

# **PROGRAMME FOR INTERNATIONAL SCHOOL ASSESSMENT**

## **PISA**

**Science all Around Us**

**Day :2**

**Session: 7**

# Science All Around Us



# Science

**(from the Latin word scientia,  
meaning "knowledge")**

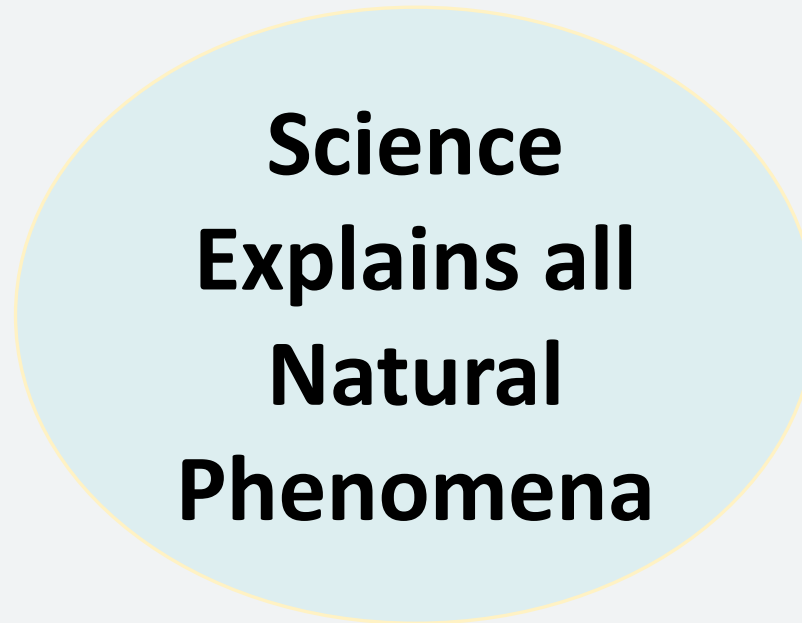
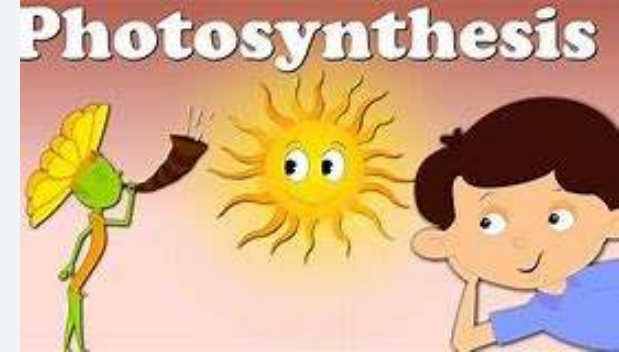
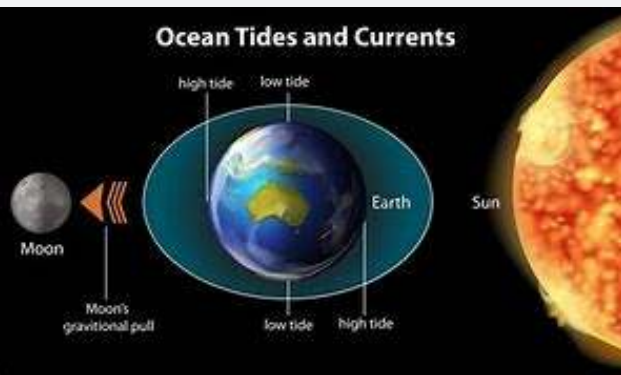
**It is the knowledge we get  
When we ask questions**

**Systematized knowledge derived  
from**

**Observation  
Study**

**and Experimentation**

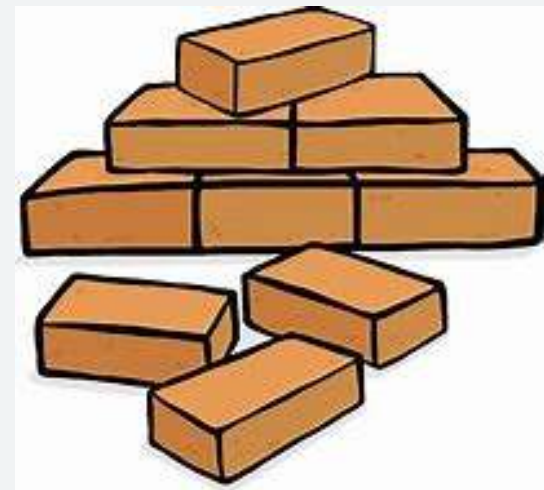
**Carried on  
in order to determine  
the nature or principles of  
what is being studied**







