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| **Topic: Inventions: Light Plants** |
| **Instructor:** | **Level:** | **Age:**  | **Number of Students:** | **Length:** |
| Jeongmi, Park (Jen) | Intermediate | Adults | 3 | 30 minutes |
| **Materials:**White board and board markers12 inventions grammar worksheet: Production (3 copies)Power point file with a computer |
| **Aims:**Ss will be able to get new information about inventions by information gap activity.Ss will be able to distinguish the different usage between for and since through the inductive approach.Ss will be able to classify some words related to time by writing on the board.Ss will be able to give their own answers properly with for or since expression by information gap activity.I want to manage my teaching time better. |
| **Language Skills:**Speaking Ss will ask and give information about inventions.Listening Ss will listen to teacher’s instructions and other student’s answer.Reading Ss will read some facts about inventionsWriting Ss will classify words on the board. |
| **Language Systems:**Phonology /i/ VS /e/Lexis Invention vocabulary (patent, glow, carbon etc.)Grammar for VS sinceFunction explainingDiscourse Asking & Answering |
| **Assumptions:**Students already know-how the class is set up and run-the language skills and language systems |
| **Anticipated Errors and Solutions:**If Ss need some help for understanding word meaning,-Give them support by providing definitions and some examples.If some Ss keep quiet for fear of speaking,-Encourage them to speak with low-anxiety environment, not to correct their errors immediately.If certain Ss dominates the talking time,-Ask them to give other Ss a chance to speak.If time is short,- Omit to share the interesting facts in information gap activity.If Ss finish their tasks earlier than anticipated, -Give Ss SOS activity. |
| **References:**Sean Banville. (2017). In *Breaking New English*. Retrieved January 11, 2019, fromhttps://breakingnewsenglish.com/1712/171218-plants.htmlRaymond M.& William R.S. (2009). Grammar in use Intermediate. New York, New York, USA: Cambridge University Press.MIT Just Created Living Plants That Glow Like A Lamp, And Could Grow Glowing Trees To Replace Streetlights. (2017). In *The Space Academy*. Retrieved January 11, 2019, fromhttp://www.thespaceacademy.org/2017/12/mit-just-created-living-plants-that.htmlAnne Trafton. (2017). In *MIT News*. Retrieved January 11, 2019, fromhttp://news.mit.edu/2017/engineers-create-nanobionic-plants-that-glow-1213Anastasia Chronopoulou. (2017). In *Useless daily*. Retrieved January 11, 2019, fromhttps://www.uselessdaily.com/tech/inventions-trivia-22-inventions-that-shaped-modern-society/#.XDjb6VwzZPY Using Since and for. (n.d.). In *5minute English*. Retrieved January 11, 2019, fromhttp://www.5minuteenglish.com/apr7.htm |
| **Notes:** |

