

### 3.3 Stephen Hawking

#### WARMING UP!

1. Get into pairs and match the prominent personalities with the disabilities they had:

A	B
(1) John Milton	(a) The great German composer and musician who became deaf at the age of 28 years.
(2) Beethoven	(b) The great English poet who became blind at the age of 43 years.
(3) Stephen Hawking	(c) An American entrepreneur, animator, voice actor, who had a learning disability.
(4) Walt Disney	(d) famous scientist of the 20th century who was paralyzed.
(5) Albert Einstein	(e) Great inventor who has over 1000 patents and who had a learning disability and became deaf.
(6) Thomas Edison	(i) Great 20th century scientist and noted physicist who had a learning disability.
(7) Hellen Keller	(g) Dancer whose legs had to be amputated because of an accident.
(8) Sudha Chandran	(h) Was blind and deaf
(9) Tanay Grey Thompson	(i) Had polio and was elected President of the United States for four terms
(10) Franklin	(j) Is a wheelchair racer.

**Ans.** (1)-(b): (2) - (a): (3) - (d): (4) - (c): (5) - (f): (6) -(e): (7) - (h): (8) - (g): (9) - (i): (10) - (i).

#### 2. Word building. (Answer are given Directly)

- (a) Reduplication: bow-wow; hee haw; cheep cheep: chomp-chomp: ping-pong
- (b) Blending: bionic, carjack, Chunnel, cineplex, cyborg, emoticon, infotainment, internet, liger (lion + tiger), netizen, telethon, vidiot, workaholic
- (c) Clipping: exam, gym (gymnasium), 'flu (influenza), gas (gasoline), memo (memorandum)
- (d) Acronym: laser, CD-ROM, IOU, K9, PIN

#### English workshop

1. Observe the timeline and search from the passage the occurrences according to it.

**Ans.**

(Rotate your phone)



## 2. Make the list of books written by Stephen Hawking.

Book	What's in it? (topics covered)
1. A Brief History of Time	1. Overview of space and time, existence of God and the future
2. The Universe in a Nutshell	2. Guide to cosmology's big theories
3. A Briefer History of Time	3. Touched upon newest developments in the field like the String theory
4. The grand design	4. God could not have create a universe

(Table continued here)

His contribution to the world
1. An account of cosmology for the masses
2. Illustrated easier to understand
3. Simplified the original work's core concepts
4. The big bang was the inevitable consequence of



laws of physics and nothing more.

### 3. Make a list of Hawking's physical disabilities after 1963.

**Ans. Hawking's physical disabilities after 1963:** (a) could not go anywhere except on a wheelchair

(b) an ever-worsening physical state

(c) needed someone 24/7 to manage his care and work

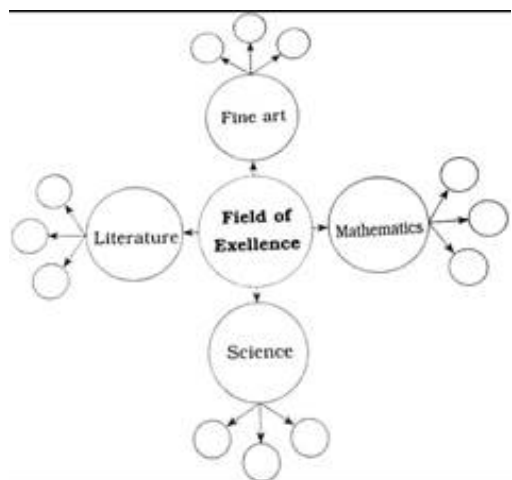
(d) except for feeding himself and getting out of bed, had need of assistance for virtually everything else

(e) speech increasingly slurred, finally lost his voice for good

(f) ability to do his work in peril.

### 4. Shape your mind. Complete the network of cluster diagram with the name of great personalities and their contribution.

**Ans.**



#### 1. Field of excellence: Fine Art

**Satyajit Ray (film director) rose to fame with 'Pathar Panchali**

- combined humanism and simplicity in his film making
- won Honorary Oscar Award in 1992

**Vasudeo Gaitonde (painter)**

- started Bombay Progressive Arts Group
- combined Zen philosophy and calligraphy to create abstract paintings
- awarded Padma Shri posthumously in 1971

**Rabindranath Tagore (poet)**

- wrote 'Gitanjali
- combined nationalism, and spiritualism to express his ideas
- won Nobel Prize for English Literature in 1913

## **2. Field of excellence: Mathematics**

### **Srinivasa Ramanujan Field: Mathematics**

- famous for the Ramanujan prime, the Ramanujan theta function
- One of the Fellows of the Royal Society
- the first Indian to be elected a Fellow of Trinity College, Cambridge

