**Smartphones and You**





**Smartphones and You**

**Pre-reading questions: Discuss with a partner/group**

1. For what purposes do you usually use your smartphone?

2a. How would you feel if you left your smartphone at home and had to spend your day without it?

2b. Would this cause you any problems? If so, what kind?

3. Would you feel anxious if you could not use your smartphone for some reason when you wanted to do so?

4. What does it mean to be addicted to something?

5. What kinds of things can people be addicted to?

6. Do you feel people can be addicted to their cellphone? Explain.

7. The article we will read is called “Smartphones Hijack Our Minds.” What does the word hijack mean?

7a. What do you associate with this word usually?

8. What do you think/predict that this article will discuss?

**Reading: “**How Smartphones Hijack Our Minds”

**Directions**: Read the following article. Note that words in bold are listed in the glossary in alphabetical order to save you time.

|  |  |
| --- | --- |
| “How Smartphones Hijack Our Minds” – By Nicholas Carr, October 6, 2017 | **Glossary (in alphabetical order)** |
| (1) **So you bought** that new iPhone. If you are like the typical owner, you’ll be pulling your phone out and using it some 80 times a day according to data Apple collects. That means you’ll be consulting the glossy little rectangle nearly 30,000 times over the coming year. Your new phone, like your old one, will become your constant companion and trusty **factotum**—your teacher, secretary, confessor, **guru**. The two of you will be **inseparable**.(2) The smartphone is unique in the **annals** of personal technology. We keep the gadget within reach more or less around the clock, and we use it in countless ways, consulting its apps and checking its messages and **heeding** its alerts **scores** of times a day. The smartphone has become a **repository** of the self, recording and **dispensing** the words, sounds and images that define what we think, what we experience and who we are. In a 2015 **Gallup survey**, more than half of iPhone owners said that they couldn’t imagine life without the device.(3) We love our phones for good reasons. It’s hard to imagine another product that has provided so many useful functions in such a handy form. But while our phones offer convenience and **diversion**, they also **breed** anxiety. Their extraordinary usefulness gives them an **unprecedented** hold on our attention and vast influence over our thinking and behavior. So what happens to our minds when we allow a single tool such **dominion** over our **perception** and **cognition**? (4) Scientists have begun exploring that question—and what they’re discovering is both fascinating and troubling. Not only do our phones shape our thoughts in deep and complicated ways, but the effects **persist** even when we aren’t using the devices. As the brain grows dependent on the technology, the research suggests, the intellect weakens.(5) ‘The division of attention **impedes** reasoning and performance.’ (6) Adrian Ward, a cognitive psychologist and marketing professor at the University of Texas at Austin, has been studying the way smartphones and the internet affect our thoughts and judgments for a decade. In his own work, as well as that of others, he has seen **mounting** evidence that using a smartphone, or even hearing one ring or vibrate, produces a **welter** of distractions that makes it harder to concentrate on a difficult problem or job. The division of attention **impedes** reasoning and performance. (7) A 2015 *Journal of Experimental Psychology* study, involving 166 subjects, found that when people’s phones beep or buzz while they’re in the middle of a challenging task, their focus **wavers**, and their work gets sloppier—whether they check the phone or not. Another 2015 study, which involved 41 iPhone users and appeared in the *Journal of Computer-Mediated Communication*, showed that when people hear their phone ring but are unable to answer it, their blood pressure spikes, their pulse quickens, and their problem-solving skills decline.(8) The earlier research didn’t explain whether and how smartphones differ from the many other sources of distraction that crowd our lives. Dr. Ward suspected that our attachment to our phones has grown so intense that their mere presence might diminish our intelligence. Two years ago, he and three colleagues— Kristen Duke and Ayelet Gneezy from the University of California, San Diego, and Disney Research behavioral scientist Maarten Bos —began an **ingenious** experiment to test his **hunch**.(9) The researchers **recruited** 520 undergraduate students at UCSD and gave them two standard tests of intellectual **acuity**. One test **gauged** “available cognitive capacity,” a measure of how fully a person’s mind can focus on a particular task. The second assessed “fluid intelligence,” a person’s ability to interpret and solve an unfamiliar problem. The only variable in the experiment was the location of the subjects’ smartphones. Some of the students were asked to place their phones in front of them on their desks; others were told to stow their phones in their pockets or handbags; still others were required to leave their phones in a different room.(10) ‘As the phone’s **proximity** increased, brainpower decreased.’ (11) The results were **striking**. In both tests, the subjects whose phones were in view posted the worst scores, while those who left their phones in a different room did the best. The students who kept their phones in their pockets or bags came out in the middle. As the phone’s **proximity** increased, brainpower decreased. (12) In subsequent interviews, nearly all the participants said that their phones hadn’t been a distraction—that they hadn’t even thought about the devices during the experiment. They remained **oblivious** even as the phones disrupted their focus and thinking. (13) A second experiment conducted by the researchers produced similar results, while also revealing that the more heavily students relied on their phones in their everyday lives, the greater the **cognitive** **penalty** they suffered.(14) In an April article in the *Journal of the Association for Consumer Research*, Dr. Ward and his colleagues wrote that the “integration of smartphones into daily life” appears to cause a “brain drain” that can diminish such vital mental skills as “learning, logical reasoning, abstract thought, problem solving, and creativity.” Smartphones have become so **entangled** with our existence that, even when we’re not **peering** or **pawin**g at them, they tug at our attention, diverting precious cognitive resources. Just **suppressin**g the desire to check our phone, which we do routinely and subconsciously throughout the day, can **debilitate** our thinking. The fact that most of us now habitually keep our phones “nearby and in sight,” the researchers noted, only magnifies the mental **toll**.(15) Dr. Ward’s findings are consistent with other recently published research. In a similar but smaller 2014 study (involving 47 subjects) in the journal *Social Psychology*, psychologists at the University of Southern Maine found that people who had their phones in view, **albeit** turned off, during two demanding tests of attention and cognition made significantly more errors than did a control group whose phones remained out of sight. (The two groups performed about the same on a set of easier tests.) (16) In another study, published in *Applied Cognitive Psychology* in April, researchers examined how smartphones affected learning in a lecture class with 160 students at the University of Arkansas at Monticello. They found that students who didn’t bring their phones to the classroom scored a full letter-grade higher on a test of the material presented than those who brought their phones. It didn’t matter whether the students who had their phones used them or not: All of them scored equally poorly. A study of 91 secondary schools in the U.K., published last year in the journal *Labour Economics*, found that when schools ban smartphones, students’ examination scores go up substantially, with the weakest students benefiting the most.(17) It isn’t just our reasoning that **takes a hit** when phones are around. Social skills and relationships seem to suffer as well. Because smartphones serve as constant reminders of all the friends we could be chatting with electronically, they pull at our minds when we’re talking with people in person, leaving our conversations **shallower** and less satisfying. ow Smartphones Hijack Our MindsIllustration: Serge Bloch (18) In a study conducted at the University of Essex in the U.K., 142 participants were divided into pairs and asked to converse in private for 10 minutes. Half talked with a phone in the room, while half had no phone present. The subjects were then given tests of **affinity**, trust and **empathy**. “The mere presence of mobile phones,” the researchers reported in 2013 in the *Journal of Social and Personal Relationships*, “**inhibited** the development of interpersonal closeness and trust” and **diminished** “the extent to which individuals felt **empathy** and understanding from their partners.” The downsides were strongest when “a personally meaningful topic” was being discussed. The experiment’s results were **validated** in a subsequent study by Virginia Tech researchers, published in 2016 in the journal *Environment and Behavior*.(19) The evidence that our phones can get inside our heads so forcefully is **unsettling**. It suggests that our thoughts and feelings, far from being **sequestered** in our skulls, can be **skewed** by external forces we’re not even aware of. (20) Scientists have long known that the brain is a **monitoring** system as well as a thinking system. Its attention is drawn toward any object that is new, **intriguing** or otherwise striking—that has, in the psychological jargon, “**salience**.” Media and communications devices, from telephones to TV sets, have always **tapped into** this instinct. Whether turned on or switched off, they promise an unending supply of information and (21) But even in the history of **captivatin**g media, the smartphone stands out. It is an **attention magnet** unlike any our minds have had to **grapple with** before. Because the phone is packed with so many forms of information and so many useful and entertaining functions, it acts as what Dr. Ward calls a “supernormal stimulus,” one that can “**hijack**” attention whenever it is part of our surroundings—which it always is. Imagine combining a mailbox, a newspaper, a TV, a radio, a photo album, a public library and a boisterous party attended by everyone you know, and then compressing them all into a single, small, **radiant** object. That is what a smartphone represents to us. No wonder we can’t take our minds off it. (22) The **irony** of the smartphone is that the qualities we find most appealing—its constant connection to the net, its multiplicity of apps, its responsiveness, its portability—are the very ones that give it such **sway** over our minds. Phone makers like Apple and Samsung and app writers like Facebook and Google design their products to consume as much of our attention as possible during every one of our waking hours, and we thank them by buying millions of the gadgets and downloading billions of the apps every year. (23) A quarter-century ago, when we first started going online, we took it on faith that the web would make us smarter: More information would breed sharper thinking. We now know it isn’t that simple. The way a media device is designed and used **exert**s at least as much influence over our minds as does the information that the device unlocks. (24) ‘People’s knowledge may **dwindle** as gadgets grant them easier access to online data.’ (25) As strange as it might seem, people’s knowledge and understanding may actually dwindle as gadgets grant them easier access to online data stores. In a **seminal** 2011 study published in *Science*, a team of researchers—led by the Columbia University psychologist Betsy Sparrow and including the late Harvard memory expert Daniel Wegner —had a group of volunteers read 40 brief, factual statements (such as “The space shuttle Columbia disintegrated during re-entry over Texas in Feb. 2003”) and then type the statements into a computer. Half the people were told that the machine would save what they typed; half were told that the statements would be immediately erased. (26) Afterward, the researchers asked the subjects to write down as many of the statements as they could remember. Those who believed that the facts had been recorded in the computer demonstrated much weaker recall than those who assumed the facts wouldn’t be stored. Anticipating that information would be readily available in digital form seemed to reduce the mental effort that people made to remember it. The researchers **dubbed** this phenomenon the “Google effect” and noted its broad **implication**s: “Because search engines are continually available to us, we may often be in a state of not feeling we need to **encode** the information internally. When we need it, we will look it up.” (27) Now that our phones have made it so easy to gather information online, our brains are likely **offloading** even more of the work of remembering to technology. If the only thing at stake were memories of trivial facts, that might not matter. But, as the pioneering psychologist and philosopher William James said in an 1892 lecture, “the art of remembering is the art of thinking.” Only by **encoding** information in our biological memory can we **weave** the rich intellectual associations that form the **essence** of personal knowledge and give rise to critical and **conceptual** thinking. No matter how much information swirls around us, the less well-stocked our memory, the less we have to think with.(28) ‘We aren’t very good at **distinguishing** the knowledge we keep in our heads from the information we find on our phones.’ (29) This story has a twist. It turns out that we aren’t very good at **distinguishing** the knowledge we keep in our heads from the information we find on our phones or computers. As Dr. Wegner and Dr. Ward explained in a 2013 Scientific American article, when people call up information through their devices, they often end up suffering from **delusion**s of intelligence. They feel as though “their *own* mental capacities” had generated the information, not their devices. “The **advent** of the ‘information age’ seems to have created a generation of people who feel they know more than ever before,” the scholars concluded, even though “they may know ever less about the world around them.” (30) That insight sheds light on our society’s current **gullibility** **crisis**, in which people are all too quick to credit lies and half-truths spread through social media by Russian agents and other bad actors. If your phone has sapped your powers of discernment, you’ll believe anything it tells you.(31) Data, the novelist and critic Cynthia Ozick once wrote, is “memory without history.” Her observation points to the problem with allowing smartphones to **commandeer** our brains. When we **constrict** our capacity for reasoning and recall or transfer those skills to a gadget, we sacrifice our ability to turn information into knowledge. We get the data but lose the meaning. Upgrading our gadgets won’t solve the problem. We need to give our minds more room to think. And that means putting some distance between ourselves and our phones.[Mr. Carr is the author of *The Shallows* and *Utopia Is Creepy*, among other books.]Appeared in the October 7, 2017, print edition as 'How Smart- phones Hijack Our Minds.'  | ***acuity*** (n) – the ability to think, see, or hear quickly and clearly***advent*** (n) – the time when something first begins to be widely used***affinity*** (n) – a strong feeling that you like something***albeit*** (conj.) - although***an attention mag***net (n) something that attracts your interest**annals** (n) – the whole history of something***breed*** (v) – cause a particular feeling or condition***captivating*** (adj) – very attractive or interesting***cognition*** (n) – the process by which you see or hear something, recognize it, and understand it***commandeer*** (n) – to take someone else’s property for your own use***conceptual*** (adj) – dealing with concepts, or ideas of how something is or how something should be done***constrict*** (v) – to lessen, restrict***critical thinking*** (n) - the objective analysis and evaluation of an issue in order to form a judgment.