

# Year 1

BIA Science Term  
by Term Scheme  
of Work



الأكاديمية الإسلامية البريطانية  
BRITISH ISLAMIC  
ACADEMY



# Term by Term Objectives

<b>week</b>	<b>1</b>	<b>Term</b>	<b>Spring 1</b>
-------------	----------	-------------	-----------------

Science Year 1    Let's Build

## What materials can we find?

### Objectives

Play 'I-Spy the Material' game in the classroom, before discussing why different materials have been used. Sort items according to their properties and consider what it would be like if the tables were made of jelly or the chairs were chocolate!

### Science Objectives

- i) Distinguish between an object and the material from which it is made.
- ii) Identify and name a variety of everyday materials, including wood, plastic, glass, metal.
- iii) Describe the simple physical properties of a variety of everyday materials.
- iv) Compare and group together a variety of everyday materials on the basis of their simple physical properties.

### Working Scientifically

- Ask simple questions and recognise that they can be answered in different ways.
- Observe closely, using simple equipment.
- Perform simple tests.
- Identify and classify.
- Use observations and ideas to suggest answers to questions.
- Gather and record data to help answer questions.



الأكاديمية الإسلامية البريطانية  
BRITISH ISLAMIC  
ACADEMY

year 1

### You Will Need

### Provided Resources

- Material Zones resource
- Vocabulary definitions

### Additional Resources

- A collection of objects made from different materials and with different textures
- Hoops
- Opaque bag

GO TO THIS WEBSITE

[http://www.bbc.co.uk/schools/scienceclips/ages/5\\_6/sorting\\_using\\_mate.shtml](http://www.bbc.co.uk/schools/scienceclips/ages/5_6/sorting_using_mate.shtml)

© British Islamic Academy - Hargeisa

[britishislamicacademy.com](http://britishislamicacademy.com)





# Term by Term Objectives

week	2	Term	Spring 1
------	---	------	----------

Science Year 1    Let's Build



الأكاديمية الإسلامية البريطانية  
BRITISH ISLAMIC  
ACADEMY

year 1

## Teaching and Activities

## Matching materials!

### Teaching

- Play Material Snap, placing objects on the table and seeing if their properties are the same.
- Discuss the differences between an object and the material from which it is made.
- Use scientific words to identify the materials: wood, plastic, glass and metal.
- Write songs about materials and their properties (to the tune of Frere Jacques).

### Activities

1. Understand that objects are made of different materials and they have simple properties.
2. Know that there is a difference between an object and the material from which it is made.
3. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.

### Investigation - exploring, problem solving

- Explore a variety of different magnets and objects (both magnetic and non-magnetic), including paperclips in jars/bowls of water. Consider challenges such as: Can you get the paperclip out of the water without getting your hands wet? Are different magnets able to hold the same amount of paper clips?

### Vocabulary

Rough/smooth, flat/bumpy, sharp/blunt, wood, metal, glass, plastic, rock, materials, properties

week

3

Term

Spring 1

Science Year 1 Let's Build

## Magnets and metal

### Objectives

Play with magnets and explore their properties. Discover what's attracted to them and why. Create games using the magnets and metal objects in the classroom.

### Science Objectives

- i) Distinguish between an object and the material from which it is made.
- ii) Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.
- iii) Describe the simple physical properties of a variety of everyday materials.
- iv) Compare and group together a variety of everyday materials on the basis of their simple physical properties.

### Working Scientifically

1. Ask simple questions and recognise that they can be answered in different ways.
2. Observe closely, using simple equipment.
3. Perform simple tests.
4. Identify and classify.
5. Use their observations and ideas to suggest answers to questions.
6. Gather and record data to help answer questions.

### You Will Need

#### Provided Resources

- Ideas on magnetic games resource

#### Additional Resources

- Magnets
- Metal objects attracted to magnets
- Jars (one for each pair)
- Paper clips
- String



week	3	Term	Spring 1
------	---	------	----------

Science Year 1 Let's Build

## Magnets and metal

### Teaching and Activities

#### Teaching

- Explore a variety of different magnets and objects (both magnetic and non-magnetic), including paperclips in jars/bowls of water.
- Consider challenges such as: Can you get the paperclip out of the water without getting your hands wet? Are different magnets able to hold the same amount of paper clips?
- Discuss the properties of metal objects and why some metals stick to magnets.

