

志 望 学 科	受験番号	氏 名
工学科		

2枚目得点

2. 次の英文を読み、()に入る最も適切な語を a. ~d. から選び、記号で答えなさい。なお、同じ記号の箇所には同じ語が入る。
(4点×5=20点)

A growing problem is appearing as children yell when parents try to limit their screen time. In Australia, young kids (①) a lot of time on screens, with research showing some teens (①) 3 hours a day on weekdays and even more on weekends. This digital addiction* is linked to anxiety and emotional instability. For children with ADHD* or autism*, the (②) can be even worse.

Parents are reporting that when devices are (③) away, some children become physically attacking or they yell out verbally*. One mother described her 10-year-old daughter's behavior when her iPad was removed, calling the device very bad for family life. Experts warn that too much screen time affects family connections, lowers self-esteem*, and increases feelings of anxiety.

Vivian Dunstan, founder of a support group ADHD Support Australia, calls it a "double-edged sword," noting the difficulty of breaking free from devices due to instant enjoyment. A lockable* charging station can be a solution by (④) device access during family time. The "Let Them Be Kids" campaign also supports raising the minimum age for social media to protect children's mental health in the digital age.

* addiction: 依存症 ADHD: 注意欠陥多動性障害 autism: 自閉症 verbally: 口頭で
self-esteem: 自尊心 lockable: 鍵がかけられる

(adapted from kidsnews.com)

- ① a. use b. spend c. spent d. spends
- ② a. time b. usage c. problem d. results
- ③ a. take b. taken c. taking d. took
- ④ a. limit b. limits c. limiting d. limited
- ⑤ () might be more severely affected by too much screen time.

- a. All children b. Children without screens
c. Children below 10 d. Children with ADHD or autism

①	②	③	④	⑤

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3枚目得点

3. 次の英文を読み、設問に答えなさい。

(3点×10=30点)

What Is a Black Hole?

A black hole is a region* in space where the pulling force of gravity is (ア) strong that light is not able to escape. The strong gravity occurs because matter has been pressed into a tiny space. This compression* can ①take place at the end of a star's life. Some black holes are a result of dying stars.

Because no light can escape, black holes are invisible. However, space telescopes* with special instruments can help find black holes. They can observe the behavior of material and stars that are very close to black holes.

How Big Are Black Holes?

Black holes can come in a range of sizes, but there are three main types of black holes. The black hole's mass* and size ②determine what kind it is.

The smallest ones are known as primordial* black holes. Scientists believe this type of black hole is as small (イ) a single atom but with the mass of a large mountain.

The most common type of medium-sized black holes is called "stellar*." The mass of a stellar black hole can be up to 20 times greater than the mass of the sun and can fit inside a ball with a diameter* of about 10 miles. Dozens of stellar mass black holes may exist (ウ) the Milky Way galaxy*.

The largest black holes are called "supermassive*." These black holes have masses greater than 1 million suns combined and would fit inside a ball with a diameter about the size of the solar system. Scientific evidence ③suggests that every large galaxy contains a supermassive black hole at its center. The supermassive black hole at the center of the Milky Way galaxy is called Sagittarius A. It has a mass equal to about 4 million suns and would fit inside a ball with a diameter about the size of the sun.

* region: 領域 compression: 圧縮 telescope: 望遠鏡 mass: 質量
 primordial: 原始の stellar: 恒星の diameter: 直径
 Milky Way galaxy: 天の川銀河 supermassive: 超大質量の

adapted from: NASA Kids' Club

1) (ア) ~ (ウ) に入る適語を以下の a. ~d. から選び、記号で答えなさい。

a. within b. without c. as d. so

ア	イ	ウ

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4 枚目得点

2) 下線部 ①～③ の語句に最も近い意味のものを a. ～d. から選び、記号で答えなさい。

① take place

a. finish

b. happen

c. destroy

d. extend

② determine

a. describe

b. observe

c. change

d. decide

③ suggests

a. shows

b. denies

c. creates

d. follows

①	②	③

3) 以下の文が本文の内容に合っていれば T 、合っていなければ F と答えなさい。

ア) With a special type of space telescopes, scientists can find stars that will turn to black holes soon.

イ) Black holes are divided into 3 types according to how old they are.

ウ) The type called "primordial" is the most common type of black holes.

エ) There is a supermassive black hole at the center of each galaxy.

ア)	イ)	ウ)	エ)

(5枚目／5枚中)

5 枚目得点

(4点 × 5=20点)

- [you / was / careless / of / it / to / miss] the train.

4	1) We could have gone out []
	2) She's angry about []
	3) That book is mainly for []
	4) The bad weather []
	5) [] the train.