***debilitate*** (v) – weaken, lessen strength of something***dispensing*** (v) - distributing or providing (a service or information) to a number of people***delusions*** (n) – false beliefs about something ***discernment*** (n) – the ability to make good judgments about people, styles, and things you see, hear, or ear***distinguishing*** (v) – recognizing or understanding the difference between two similar things, people, memory, etc. ***dispensing*** (v) – giving out/providing a particular amount of something ***diversion*** (n) – something that takes your attention away from something that you should be giving your attention to (usually more enjoyable)***dominion*** (n) – having power over someone***dubbed*** (v) - give an unofficial name or nickname to (someone or something).***dwindle*** (v) – become less and less, smaller and smaller***empathy***(n) -the ability to understand and share the feelings of another***encode*** (v) – to put a message or other information into code***entangled*** (adj.) – to become involved in a situation (our life) that is difficult to escape from or a relationship that causes problems***essence*** (n) – most basic and important part of something ***exert*** (v) – influence to make something happen***factorum*** (n) – an employee who does all kinds of work, here the phone is the “employee”***Gallup survey*** (n) – survey done by the Gallup company. Founded by George **Gallup** in 1935, the company became known for its public opinion polls conducted worldwide. It provides **research** and strategic consulting to large organizations in many countries, focusing on "analytics and advice to help leaders and organizations solve their most pressing problems"***guru*** (n) - a Sanskrit term that refers to someone who is a "teacher, guide, expert, or master" of certain knowledge or field***gauged*** (v) – to judge or calculate something by using a particular method or instrument***gullibility crisis*** (n) – a serious problem with people being easily persuaded to believe something***heeding*** (v) – paying attention to something ***hijack*** (v) – take control of something and use it for your own purpose***hunch*** (n) – feeling that something is true or that something will happen, even if you do not have any facts of proof about it***impedes*** (v) – makes is difficult for someone/something to make progress***implications*** (n) – something that is not directly said or shown but that is suggested or understood; a possible future result or effect of a plan, action, or event***information ag*e** (n) - The Information Age is a 21st century period in human history characterized by the rapid shift from traditional industry that the Industrial Revolution brought through industrialization, to an economy based on information technology***ingeniou*s** (adj) – a well-thought idea, invention, that is the result of intelligent thinking***inhibited*** (v) – prevent something from developing as much as it should***inseparable*** (adj.) – unable to be separated from something/someone***intriguing*** (adj) –very interesting because it is strange, mysterious, or unexpected***irony*** (n) – a situation/condition that is unusual or amusing because something strange happens, or the opposite of what is expected happens or is true***monitoring*** *(adj.)* ***–*** observing and checking the progress or quality of (something) over a period of time; keep under systematic review***mounting*** (adj/v.) – increasing (generally of something bad)***oblivious*** (adj) – not knowing about or not noticing something that is happening around you, unaware***pawing*** (v) – if an animal paws a surface, it touches or rubs one place again and again with its paw; here referring to our hand/fingers swiping our phones.***peering*** (v) – looking at something very carefully and hard***penalty*** (n) – something bad that happens to you because of a bad decision you made in the past or because of the situation you are in.***perception*** (n) – the way you understand or think of something and your belief about what it is like***persist*** (v) – continue to exist or happen***proximity*** (n) – nearness in distance or time***radiant*** (adj) – sending out light, shining or glowing brightly***recruited*** (v) – to find people to do a task for you***repository*** (n) – a place where things are stored in large quantities***salience*** (n) – quality of being important, noticeable***sapped*** (v) – gradually taken away something such as strength or energy***scores of*** (n) – a lot of ***sequestered*** (adj.) – hidden away or isolated***seminal*** (adj) – new and important and influences the way in which something develops in the future***shallower*** (adj) – less meaningful ***skewed*** (adj.) – altered, changed, distorted***striking*** (adj.) – notable, noticeable, worth attention to***subsequent*** (adj.) – coming after something in time, following***suppressing*** (v) – prevent the development, action, or expression of (a feeling, impulse, idea, etc.)***sway*** (n) – power, influence***take a hit*** (v) - suffer from loss or negatively affected ***tapped into*** (v) – made use of as much as possible of ideas, experience, knowledge, instincts that a group of people has***to grapple with*** (v) – deal with a difficult problem***toll*** (n) – bad effect***tug*** (v) – a strong pull***unprecedented*** (adj) – never having happened before***unsettling*** (adj) – disturbing, anxious, bothersome***validated*** (v) – proven true and correct***wavers*** (v) – move from one direction to another, not focused***weave*** (v) – to put many different ideas, subjects, stories, etc. together and connect them smoothly***welter*** (n) – a large and confusing number of different details, emotions, etc.  |