**Science  
Explains  
Making of all  
artificial  
things**



# DISCOVERY V/S INVENTION

- DISCOVERY



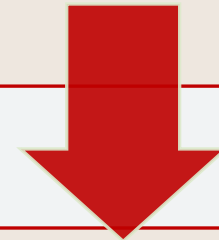
- INVENTION



**Problem or Difficulty**



**Exploration of options /  
Extensive Experimentation  
using different Scientific  
Principles**



**Several Failed Attempts**



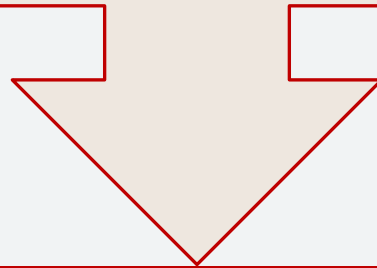
**Invention**



**Any happening/ observation**

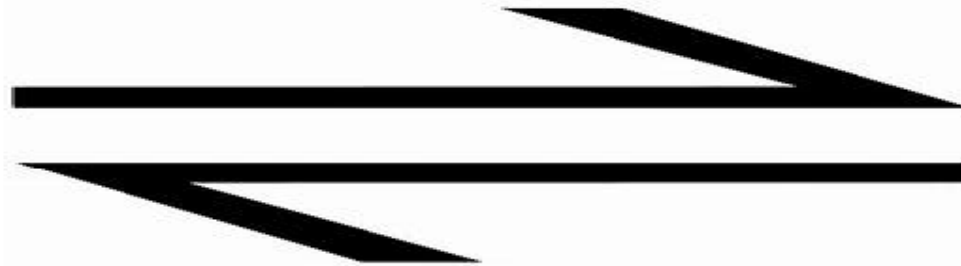


**Finding out reason with the  
help of existing Scientific  
Principles**



**Discovery**

**INVENTION**



**DISCOVERY**

**CAUSE**

**EFFECT**

<b>Invention</b>	<b>Discovery</b>
<p>An invention is an artificial creation by humans , that did not exist in the past</p>	<p>Discovery is finding out something that already existed but not known</p>
<p>It is a process</p>	<p>It is not a process</p>
<p>Nothing to do with nature</p>	<p>Everything to do with nature</p>
<p>It is scientific</p>	<p>It is natural</p>

Invention	Discovery
The telephone by Graham Bell	Discovery of America by Columbus.
Light-bulb by Thomas Alva Edison.	Gravity by Isaac Newton.
Computer by Charles Babbage	Plant cell by Robert Hooke.
Marconi invented Radio	Radioactivity by H.Becquerel

