COLOURFUL BUBBLES

Grade Level(s):	Subject(s):	Type:	Author:
K / 1	Science	Lesson Plan	Mandi Dimitriadis

COLOURFUL BUBBLES

Students learn about bubbles and light by designing and printing a custom bubble wand.

In this lesson, students design and 3D print a wand for blowing soap bubbles.

They use their wands to make and record observations about soap bubbles.

They learn that bubbles have colours in them because light is reflected off the soapy walls at different angles.

SINGLE LESSON PLAN

Step 1	Method	Resources
What is a bubble?	Ask students what they already know about bubbles. What do you need to make a bubble?	• soap mixture • bubble wand

Step 2	Method	Resources
Designing a bubble wand	Explain that students are going to make their own bubble wand. What does a bubble wand need to have? A hole to blow a bubble through. A handle to hold. Students open Makers Empire's Shaper Module Students now to choose a shape for their bubble wand. Encourage students to choose a range of different shapes. Which shape might make the most interesting bubbles or the biggest ones? Once they have selected their shape they can adjust it's size and thickness. They will now need to design a handle for their wand and make sure that the two parts are well connected. Once students' designs have been finished, arrange to have the bubble wands 3D printed	• Devices with Makers Empire 3D design software installed 3D printer

Step 4	Method	Resources
What do you think?	Ask students why they think bubbles have colours in them. Records student's suggestions on the whiteboard.	• whiteboard • markers

Step 5	Method	Resources
Findign out	With the whole class, model using an internet search to find out why bubbles have colours in them and write an explanation on the whiteboard. e.g. The rainbow colours you see in bubbles are caused by light that is reflected off of the walls of the bubble.	• computer with internet access

ADDITIONAL RESOURCES

Watch video link

CURRICULUM

Australian Curriculum:

Light and sound are produced by a range of sources and can be sensed (ACSSU020) link

Recognising Senses Are Used To Learn About The World Around Us: Our Eyes To Detect Light, Our Ears To Detect Sound, And Touch To Feel Vibrations (ELBS707) link

Identifying The Sun As A Source Of Light (ELBS708) link

Recognising That Objects Can Be Seen When Light From Sources Is Available To Illuminate Them (ELBS709) link

Exploring Different Ways To Produce Sound Using Familiar Objects And Actions Such As Striking, Blowing, Scraping And Shaking (ELBS710) link

Comparing Sounds Made By Musical Instruments Using Characteristics Such As Loudness, Pitch And Actions Used To Make The Sound (ELBS711) link

Physical sciences link

Questioning and predicting link

Thinking About &Quot;What Will Happen If……?&Quot; Type Questions About Everyday Objects And Events (ELBS003) link

Using The Senses To Explore The Local Environment To Pose Interesting Questions And Making Predictions About What Will Happen (ELBS004) link

Respond to and pose questions, and make predictions about familiar objects and events (ACSIS024) link

Questioning and predicting link

Considering Questions Relating To The Home And School And Objects Used In Everyday Life (ELBS690) link

Respond to questions about familiar objects and events (ACSIS014) link

The way objects move depends on a variety of factors, including their size and shape (ACSSU005) link

Observing The Way Different Shaped Objects Such As Balls, Blocks And Tubes Move (ELBS684) link

Comparing The Way Different Sized, But Similar Shaped, Objects Such As Tennis Balls, Golf Balls, Marbles And Basketballs Roll And Bounce (ELBS685) link

Observing How The Movement Of Different Living Things Depends On Their Size And Shape (ELBS686) link

Physical sciences link

Common Core/NGSS:

1-PS4-2. Make observations to construct an evidence-based account that objects can be seen only when illuminated.

K-PS3-1. Make observations to determine the effect of sunlight on Earth's surface.