**Post-reading Activities:**

1. Complete a SPUNKI relating to the article “How Smartphones Hijack Our Minds” by Nicholas Carr.

2. List ten (10) survival words relative to this entire article. Write them below.

**Comprehension Questions:**

1. According to data collected by Apple, how many times do we usually use our cell phone:

a. a day?

b. a year?

2. In paragraph 2, what survey finding implies that over 50% of iPhone users are addicted to their smartphones? (Underline it and “write addition” in the margin next to it.)

3. Does most research referenced in this this article indicate we are becoming more intelligent or less intelligent because of smartphones?

4. Several studies are discussed in this article regarding the use of cellphones and their effect on our brain. Review the following graphic organizers recording information about the first four studies discussed. Also, note the summary write up following each. How is this information presented in writing compared to the graphic organizer? Note the more extensive write-up of Dr. Ward’s research discussed in paragraphs 8-11.

**Paragraph 2**

|  |  |  |
| --- | --- | --- |
| **Who and type:** **Research, Survey, Study** | **When:** | **Results/Findings** |
| Gallup Survey | 2015 | Over half of iPhone owners can’t imagine life without their phone. |

**Summary:**

A Gallup survey taken in 2015 found that “Over half of iPhone owners can’t imagine life without their phone.”

**Paragraph 6**

|  |  |  |  |
| --- | --- | --- | --- |
| **Who and type: Research, Survey, Study** | **Research Question** | **How long** | **Results/Fi** |
| Adrian Ward, cognitive psychologist and marketing professor at the University of Texas at AustinResearch | How does smartphones and the internet affect our thoughts and judgment? | Over a decade |  Mounting evidence that using a smartphone, or even hearing one ring or vibrate, produces many varied distractions that make concentration on a problem or job more difficult. |

**Summary:**

Adrian Ward, cognitive psychologist and marketing professor at the University of Texas at Austin, conducted research over a decade on how smartphones and the internet affect our thoughts and judgment. His found “mounting evidence that using a smartphone, or even hearing one ring or vibrate, produces many varied distractions that make concentration on a problem or job more difficult.”

**Paragraph 7 (See summary below)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Who and type: Research, Survey, Study, exeriment** | **Number of subjects** | **WhenHow long** | **Findings/Results** |
| *Journal of Experimental Psychology*Study | 166 | 2015 | When people’s phones beep or buzz while they’re in the middle of a challenging task, their focus wavers, and their work gets sloppier – whether they check the phone or not. |

**Summary:**

A study in 2015 discussed in the *Journal of Experimental Psychology* of 166 subjects found

“when people’s phones beep or buzz while they’re in the middle of a challenging task, their focus wavers, and their work gets sloppier – whether they check the phone or not.”

**Paragraph 7**

|  |  |  |  |
| --- | --- | --- | --- |
| **Who and type:****Research, survey, study, experiment** | **Number of subjects** | **When/How Long** | **Findings/Results** |
| ***Journal of Computer-Mediated Communication*****Study** | **41** | **2015** | When people hear their phone ring but are unable to answer it, their blood pressure spikes, their pulse quickens, and their problem-solving skills decline.  |

**Summary:**

A study in the *Journal of Computer-Mediated Communication* of 41 subjects found that “when people hear their phone ring but are unable to answer it, their blood pressure spikes, their pulse quickens, and their problem-solving skills decline.”