# Preparation of Lime water



**This simple activity: Exclusively Scientific**



# Whatever we throw Falls on the ground



**Science Explains  
This is due to  
gravitational pull**





**Water from earthen pot is cooler?**

**Its SCIENCE: Evaporation**

# **Significant Invention of SCIENCE**



**Pulley is  
application  
of SCIENCE  
only**





**How  
does  
Butterfly  
land on  
a bush**



**Can be explained using SCIENCE**





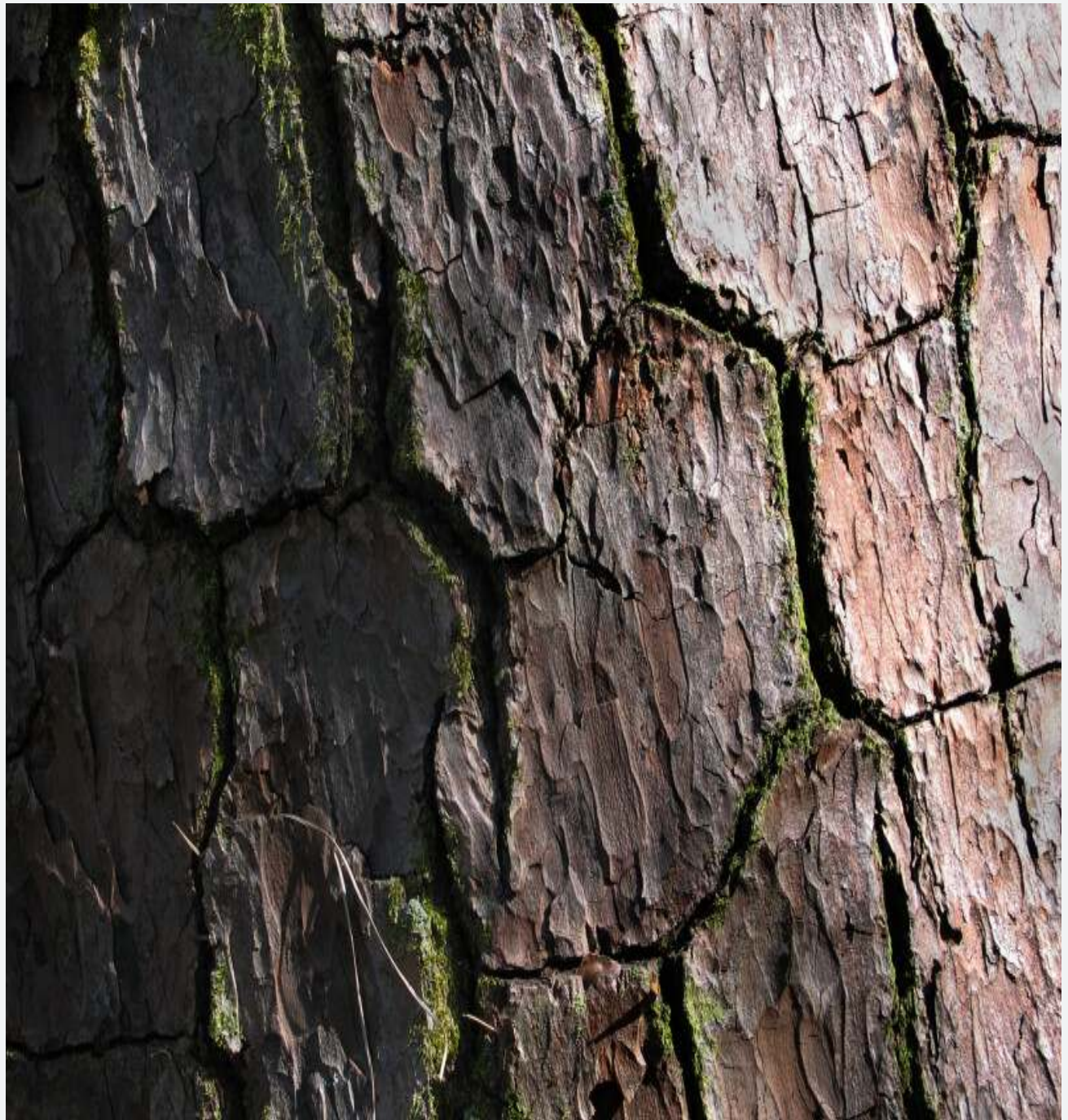
**How do trees heal themselves?  
How does a tree choose where to  
grow a new branch? (Nature)**

