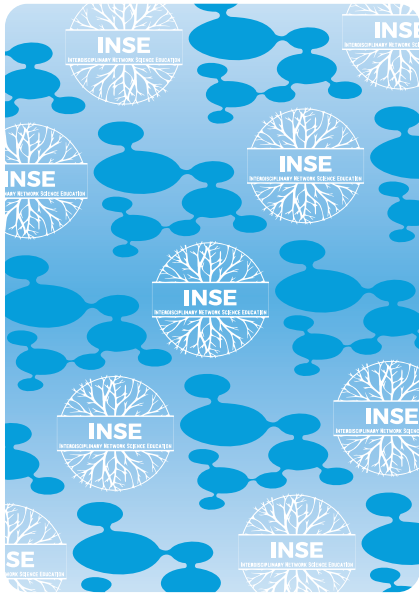


EMOTIONS AND MUSIC

EXPERIMENT



Play different songs and ask friends to describe their feelings.



4 EMOTIONS AND MUSIC

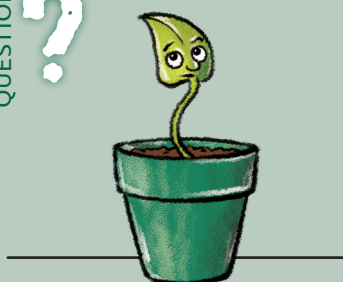
CONCLUSION !



Music really affects emotions — it can cheer us up or calm us down.

1 PLANT GROWTH

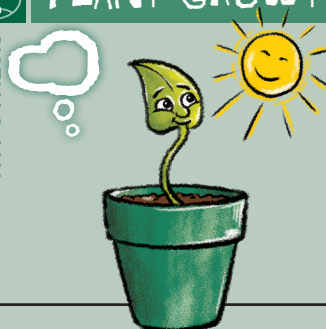
QUESTION ?



What helps plants grow faster?

2 PLANT GROWTH

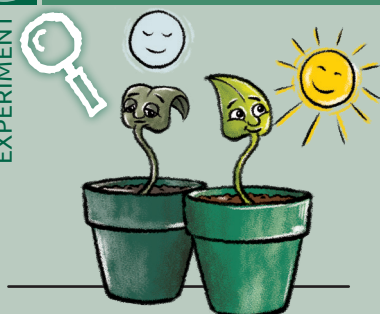
HYPOTHESIS



Plants grow better with more sunlight.

3 PLANT GROWTH

EXPERIMENT



Grow the same plants in sunny, shady, and dark places.

4 PLANT GROWTH

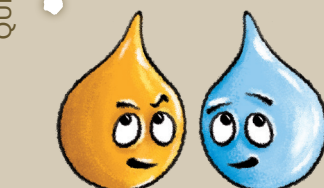
CONCLUSION !



The plants in sunlight grow the best — they need light to grow.

1 DENSITY OF LIQUIDS

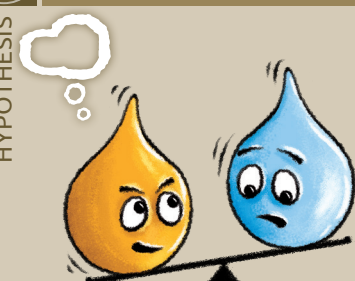
QUESTION ?



Are some liquids heavier than others?

2 DENSITY OF LIQUIDS

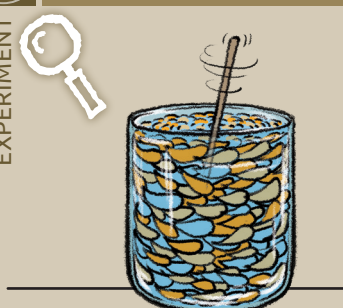
HYPOTHESIS



Heavier liquids will sink to the bottom.