### **Euclid Field: Geometry**

- Father of Geometry
- his book 'Elements' served as the main textbook to teach Mathematics until the early 20th century

### **Shakuntala Devi Field: Numbers**

- known as the human computer
- 6 years old: demonstrated her arithmetic abilities at the University of Mysore
- she could give the 23rd root of a 201-digit number in 50 seconds
- in 2013, honoured with a Google Doodle for what would have been her 84th birthday

## **3. Field of excellence: Literature**

### **Shakespeare (poet, dramatist)**

- wrote many plays like Macbeth, Hamlet, and also many sonnets.
- combined humanism and felicity of verbal expression in his writings, known especially for his characterizations
- considered by many as the greatest writer in English

### **Charles Dickens (novelist)**

- wrote many novels depicting conditions in the Victorian era
- combined verbal descriptions with strong characterizations
- considered by many as the greatest novelist of the Victorian era

### **G. B. Shaw (playwright)**

- wrote many plays such as 'Pygmalion', 'Man and Superman'
- combined social satire with wit to criticize many social mores and traditions
- leading literary figure of the 19th and 20th centuries

## **4. Field of excellence: Science Marie Curie**

### **Field: Physics, Chemistry**

- pioneering work on Radioactivity: discovery of polonium and radium • first woman to win the Nobel Prize
- first person and only woman to win the Nobel prize twice
- the first woman to become a Professor at the University of Paris

### **Alexander Graham Bell**

#### **Field: Physics, Sound**

- awarded the first US patent for the telephone in 1876

- groundbreaking work in optical telecommunications and aeronautical
- received numerous honorary degrees and dozens of medals and awards

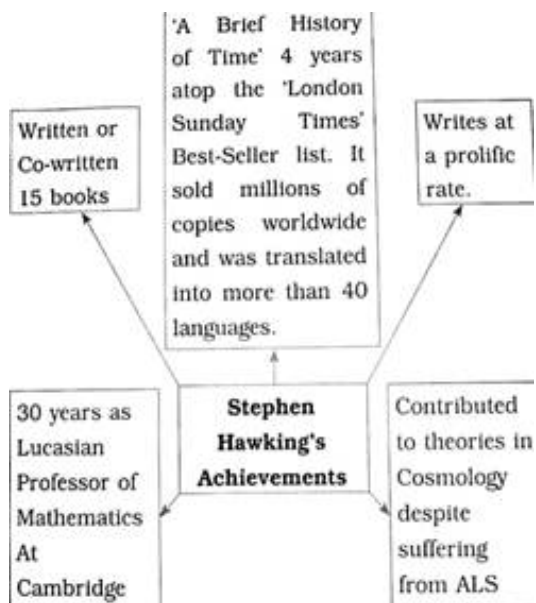
## CV Raman

### Field: Physics

- groundbreaking work in the field of light scattering
- won the Nobel Prize for Physics in 1930
- famous for the Raman effect
- 1954, awarded the Bharat Ratna
- also awarded the Lenin Peace Prize and made a Fellow of the Royal Society

## 5. Complete the following web:

Ans.



## 6. Explain how the life of Stephen Hawking proves the proverb 'Every cloud has a silver lining'. Write it down in your notebook.

Ans. Every cloud has a silver lining.

This proverb 'Every cloud has a silver lining' means that you should never feel hopeless because difficult times always lead to better days. Difficult times are like dark clouds that pass overhead and block the sun. But at the same time, on the outer edge of the clouds you will invariably observe a silver lining that provides some measure of light and hope.

The problems and difficulties that we face in life are like those dark clouds. Stephen Hawking started experiencing problems with his health while he was barely 21, a student at Oxford. On occasion he would trip and fall, or slur his speech. Later on, he was diagnosed with ALS, Amyotrophic Lateral Sclerosis. It was a disease in which the nerves that controlled his muscles were shutting down. He was given two and a half years to live. But as we know he went on to live more than a half century beyond.

Thanks to an early diagnosis, advanced medical treatment and complete support from family, friends and students, he lived a full life and made major contributions to existing theories in physics and cosmology. These, in fact, were the silver linings that brightened what would otherwise have been a lacklustre life.

The life of Stephen Hawking proves that even though the difficulty we face might seem enormous, there is always hope, there are always ways to circumvent them and to keep on achieving and contributing to the world.

**7. Do you agree or disagree with the following statements? Justify your stand/ answer by quoting a line from the text.**

**(a) Stephen Hawking was diagnosed with Alzheimer's disease.**

**Ans. No. I do not agree.**

The line from the text justifying this stand is Eventually however doctors did diagnose Hawking with the early stages of ALS

**(b) Hawking believed that man cannot live in other planets in the future,**

**Ans. No, I do not agree.**

The line from the text justifying this stand is:

He's convinced that time travel is possible and that humans may indeed colonize other planets in the future.