**Can be explained by Science**

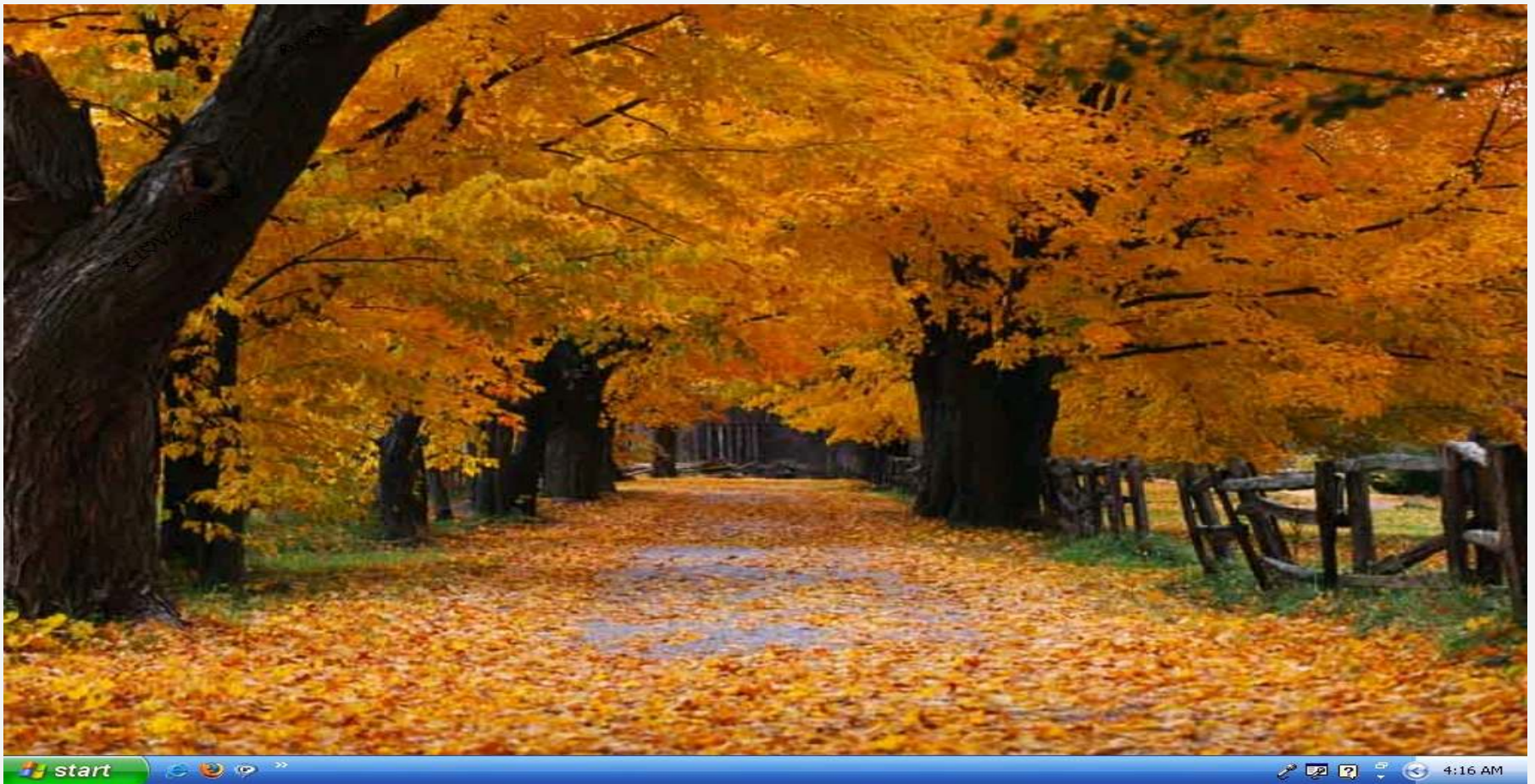


**Why do  
some trees  
Shed  
bark?**

**Science  
Explains  
that**







**What causes some trees to stay green  
and others to lose their leaves?**

**Science Clarifies**



**What do birds use to make their nests?  
How do they seem to defy gravity?**



**We could  
understand  
using  
SCIENCE**

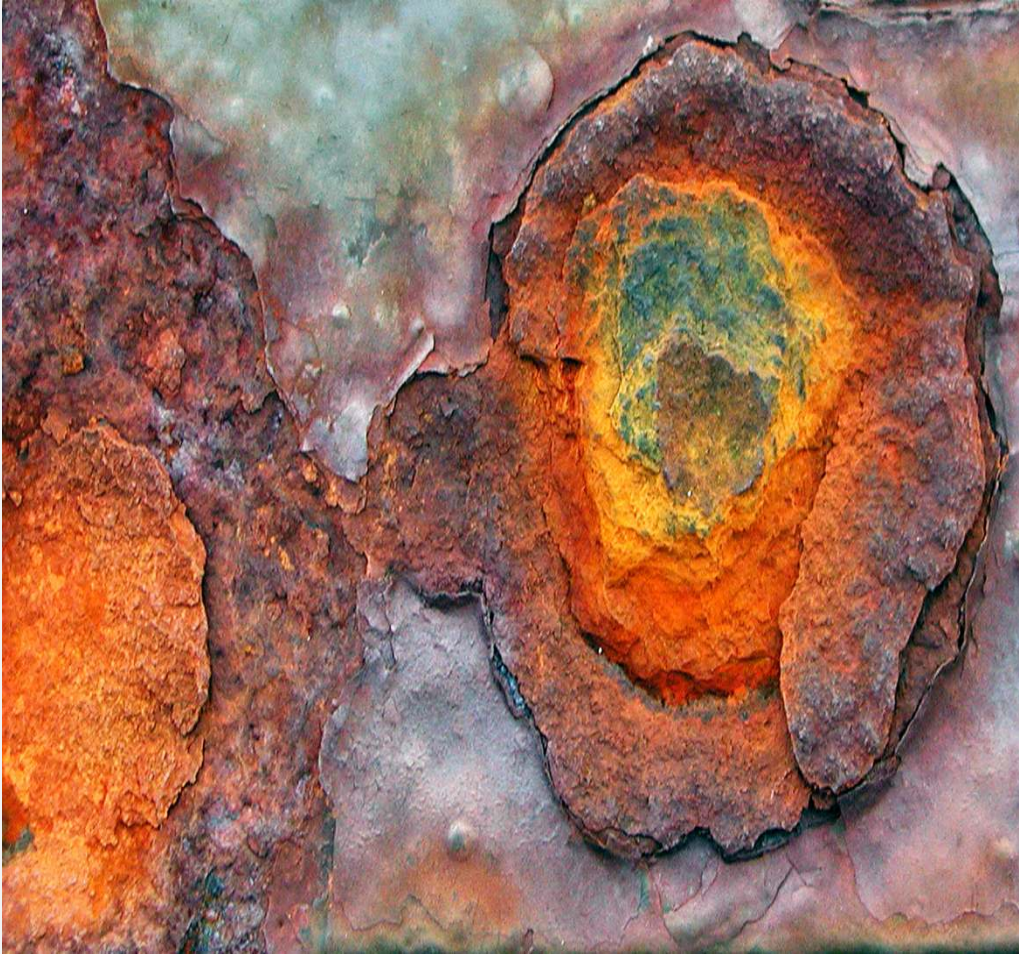
# **Wild Turkeys in your courtyard**



**Animals, Ecosystem & Migration of  
Birds : again Science**



# Iron objects got rusted and silver object undergo tarnishing?



**SCIENCE can explain: Redox Reactions**

**What causes the  
soda to shoot out?  