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| **Presentation: For VS Since** |
| **Aims:**Ss will know today’s topic.Ss will check the difference between for and since. | **Materials:**White board and board markersComputer |
| **Time** | **Set Up** | **Student**  | **Teacher** |
| **1 min****1 min****3 min** | **Whole** | GreetingAnswering teacher’s questions | **Greeting**Hi! Everyone.**Eliciting**Look at this picture. What do you think about it?**Introducing the topic**This plant makes a light like a lampBut unlike a lamp, this plant doesn’t need electricity.The plants glowed for nearly four hours.This is the target sentence in this class.In this sentence, the writer uses for to say how long the plants glow.Also we can use since. We use for and since to say how long something has been happening.Then what is the difference between for and since?Let’s take a look.I prepared example sentences about for and since.Can you guess the difference?We use for with a period time.And we use since with the start of a period.(Check whether the Ss understand this rule or not while explaining.) |
| **Notes:** |
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| **Practice: Classifying words and Using substitution table** |
| **Aims:**Ss will be able to distinguish the different usage between for and since through the practice.  | **Materials:** White board and board markersComputer |
| **Time** | **Set Up** | **Student**  | **Teacher** |
| **4 min****3 min****3 min** | **Whole****Individually****Whole****Individually****Whole** | Understanding how the activity is going.Making sentences while using the substitution table.Filling in the blanks on the screen | **Classifying words****Instruction** Then let’s practiceLook at the board. There are some words related to time.Let’s organize the words into the correct columns.**Demonstration**Let me show you first. A long time is in the ‘for’ column and noon is in the ‘since’ column.Erase these two words.Then 15 words remain.So each person will choose 5 words and write on the board.Who goes first?Please come here.**ICQ**Where do you write the answer? (on the board)**Substitution table****Instruction**This time we will use this table.Look at this. Let’s make some sentence using for and since.**Demonstration**Repeat after me. I have been working for two months.I have lived in here for a long time.Then it’s your turn.I’ll give you a cue word. You will make a sentence using the cue word.Let’s start!**Fill in the blanks****Instruction**Then let’s take a look in the sentence.Fill in the blank with for or since.**Demonstration**I’ll do it first. Lunchtime is a duration. So the answer is since.It’s been raining since lunchtime.Don’t forget to read the full sentence.Look at the next sentence. ★, can you give the answer?**ICQ**Where do you find the sentences with the blanks? (on the screen) |
| **Notes: Draw a table and 17 words for classifying activity in advance.** |
|  |
| **Production: Information Gap** |
| **Aims:**Ss will be able to give their own answers properly with for or since expression by information gap activity. | **Materials:**White board and board markers12 inventions grammar worksheetComputer |
| **Time** | **Set Up** | **Student**  | **Teacher** |
| **2 min****7 min** | **Whole** | Understanding how the activity is goingAsking question and giving information about inventions | **Instruction** Let’s do something more interesting!I prepared three kinds of worksheets for you.I’ll give it to you.(Distribute the worksheet)Look at this paper.Each person has different information about inventions.So you have to ask the information and take a note in each column.**Demonstration**For example, Student B or C has to ask the question about GPS.Use the model question on the board.“When was/were GPS invented?”Student A will give the information about it.GPS, Global Positioning System, has developed since 1978.Then B or C has to ask again.“What is another interesting fact?”A will give the answer again.GPS made to pinpoint your exact position to within a couple of meters with the help of up to 32 satellites.In this case, you don’t need to write down all information. Just take a note.You have 7 minutes.Let’s start!**Monitoring**(Monitor discreetly. Answer students if they ask questions.)Give time warning: 1minute left.(Be flexible with time. Give 1 more minute if they need it.)Time’s up!Can you get some new information through this activity?I hope so. |
| **Notes:** |
|  |
| **Post Production: CCQ** |
| **Aims:**Ss will check the concept of for and since. | **Materials:**White board and board markersComputer |
| **Time** | **Set Up** | **Student**  | **Teacher** |
| **5min** | **Whole** | Answering Teacher’s questions | **CCQ**Going back to the target sentence, give me the answer.Do you know when did the plant start to glow? (No. we don’t know it.)How long did the plants glow? (Nearly four hours)How about this sentence?Mobile phones have been developed since 1917.This is from your information gap activity.Do you know when did mobile phones start to develop? (Yes. In 1917)This is the end of my class.Thank you. |
| **Notes:** |
|  |
| **SOS Activity: Initial Letters** |
| **Aims:** | **Materials:**White board and board markers |
| **Time** | **Set Up** | **Student** | **Teacher** |
| **If needed** | **Whole****Individually** |  | **Instruction**Today we are going to Initial letters game.Have you ever played before?First, I name a topic or situation and says a keyword.Then, you work together to find one word.That word fits the topic beginning with each letter of the keyword.The winner is the person who finds all the words for all the letters.**Demonstration**For example, I say in school, the keyword is SCHOOL. Then you have to find some words starting with S, C, H, O, O, L.Students, Coursebooks, Headteacher, etc.Let’s do it!Topic: JobKeyword: workplace, employee, managerTopic: Food and DrinkKeyword: orange, water, lemon  |
| **Notes:** |

