



**DARUL HUDA ISLAMIC SCHOOL AL-AIN**  
**SUMMER HOLIDAY ASSIGNMENT (2018-19)**

Grade: 9

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**PHYSICS**

- I. Research project on :  
Physics behind joy rides in amusement parks in Dubai (Ferrari world, IMG adventures)
- II. Complete record works.  
Experiments:
  1. Reflection of sound - Verification of the laws of reflection of sound
  2. Density of solid - Determination of the density of solid (denser than water) by using a spring balance and a measuring cylinder.
  3. Archimedes principle - Establishing the relation between the loss in weight of a solid when fully immersed in (a) tap water (b) strongly salty water, with the weight of water displaced by it by taking at least two different solids.
  4. Speed of a pulse - Determination of the speed of a pulse propagated through a stretched string / slinky.

**CHEMISTRY**

**Conduct a study and prepare a project on the desalination of marine water in U.A.E.**

Hints : What is desalination? - Why is desalination important in U.A.E ?-

Desalination plants in U.A.E - How is desalination done? - Impact of desalination on the environment.

**Practicals**

Record the following experiments :

1. Preparation of a true solution, a suspension and a colloidal solution
2. Preparation of a mixture and a compound
3. Separation of the components of a mixture.
4. Physical and chemical changes.

## Biology

1. Compare the use of manures and fertilizers in maintaining soil fertility.
2. What are the advantages of intercropping and crop rotation?
3. Explain how excessive use of nitrate fertilizers in agricultural fields affects human life.

### Complete the following experiments in your Record book:

To prepare a temporary mounts of

- (a) Onion peel and (b) human cells and to record observation and draw their labeled diagram.
- (i) To identify parenchyma, collenchyma and sclerenchyma tissues in plants. Striated muscle fibre, smooth muscle fibre, Cardiac muscle fibre and nerve cells in animals, from prepared slides and to draw their labeled diagrams.
  - (ii) To study the characteristic of *spirogyra/Agaricus*, Moss/Fern, Pinus (either with male or female cone) and an Angiospermic plant. Draw and give two identifying features of group they belong to.
  - (iii) To observe and draw the given specimens- earthworm, cockroach, bony fish and bird. For each specimen record
    - (a) One specific feature of its phylum
    - (b) One adaptive feature with reference to its habitat.

## Mathematics

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1. Show that  $12.34343434\dots$  can be expressed in the form  $p/q$ .
2. Rationalise the denominator of  $\frac{1}{\sqrt{2}}$ .
3. Find the remainder when  $x^3 + 3x^2 + 3x + 1$  is divided by  $x + 1$ .
4. Expand using suitable identities  $(2x - 3y + 5z)^2$
5. Expand using suitable identities  $(4v - 5v)^3$
6. Factorise  $4x^2 + 9y^2 + 16z^2 + 12xy - 24yz - 16z$ .
7. Factorise  $8a^3 - b^3 - 12a^2b + 6ab^2$
8. Find the value of  $K$ , if  $(x - 1)$  is a factor of  $4x^3 + 3x^2 - 4x + k$ .
9. If  $a + b + c = 5$  and  $ab + bc + ca = 10$ , then prove that  $a^3 + b^3 + c^3 - 3abc = -25$ .
10. Using factor theorem, factorise the polynomial  $x^4 - x^3 - 7x^2 + x + 6$ .

## English

### Reading and Writing

1. Write a book review in an appropriate format based on any two books of your choices irrespective of any genre as a part of extended reading and writing.

### Creative Writing

2. Rewrite the climax of anyone of the following works.
  - Shakespeare - *Julius Caesar*
  - Jane Austen- *Sense and Sensibility*
  - Leo Tolstoy- *War and Peace*
  - Oscar Wilde - *The selfish Giant*

## Grade IX

### Social Science Project

“We cannot stop natural disasters but we can arm ourselves with knowledge: so many lives wouldn't have to be lost if there was enough disaster preparedness.”

Keeping the above statement in mind, prepare a project on Disaster Management as per the following guidelines:

#### **1. Highlight the following:**

- Definition of 'Disaster'.
- What is a disaster management cycle?
- What are the types of Disasters?
- What is vulnerability and risk?
- What is a Hazard? How is it classified?
- Differentiate between hazard and disaster.
- Contrast and compare physical, chemical and biological hazard.

#### **2. Prevention and Mitigation of Common Disasters in India. Select any two for your project. Based on your selection, prepare a case study.**

- Earthquake
- Cyclones
- Flood
- Drought
- Landslides
- Any man – made disaster

Enumerate the following in your project:

- Meaning
- Causes
- Do's and don'ts
- Prevention and mitigation measures
- Your emergency Kit
- Latest means of forecasting Disasters .

-Steps taken by the Govt.

-Organisations working to help.

- Lessons learnt

- Dos and don'ts for next time to avoid such disasters

4. Being a young student of DHIS , you are familiar with your school building. According to you, what precautions should you take in evacuating from your classroom in case of a Disaster.

**Guidelines for submitting the project:**

1. Use A4 size sheets

2. It should be a hand written project (blue or black pen should be used)

3. You can use newspaper clippings, maps, diagrams and material from the web

4. Each illustration should be supported with a write up/relevance to the topic

5. The cover page should be written in bold letters with the topic, name and roll number

**Follow the sequence of pages as given below:**

a. Acknowledgement

b. Index

c. Introduction

d. Data Collection

**ISLAMIC STUDIES**

Prepare a Booklet on Charity initiatives of UAE government (Like Red Crescent)