#### Activities

- Discuss, during exploration, and articulate what they already know about magnets.
- Understand that not all metals are magnetic.
- Complete a challenge with a magnet and create their own magnetic games.

### Investigation - exploring, problem solving

Create games in the classroom using the magnets, such as a fishing game, magnetic maps (magnet under a piece of paper and a paperclip), moving magnets without touching them, strength test with different magnets.

#### Vocabulary

Magnetic, non-magnetic, metal, materials, properties

# Term by Term Objectives

week	4	Term	Spring 1
------	---	------	----------

Science Year 1 Let's Build

## Sorting objects

### Objectives

Play 'Odd One Out' by carefully considering the properties of some objects. Sort objects in the classroom and then have fun imagining a world where nothing was rigid!

### Science Objectives

- i) Distinguish between an object and the material from which it is made.
- ii) Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.
- iii) Describe the simple physical properties of a variety of everyday materials.
- iv) Compare and group together a variety of everyday materials on the basis of their simple physical properties.

### Working Scientifically

- Ask simple questions and recognise that they can be answered in different ways.
- Observe closely, using simple equipment.
- Perform simple tests.
- Identify and classify.
- Use their observations and ideas to suggest answers to questions.
- Gather and record data to help answer questions.

### You Will Need

#### Provided Resources

- Science dictionary resource

#### Additional Resources

- Magnets
- Hoops
- Objects made from different materials
- Strips of card
- Trays
- Cloths

week	4	Term	Spring 1
------	---	------	----------

Science Year 1    Let's Build

## Sorting objects

### Teaching and Activities

- Play 'Odd One Out' (identify and discuss the materials/properties of objects on a table).
- Sort objects in the classroom according to these criteria: hard, soft, stretchy, stiff, bendy/floppy.
- Consider the question: if everything I touched became flexible (floppy), how would my life be different? Tell stories to each other about an average day in a world where nothing was rigid.

### Activities

- Further understanding of materials and properties by sorting and classifying objects.
- Talk about the properties of materials using terms such as: hard, soft, stretchy, stiff, bendy/floppy.
- Imagine and wonder at a world where a material property was missing, such as rigidity.

### Investigation - sorting, classifying and identifying

- Sort objects in the classroom according to these criteria: hard, soft, stretchy, stiff, bendy/floppy.

### Vocabulary

Rough/smooth, flat/bumpy, sharp/blunt, wood, metal, plastic, glass, rock, materials, properties











week	7	Term	Spring 2
------	---	------	----------

### Science year 1 Marvellous Materials

## Mending a torn umbrella: Part 1

### Teaching and Activities

#### Teaching

- Recap on how different objects are made from different materials.
- Fix a torn umbrella, using materials they select for their useful properties.
- Discuss their selection of materials for fixing the umbrella: what properties does this material have that makes it a good choice?
- Discuss their designs and make predictions.

#### Activities

- Explore a range of materials with a view to fixing a torn umbrella.
- Understand some materials may be suitable whilst others are not, using the language of useful properties.
- Discuss and explore how to test the materials in an investigation and make simple notes about those thoughts.

#### Investigation - problem solving

Rise to the challenge of fixing a torn umbrella, using materials they select for their useful properties.

Discuss selection of materials for fixing the umbrella: what properties does this material have that makes it a good choice?

#### Vocabulary

Waterproof, absorbent, lightweight, breaks/tears, materials, properties



<b>week</b>	<b>8</b>	<b>Term</b>	<b>Spring 2</b>
-------------	----------	-------------	-----------------

### Science year 1 Marvellous Materials

## Mending a torn umbrella: Part 2

### Teaching and Activities

#### Teaching

- Investigate the materials for their useful properties, considering questions such as: how can we know that this material will not let the rain through? How can we test it?
- Use pipettes to simulate raindrops and experiment with the different materials.
- Observe and record the results.
- Make hypotheses about why certain materials do not let water through.
- Consider the question: if you did not have an umbrella, and it was raining hard, what other everyday objects could you use to keep the rain off your head? Why would they work?

#### Activities

Understand, through exploration and investigation, that some materials are more suitable than others for mending an umbrella because of their physical properties.