Grammar worksheet

12 Inventions that shaped modern society

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| --- | --- | --- | --- |
|  | Student A | Student B | Student C |
| Information for inventions | **GPS,** Global Positioning System, has been used since 1978. | **Digital camera** has been on sale for 45 years. | **Mobile phones** have been developed since 1917. |
| Interesting facts | GPS was made to pinpoint your exact position to within a couple of meters with the help of up to 32 satellites. | The first digital camera was just 0.01 mega pixels. | Finnish inventor Eric filed a patent for a “pocket-size folding telephone with a very thin carbon microphone”. That’s when it all began. |
| Information for inventions | **The telephone** has been used for 150 years. | **ATM** began to be used since June, 1967. | The **iPod** has been used since November 10, 2001. |
| Interesting facts | Today there are 1.3 billion phone lines in use around the world. | The first ATM was introduced at Barclays Bank in Enfield, UK. | iPod has made an astronomical number of sales (more than 110m units) |
| Information for inventions | Since 1927, the **refrigerator** has been used widely. | By **airplane**, we can fly anywhere we want for 120 years thanks to the Wright Brothers. | **Credit cards** have been used for nearly 100 years. |
| Interesting facts | The first refrigerator was the General Electric “Monitor-Top” refrigerator. | The Wright Flyer flew about 120 feet. | Credit cards first used in the 1920s, in the US, specifically to sell fuel to a growing number of automobile owners. |
| Information for inventions | **Barcodes** have been used for 45 years. | The modern **microwave oven** has been sold since 1946. | **The television** has been used for 100 years. |
| Interesting facts | Barcodes were not a big success until they were used in supermarket checkout systems. | The first microwave oven’s name was “Radarange,” because its idea was come from radar technology. | 99% of American homes own at least one television set, and 66% has at least three. |

When was/were \_\_\_\_\_\_\_\_\_ invented?

What is another interesting fact?

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What is another interesting fact?

Grammar

For or Since?

Organize the words into the correct columns. Look at the examples first.

|  |
| --- |
| ~~a long time~~ / ~~noon~~ / ten minutes a day / three days / two hours / last Monday / 2019/ ever / you wrote to your friend / 150 years / March / the beginning / he arrive / 9:30am/ nine months / three centuries / a couple of seconds / |

|  |  |
| --- | --- |
| For | since |
| a long time | noon |

Grammar

For or Since?

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|  |
| --- |
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|  |  |
| --- | --- |
| For | since |
| a long timeten minutes a daythree daystwo hoursever150 yearsNine monthsThree centuriesA couple of seconds | NoonLast Monday2019You wrote to your friendMarchThe beginningHe arrived9:30am |

**Using Since and For**

 Use **since + (a specific time)** like March 31, or 9:19 a.m., or Tuesday.

Examples:
*I have been studying English since 1993.
John has helped me since 10:00 this morning.
Those people have been in Europe since August.*

Note: Because we are talking about a time in the past until now, we have to use *have/has + past participle* when we use **since**.

\*\*\*\*\*\*

Use **for + (a length of time)** like 1 day, or 3 hours, or 5 years.

Examples:
*I have been studying English for 4 years.
John has helped me for 8 hours.
Those people went to Europe for 2 months.*

Note: It is possible to use the *past tense* when you use **for** if the action is finished.

New plants can produce light in the dark

(18th December, 2017)

Scientists have created plants that glow in the dark. They are hoping to produce plants that can light up our lives. The scientists are from the Massachusetts Institute of Technology in the USA. They hope their discovery could lead to plant lights replacing electric lights. One day, even light that trees produce could replace street lights. Professor Michael Strano, lead author of the research, explained that his team wants to create sustainable light sources and help the environment. He said: "The vision is to make a plant that will function as a desk lamp - a lamp that you don't have to plug in. The light is ultimately powered by the energy metabolism of the plant itself."

The researchers got the idea for their lighting plants from fireflies. They looked at the substance in fireflies that makes them glow. They created nanoparticles that contain the substance. They then put the nanoparticles into plant leaves to make them glow. The scientists were able to make plants that glowed for nearly four hours. The research team has tested the substance on salad leaves, including spinach and watercress. Professor Strano said: "Our target is to perform one treatment, when the plant is a seedling or a mature plant, and have it last for the lifetime of the plant." He thinks plant lights will be a part of our life in the future. He said: "We think this is an idea whose time has come."