**(c) Though Hawking lost control over his body, he writes with a prolific rate with the help of assistants.**

**Ans. Yes, I do agree**

The line from the text justifying this stand is: Through the program and the help of assistants. Stephen Hawking has continued to write at a prolific rate.

**(d) Hawking has written or co-written more than 25 books.**

**Ans. No, I do not agree.**

The line from the text justifying this stand is: Over the years. Stephen Hawking has written or co-written a total of 15 books.

**8. Following incidents in Stephen Hawking's life are given in jumbled order. Arrange the incidents in proper sequence as per their order of occurrence in Hawking's life.**

**(a) Hawking's book 'The Universe in a Nutshell' offered illustrated guide to cosmology's big theories.**

**Ans.** Hawking published the book A Brief History of Time that offered an overview of space and time.

**(b) Hawking published the book A Brief History of Time that offered an overview of space and time.**

**Ans.** Hawking's book 'The Universe in a Nutshell' offered illustrated guide to cosmology's big theories.

**(c) Hawking was unable to attend a conference in Arizona.**

**Ans.** Hawking published 'A Brief History of Time' that contained the newest development.

**(d) Hawking was diagnosed with ALS while studying cosmology at the University of Cambridge.**

**Ans.** Hawking was diagnosed with ALS while studying cosmology at the University of Cambridge.





(e) Hawking published 'A Brief History of Time' that contained the newest development.

Ans. Hawking was unable to attend a conference in Arizona.

9. Fill in the blanks with the proper form of the Verbs as per the Subject:

(1) Mother a good meal.

Ans. cooks

(2) Mother and her daughter a good meal.

Ans. Cook

(3) The rise and fall of the Empire recorded in History.

Ans. Is

(4) Neither Ritesh, nor Alok well.

Ans. Play

(5) Either of the two Guilty.

Ans. Are

(6) everyone mistakes

Ans. Makes

(7) the news published today.

Ans. Is

(8) eight lakh rupees a big amount

Ans. Was

(9) the committee approved of it.

Ans. Has

(10) the cost of all the goals risen.

Ans. Have

10. In the following sentences, underline the Nouns and encircle their Determiners that specify the noun in a noun phrase. (articles/possessive pronouns/demonstratives or quantifiers)

(1) He lost his voice for good.

(2) Over the years, Hawking has written 15 books.

(3) These three books articulate his search for science's Holy Grail.

(4) A few events prevented him from despondency.

(5) That dream made him realize it.

11. Complete the table with information about the personality mentioned in this passage E following the graphic organiser and prepare summary

Ans.

	1. Stephen Hawking
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1. Title of the text	
2. Name of the personality	2. Stephen Hawking
3. Age	3. Born 8 January 1942
4. Books as author	4. • 'A Brief History of Time' • 'The Grand Design' • 'The Universe in a Nutshell' • 'A Briefer History of Time' • 'Black Holes and Baby Universes'
5. Film	5. "The Theory of Everything"
6. Field of excellence	6. Theoretical Physics, Cosmology
7. Achievements	7. Albert Einstein Award, 1978; Co-founder of Microsoft Research

**12. You have come to know from the text that "The Theory of Everything is a film describing the life and work of Stephen Hawking. Watch the film on the internet and write a complete review of it. You can take help of the following points while writing the review of the film:**

1. Title.
2. Character
3. Story
4. Dialogue
5. Picturisation
6. Music
7. Sorcial feature if any
8. Opinion/views
9. Massage/ moral values

**Ans.** The Theory of Everything - Movie Review

The movie The Theory of Everything is based on the life of Stephen Hawking. He was diagnosed with ALS at the age of 21, but because of the love of fellow Cambridge student, Jane Wilde, whom he married, he went on to secure achievement after achievement and began to be called the successor to Einstein. He and Jane defy terrible odds and break new ground in the fields of medicine and science, achieving more than either could hope to imagine. Hawking's physical decline weakens his frail body. His mind, on the other hand, remains sharp, always in pursuit of that singe equation that would explain the elusive Theory of Everything. Right up to his mid-seventies. Stephen Hawking has no plans to retire.

The dialogue smoothly carries the narrative forward, at times indulging in monosyllabic repartee. which at times, provides crisp tongue-in-cheek humour. It is a very enjoyable film. It is tasteful and engaging and beautiful visually.

The music, which is quite haunting was nominated for the best musical score at the Oscars.

The film has been criticised for harping on the theme of Time' throughout. and for being too sentimental,

However, its message that a person can accomplish much in one's lifetime despite being afflicted with a severe physical disability is universally relevant. Moral values of love and loyalty uphold the film making it a treat to watch.