1 ASTEROIDS

section I BEFORE YOU LISTEN TO THE INTERVIEW

A Guess whether these statements are true or false.

	T	F	
1.	☐	☐	Our solar system is in fact an orderly place.
2.	☐	☐	An asteroid is heading towards the Earth.
3.	☐	☐	There is no chance that an asteroid could ever hit the Earth.
4.	☐	☐	The planets sometimes encounter things in their orbits.
5.	☐	☐	If an asteroid hits the Earth, there would be minor damage.

B Discuss these words and phrases with your partner.

How many do you know and can you use them in a sentence?

cosmos *planets* *powerful telescope* *collision*

(Example: We use powerful telescopes to study the planets.)

C Using knowledge from previous studies and experience, answer the following questions with your partner.

1. Are you familiar with the films, *Armageddon* and *Deep Impact*?
2. What did you think of them?
3. Is something like that ever going to happen?

Words and Phrases from the Short Listening Passage

astrophysicist : 天体物理学者／from the tiniest microbes to the farthest reaches of the cosmos : もっとも微細な微生物から宇宙の最果てまで／an orderly place : 秩序だった場／trains on a track : 軌道を走る汽車／remain clear : 障害物がない状態にある／telescopes spotted a tiny dot : 小さな点が望遠鏡に映った／shows up as : ～として現れる／nothing more than just : たんに～にすぎないもの／speck of light : 光の小さなしみ／the Rose Bowl : 米国 California 州にあるアメリカンフットボール競技場／that hunk of rock : その岩石の固まり

D Vocabulary and phrases

1. breaking news	( )	A. ニュースを知らせる C. スクープをする	B. ニュースをもみ消す
2. farthest reaches	( )	A. もっとも遠く届くところ C. もっとも離れた曲がり角	B. もっとも遠い限界
3. chug along	( )	A. 一定速度で進む C. 巡航する	B. でたらめに進む
4. stuff	( )	A. メンバー C. ものごと	B. 中身
5. eventually	( )	A. 偶然にも C. 出来事としては	B. 結局は
6. hurtling	( )	A. 猛スピードで進む C. 中程度に進む	B. のろのろと進む

section II LISTENING TO THE INTERVIEW (Part 1)

STUDENT A ▶ USE PAGE 9　　*STUDENT B* ▶ TURN TO PAGE 97

CD 01

A Listening (two or three times)
Fill in the blanks or circle the correct word in the following short passage.

B *STUDENT A* ▶ Read part A, mainly the part of Neil deGrasse Tyson, to your partner.
Then listen as your partner reads part B and check your answers.

STUDENT B ▶ Check your answers while your partner reads part A.
Then read part B to your partner.

"Asteroids" Worksheet for *student A* CD 01

NEIL DEGRASSE TYSON:

Welcome to a new (**reason / season**) of NOVA SCIENCE NOW. I'm Neil Degrasse Tyson, astrophysicist and your (**guest / host**). In each show, we'll bring you (**scientific / several**) stories, breaking news from the frontiers of science. You'll (**meet / see**) my fellow scientists (**explaining / exploring**) the universe, from the tiniest microbes to the (**farthest / filthiest**) reaches of the cosmos.

First, let's take a _____ at our own solar _____. It can seem like an _____ place, where the planets chug along in their _____ like trains on a _____. But there's no _____ those tracks will remain clear, because in _____ to the planets, there's a lot of _____ stuff in the solar system, and eventually their _____ will cross. Now, if you happen to _____ on one of those planets, that _____ be bad.

One night in 2004, telescopes (**painted / spotted**) a tiny dot (**moving / scooting**) across the sky. That dot was (**really / actually**) an asteroid named Apophis, and it seemed to be (**heading / headed**) towards Earth. When (**seen / shined**) even through our most (**wonderful / powerful**) telescopes, Apophis shows up as nothing more than just a moving (**spot / speck**) of light, but the latest data tell us that this asteroid may be as (**wide / tall**) as a thousand feet. That's bigger than the Rose Bowl.

Now _____ that hunk of rock hurtling _____ space, on a collision course with Earth. It _____ like something from the _____. Remember *Deep Impact*? Or *Armageddon*?

C Comprehension questions. Choose the correct answers with your partner.

1. Neil DegrasseTyson is:
   A. an astrologist.
   B. a well known actor.
   C. an astrophysicist.
   D. a TV superstar.

2. The narrator said that our solar system seemed like:
   A. an orderly place.
   B. trains going off a track.
   C. a disorderly place
   D. a crossing path.

3. In 2004 scientists spotted a tiny dot:
   A. next to our solar system.
   B. chugging along near our moon.
   C. moving across the sky.
   D. in the Rose Bowl.

4. The tiny dot was:
   A. a space ship circling the moon.
   B. an astrophysicist on a mission.
   C. an asteroid heading towards our moon.
   D. an asteroid heading towards Earth.

section III LISTENING TO THE INTERVIEW (Part 2)

A Listening (two times) CD 01

B Vocabulary/Review questions. Write the correct word or phrase from **Section I part D** for each of the definitions/explanations below.

1. move with a steady pace ▸ _____
2. in due course, ultimately ▸ _____
3. news that is happening right now ▸ _____
4. flying through space ▸ _____
5. outermost places ▸ _____
6. things ▸ _____

C Answer the following questions with short answers.

1. What did Tyson say each show would provide?

   _____

2. What will eventually happen to all of the "stuff" in the universe?

   _____

3. What does Apophis look like as seen through telescopes?

   _____

4. How big is Apophis according to the latest data?

   _____

NEIL DEGRASSE TYSON:

Welcome to a new season of NOVA SCIENCE NOW. I'm Neil Degrasse Tyson, astrophysicist and your host. In each show, we'll bring you several stories, breaking news from the frontiers of science. You'll meet my fellow scientists exploring the universe, from the tiniest microbes to the farthest reaches of the cosmos.

First, let's take a look at our own solar system. It can seem like an orderly place, where the planets chug along in their orbits like trains on a track. But **(1)** there's no guarantee those tracks will remain clear, because in addition to the planets, there's a lot of other stuff in the solar system, and eventually their paths will cross. Now, if you happen to live on one of those planets, that would be bad.

One night in 2004, telescopes spotted a tiny dot moving across the sky. That dot was actually an asteroid named Apophis, and it seemed to be headed towards Earth.

(2) When seen even through our most powerful telescopes, Apophis shows up as nothing more than just a moving speck of light, but the latest data tell us that this asteroid may be as wide as a thousand feet. That's bigger than the Rose Bowl.

Now imagine that hunk of rock hurtling through space, on a collision course with Earth. It sounds like something from the movies. Remember *Deep Impact*? Or *Armageddon*?

A Translate the underlined parts into Japanese.

(1)

(2)

B Translate the following sentences into English using words or phrases from the previous passage.

(1) 中国の食品が安全だという保証はなにもない。なぜなら中国全体の統一された安全基準がないからだ。

(2) あの学生はたんなる熱狂的な車好き（car maniac）としてしかみえない。

section V LISTENING TO THE ENTIRE INTERVIEW

Visit the following URL and watch the video "Asteroids."
URL: http://www.pbs.org/wgbh/nova/sciencenow/3313/01.html

CD 13

A Provide definitions or explanations for the words and phrases below. These were taken from the entire interview.

1. debris _____
2. plunge _____
3. extinction _____
4. potentially _____
5. revise _____
6. synchronous _____
7. dissipate _____
8. devastate _____
9. deflect _____
10. bewildering _____
11. crude (adj.) _____
12. subtly _____