SUBJECT: SCIENCE

Contents:

Unit 6. Sound and space

- ✓ 6.2. Interference of sound (p.216-223)
- ✓ 6.3. Formation of the Moon (p.224-228)
- ✓ 6.4. Nebulae (p.229-232)
- ✓ 6.5. Tectonics (p.233-240)

Unit 7. Genes and inheritance

- ✓ 7.1. Chromosomes, genes and DNA (p.243-246)
- ✓ 7.2. Gametes and inheritance (p.247-252)
- ✓ 7.3. Variation (p.253-260)
- ✓ 7.4. Natural selection (p.261-268)

Instructions:

1) Students MUST complete the study guide before revision classes.

2) Students are ALLOWED to use calculators for problem-solving tasks.

PART 1. SCIENTIFIC TERMS

NO.	TERMS	UNITS	DEFINITIONS	VIETNAMESE TRANSLATIONS
1	**interference**	6.2		
2	**reinforce**	6.2		
3	**collision theory**	6.3		
4	**nebula/ nebulae**	6.4		
5	**northern hemisphere**	6.4		
6	**southern hemisphere**	6.4		
7	**stellar nurseries**	6.4		
8	**continental coasts**	6.5		
9	**fossil record**	6.5		
10	**alignment**	6.5		
11	**chromosomes**	7.1		
12	**DNA**	7.1		
13	**genes**	7.1		

14	**egg cell**	7.2		
15	**sperm cell**	7.2		
16	**fertilisation**	7.2		
17	**gametes**	7.2		
18	**zygote**	7.2		
19	**inheritance**	7.2		
20	**sex inheritance**	7.2		
21	**genetic differences**	7.3		
22	**variation**	7.3		
23	**advantageous feature**	7.4		
24	**natural selection**	7.4		
25	**resistant**	7.4		

PART 2. EXERCISES

Exercise 1. The table gives information for two waves that will meet to reinforce. Copy the table and complete the missing information about the one wave that is formed.

two waves before reinforcing		one wave after reinforcing	
frequency/Hz	amplitude/mm	frequency/Hz	amplitude/mm
450	0.5		

Exercise 2. Two sound waves have equal frequencies. The amplitude of one of the waves is 0.25 mm.
a) State the amplitude of the other wave required for the two waves to cancel. _____
b) State the amplitude after the waves cancel. _____

Exercise 3. Answer the following questions.
1. Many scientists think that the collision theory explains how the Moon was formed.

a) Describe the events in the collision theory.

_____

_____

_____

_____

b) State pieces of evidence that support the collision theory.

2. When stars are first formed, they are more difficult to see than older stars that are the same distance from Earth. Suggest reasons why the young stars are more difficult to see.

3. Describe how each of these provides evidence for tectonic plates

a) the shapes of the present-day continents

b) the fossil record

c) the alignment of magnetic materials in rocks.

4. How are the chromosomes numbered according to scientists?

5. Write the number of chromosomes of:

a) human cells _____

b) fruit fly cells _____

c) mango tree cells _____

6. Explain why people have different eye colours.

_____

_____

_____

_____

7. Compare main differences between sperm cells and egg cells.

	Sperm cells	**Egg cells**
Type of gamete		
Sex chromosome		
Movement		
Food reserves		

8. Determine the factors that affect

a) a goal's coat colour _____

b) a goal's size _____

9. Why is natural selection important to a species' evolution?

_____

_____

_____

_____

10. How do some bacteria become resistant to antibiotics over time?

_____

_____

_____

_____