3 DENSITY OF LIQUIDS

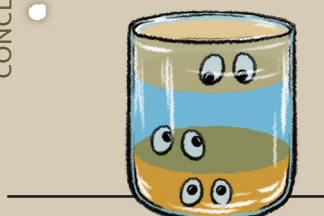
EXPERIMENT



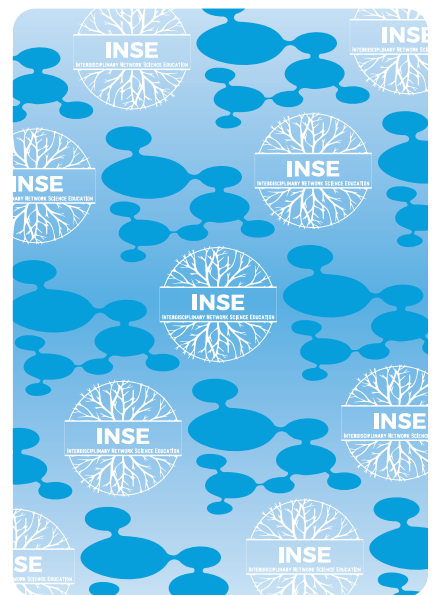
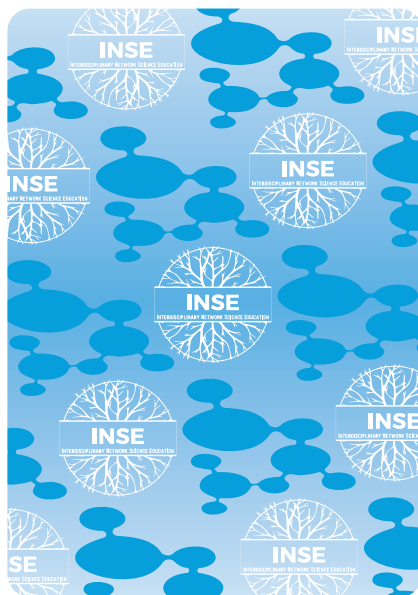
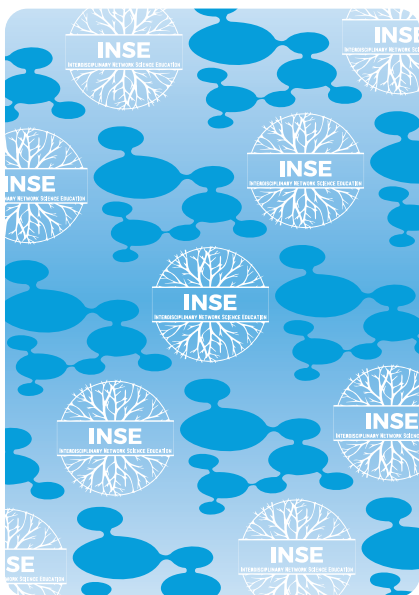
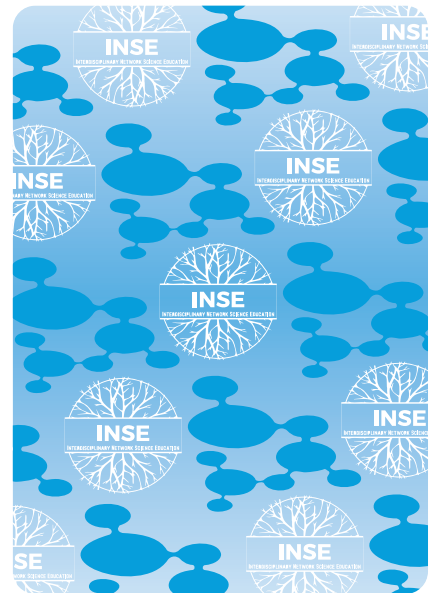
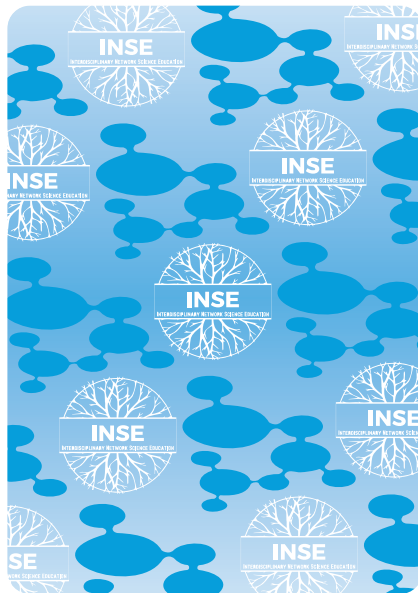
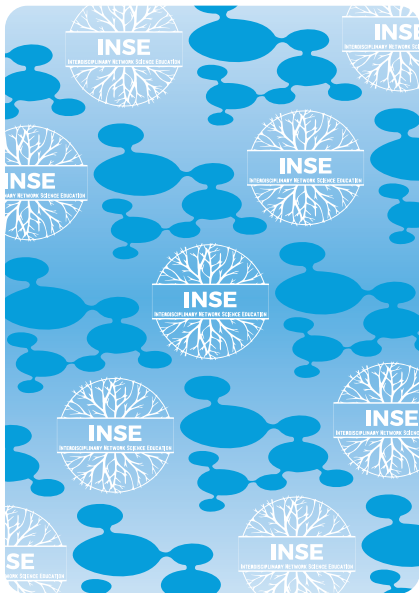
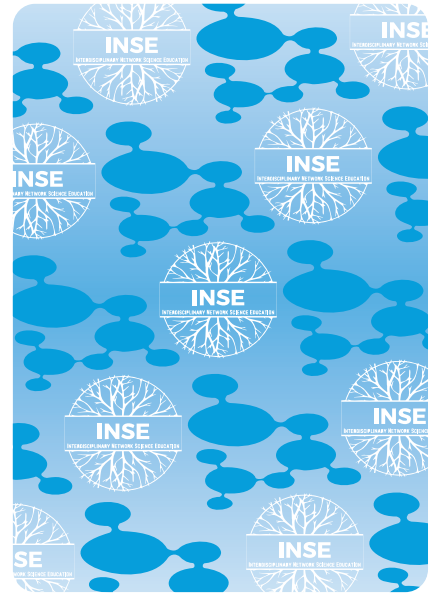
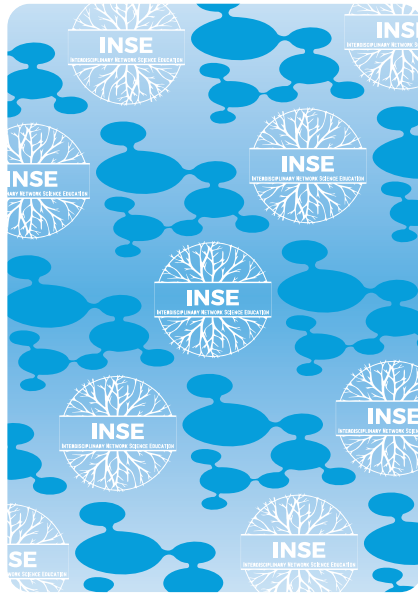
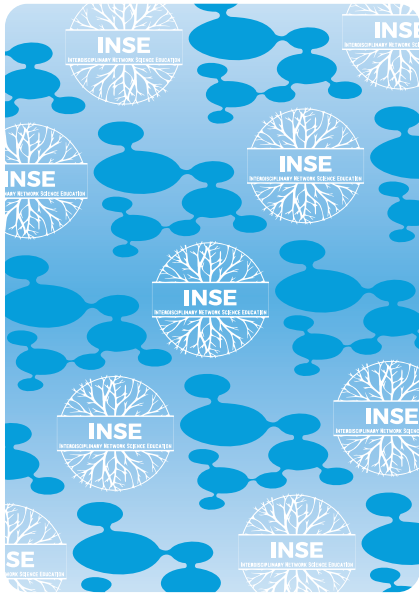
Mix honey, colored water, and oil to observe which one is the heaviest.