Be able to articulate their scientific reasoning for selecting and investigating certain materials.

#### Investigation - observing over time, problem solving

- Investigate the materials for their useful properties, considering questions such as: how can we know that this material will not let the rain through? How can we test it?
- Use pipettes to simulate raindrops and experiment with the different materials.

#### Vocabulary

Waterproof, absorbent, breaks/tears, materials, properties



# Term by Term Objectives



الأكاديمية الإسلامية البريطانية  
BRITISH ISLAMIC  
ACADEMY

year 1

week

9

Term

Spring 2

Science year 1 Marvellous Materials

## Ice observation

### Teaching and Activities

#### Teaching

- Understand that water is a material and ice is water in a different state.
- Consider the questions: how does the appearance of ice change as it melts? How long will the block of ice last? What will happen if we put salt on it?
- Record observations and make predictions.
- Understand what happens to particles in ice and water by role-playing the movement of particles in the PE hall/playground.

#### Activities

- Understand that water is a material and ice is water in a different state.
- Observe and record the changes to a block of ice.
- Begin to understand that what happens to particles in ice when it starts to melt and turn to water.

### Investigation - exploring, problem solving, observing over time

- Observe a block of ice and record the changes.
- Devise an investigation to melt the ice quickly or slowly.

#### Vocabulary

Water, ice, melts, frozen, observe, materials, properties



# Term by Term Objectives



year 1

week

10

Term

Spring 2

Science year 1 Marvellous Materials

Frozen!

## Teaching and Activities

### Teaching

- Understand that water is a material and ice is water in a different state.
- Observe a block of ice and consider how to change its state.
- Devise an investigation to melt the ice quickly or slowly.
- Make predictions about the outcome and test those predictions in the classroom.
- Generate questions about ice and water and consider why it is useful for people to know how to regulate the melting of ice.

### Activities

- Understand that water is a material and ice is water in a different state.
- Consider, predict and then explore ways of speeding up or slowing down the melting of ice

### Vocabulary

Water, ice, melts, frozen, observe, materials, properties





<b>week</b>	<b>11</b>	<b>Term</b>	<b>Spring 2</b>
-------------	-----------	-------------	-----------------

Science year 1 Marvellous Materials

## Puddle observation: Part 1

### Teaching and Activities

#### Teaching

- Understand that water is a material.
- Explore the properties of water by looking at puddles in the playground.
- Talk and write about the best ways of observing and measuring how puddles change over time.
- Measure and observe the changes in puddles and make predictions.
- Make paper cut outs of the puddle over time for a class display.

#### Activities

- Understand that water is a material.
- Explore the properties of water by looking at puddles in the playground.
- Make predictions about the puddles and record them using chalk and paper cut outs.

#### Investigation - exploring, observing over time

- Create puddles in shallow containers or plastic sheets.
- Drawing chalk lines around the puddles at different times, measure and observe the changes and make predictions.
- Create a simple chart, or series of diagrams, to show how the puddles change.

#### Vocabulary

Water, puddle, evaporation, bigger, smaller, materials, properties





week

12

Term

Spring 2

Science year 1 Marvellous Materials

## Puddle observation: Part 2

### Teaching and Activities

#### Teaching

- Continue to explore puddles and observe changes
- Consider what makes a difference to how puddles dry up and the rate at which they do
- Create a simple chart, or series of diagrams, to show how the puddles change
- Use scientific vocabulary such as water, bigger, smaller, drying up, rain, changing, evaporation
- Create dances, portraying the changes in a puddle and a block of ice over time, and perform
- Puddle Dance and The Ice Dance to an audience

#### Activities

- Explore puddles and observe changes and exploring own ways of recording puddle changes
- Use scientific vocabulary such as water, bigger, smaller, drying up, rain, changing, evaporation
- Represent their observations and understanding through dances and role-play and through speaking to an audience about what they have learned.

#### Investigation - exploring, problem solving, observing over time

- Create puddles in shallow containers or plastic sheets.
- Drawing chalk lines around the puddles at different times, measure and observe the changes and make predictions.
- Create a simple chart, or series of diagrams, to show how the puddles change. (Exploring, observing over time).

#### Vocabulary

Water, puddle, evaporation, bigger, smaller, materials, properties