**Paragraphs 8-11**

|  |  |  |  |
| --- | --- | --- | --- |
| **Who and type:****Research, survey, study, experiment** | **Number of subjects** | **When/How Long** | **What is being tested:****(a) available cognitive capacity****(b) fluid intelligence** |
| **Dr. Ward,** **Kristen Duke, and Ayelet Gneezy from University of California, San Diego and****Maarten Bos, Disney Research behavioral scientist** **Experiment** | **520 undergraduates students at UCSD** | **2015** | **Only variable: location of cell phone** |

**Research Scenario: Students administered two standard tests**

Students left phones in a different room

Students placed their phones in their pockets or handbags

Students placed their phones in front of them

**Variable**

Scored the best on exams

Scored worse on exams

Scored in the middle of all groups

**Results**

As the phone’s proximity increased, brainpower decreased

**Conclusion:**

**Summary:**

Adrian Ward, cognitive psychologist and marketing professor at the University of Texas at Austin, Kristen Duke, and Ayelet Gneezy from University of California, San Diego and

Maarten Bos, Disney Research behavioral scientist, conducted an experiment with 520 undergraduate students at USCD in 2015 to test their available cognitive capacity and fluid intelligence based on the proximity of their cell phones to them during two standard exams. They divided the students into three groups. One group had their phones in front of them during the exams. One group had their cells phones in their pockets or handbags, and the third group left their cell phones in another room. The results were that students with their phones in front of them scored worse on the exam. Those with their cell phones in the other room scored best with the other group scored in the middle. Based on these results, the researchers concluded that as the phone’s proximity increased, brainpower decreased.

5. With your partner/group, create a graphic organizer on poster paper to show the information concerning other studies discussed in the article. Use one of the examples above to help you. You will display your graphs and present the study and results to the class. In other words, you will prepare a graphic organizer and summarize the results similar to the models above. [Instructor will put students into groups and assign one study per group].

* Paragraph 14: Dr. Ward and colleagues findings in *Journal of the Association for Consumer Research.*
* Paragraph 15: 2014 study
* Paragraph 16: Study in *Applied Cognitive Psychology*
* Paragraph 16: Study in *Labor Economics*
* Paragraph 18: Study conducted at the University of Essex in the U.K.
* Paragraph 25-26: 2011 study

**Gallery Walk:**

1. Walk around the room to read the posters created by each group about their assigned research. Someone from the group will be there to answer questions. Group members should take turns standing by their group’s poster to answer questions. Ask questions if you need/want more information about the study.

2. Writing Task:

Fill out the worksheet/chart below about the various research findings relating to our increased sue of cell phones. **Put the results in your own words**.

**Gallery Walk Worksheet/Chart:**

Smartphone Disadvantages based on research

|  |  |
| --- | --- |
| **Study/Research/Experiment** | **Disadvantages** |
| (Paragraph 14) Dr. Ward and colleagues findings in *Journal of the Association for Consumer Research.* |  |
| (Paragraph 15) 2014 study published in *Social Psychology* |  |
| (Paragraph 16) Study in *Applied Cognitive Psychology*(160 students at University of Arkansas at Monticello) |  |
| (Paragraph 16) Study in *Labor Economics*(91 secondary schools in UK) |  |
| (Paragraph 18)Study conducted at the University of Esses in UK |  |
| (Paragraphs 25-26)2011 study |  |

**Writing Assignment:**

**Directions: Write an essay as follows. The first paragraph will summarize the article. The second and third paragraphs will respond to the specific questions about you. The fourth paragraph will be a conclusion about changes you may or may not make in your smartphone usage after reading this article.**

**Paragraph 1:**

Write a brief summary of the article – you need to summarize the author’s main point, not give all the specifics of the experiments. Focus on what is the author’s main message in this article? What does the research he shares tell us about the increased use of smartphones?

**Paragraph 2:**

Do you feel you are addicted to your smartphone? (Think about what you use it for, how often you check it, when do you use it?)

**Paragraph 3:**

Do you believe that you know more because of your smartphone as stated by Dr. Webner and Dr. Ward in their 2013 Scientific American article? (Re-read paragraph 29)

Paragraph 4:

What changes, if any, will you make in your Smartphone usage after reading this article? Why? If none, why?