4 DENSITY OF LIQUIDS

CONCLUSION !



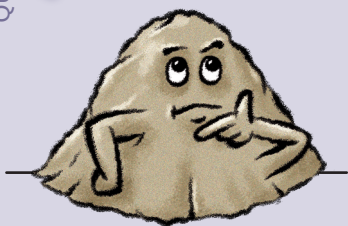
The heaviest liquid, honey, sinks to the bottom, followed by colored water in the middle, and oil on top.





GEOLOGY

QUESTION ?

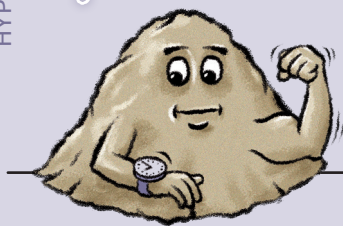


How do soft things like sand become hard rock?



GEOLOGY

HYPOTHESIS



Pressure and time can transform tiny particles into stone.



GEOLOGY

EXPERIMENT

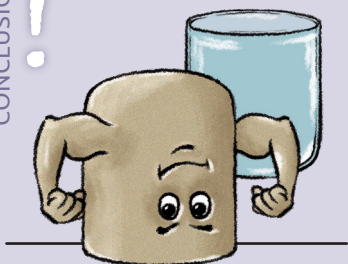


Press wet sand tightly into a cup and let it dry. Observe if it becomes harder.



GEOLOGY

CONCLUSION !



Over time, these small particles can turn into solid rock through compaction and cementation, just like sandstone.