Why does it shoot  
up?**

**We understood  
only by using  
SCIENCE**





**Enjoying  
Snowfall**



**Precipitation & Weather  
SCIENCE again**

# Playing Football?



**In all sports & Games activities:  
SCIENCE is there**

# Riding the waves at the Beach?



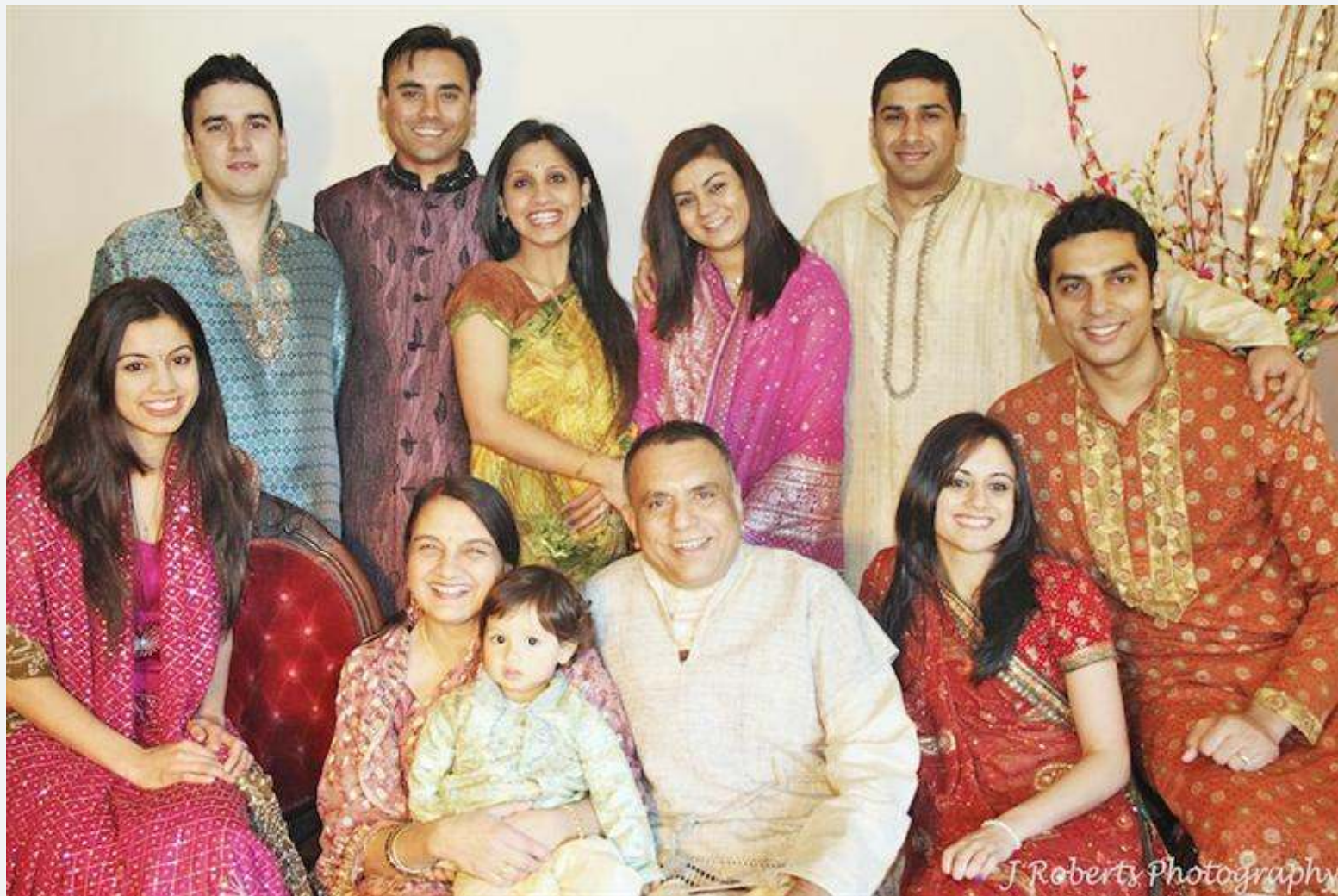
**SCIENCE: Forces & Motion**



# Enjoying Parenthood



**This is also SCIENCE (Reproduction)**



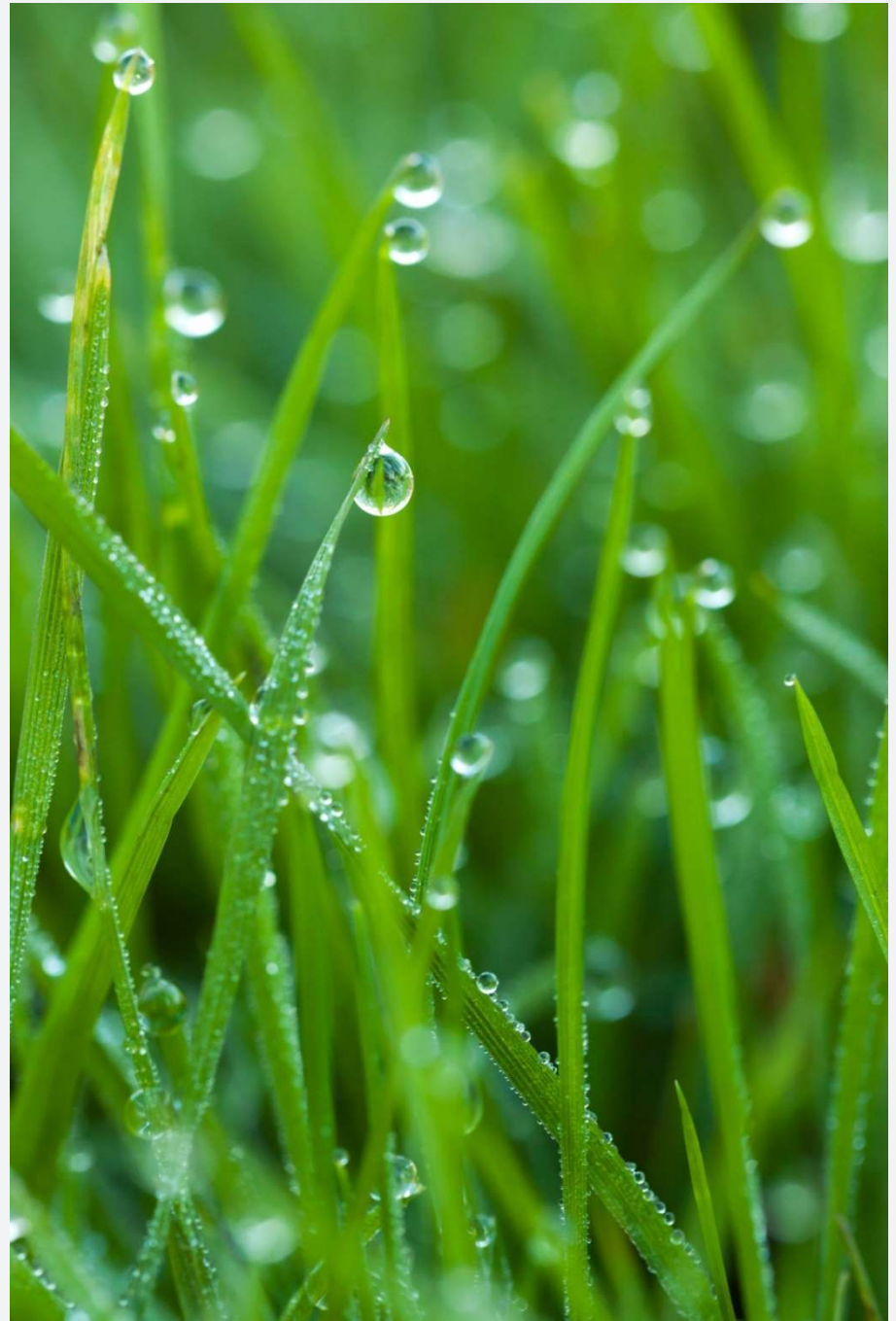
**FAMILY**

**Science is involved here also  
(Genes and DNA)**



**What causes  
dew?**

**We understand  
using SCIENCE**





**Shape of the oil drop is Spherical ?**  
**again Science**

**What  
makes  
flowers  
grow?**



**Can be explained  
using SCIENCE**

**How does that  
fly stay on the  
window?**

**SCIENCE  
Explains**





**Why is  
the sky  
blue?  
Why do  
some  
clouds  
look  
thin?**



**We conclude through Science**



**How does the  
sun make a  
shadow?**

**We understood  
using SCIENCE**





**How do  
waterfalls  
are  
formed?**



**We know by virtue of SCIENCE**



**What  
causes a  
concrete  
pavement  
to crack?**



**again our knowledge of SCIENCE**

# Why does snow appear white in colour while water is transparent / colourless?



**Yes, we  
know  
through  
SCIENCE**



**How does  
snow  
stick to a  
vehicle?**



**Snow  
doesn't get  
stuck to  
concrete?**



**Its  
SCIENCE  
again**

**Ice floats on water  
despite being a  
solid**

**It hugely affects  
marine life**

**SCIENCE can Explain**



# Why do Onions make us cry?



**Science can answer**



**We add salt and sugar in pickles and murabbas?**



**This is Science in Kitchen**

# Crompton Anti Bacterial bulb



**Does it actually eliminate bacteria ?and if so, is it safe for prolonged exposure?**

# Do fairness creams really work?





# Is It Okay To Use any Detergent in the Dishwasher?



# THANKS



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