**e-RPH SCIENCE FORM 1**

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| **DAILY LESSON PLAN** | | | |
| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Introduction to Scientific Investigation | **DAY** |  |
| **TITLE** | Science is Part of Daily Life | **TIME** |  |
| **LEARNING OBJECTIVE** | | | |
| At the end of PdPc, students can:   1. Relate four daily activities to science. 2. Summarise the two importance of the science field in everyday life. | | | |
| **TEACHING AND LEARNING ACTIVITIES** | | | |
| **Introduction:**   1. Students are exposed to several activities or everyday phenomena related to science. 2. Students and the teacher engage in a question-and-answer session to test the level of students' existing knowledge. 3. Students pay attention to the teacher's explanation about the importance of science in everyday life. | | | |
| **Activities:**   1. Students are divided into several groups. 2. Students carry out brainstorming activities to identify daily life activities related to science. 3. Students discuss the importance of science in everyday life and the results of the discussion are summarised in a suitable i-Think map. | | | |
| **Closing:**  Students answer the questions in the Target PBD Sains Tingkatan 1 page 1. | | | |
| **REFLECTION** | | | |
| \_\_\_\_\_\_ / \_\_\_\_\_\_ students can achieve the set learning objectives.  \_\_\_\_\_\_ / \_\_\_\_\_\_ students can complete the exercises given.  \_\_\_\_\_\_ / \_\_\_\_\_\_ students need further exercise and teacher guidance.  Note: Teaching and learning cannot be carried out today and will be aggravated in the next learning session because:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |

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| **DAILY LESSON PLAN** | | | |
| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Introduction to Scientific Investigation | **DAY** |  |
| **TITLE** | Science is Part of Daily Life | **TIME** |  |
| **LEARNING OBJECTIVE** | | | |
| At the end of PdPc, students can:   1. Describe the three fields of science. 2. Communicate about three careers in science. 3. Relate the subjects to be studied to two science careers of interest. | | | |
| **TEACHING AND LEARNING ACTIVITIES** | | | |
| **Introduction:**   1. The teacher shows the various fields of science in the textbook page 6. 2. The teacher scans the QR code of Fields of Science and Careers in Science (Target PBD Sains Tingkatan 1 book page 3) and shows it to the students. 3. Students pay attention to fields and careers in science. | | | |
| **Activities:**   1. Students are divided into several groups. 2. Students are asked to choose a career from the fields that have been discussed earlier. 3. Each group collects information related to the chosen career through the Internet or printed materials. A representative is chosen to act as an expert. 4. The selected expert sits in a chair at the front of the class and will answer all questions asked by the other groups regarding the chosen career. 5. Other groups will record the information in the form of a suitable i-Think map. | | | |
| **Closing:**  Students answer the questions in the Target PBD Sains Tingkatan 1 book pages 2. | | | |
| **REFLECTION** | | | |
| \_\_\_\_\_\_ / \_\_\_\_\_\_ students can achieve the set learning objectives.  \_\_\_\_\_\_ / \_\_\_\_\_\_ students can complete the exercises given.  \_\_\_\_\_\_ / \_\_\_\_\_\_ students need further exercise and teacher guidance.  Note: Teaching and learning cannot be carried out today and will be aggravated in the next learning session because:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |

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| **CLASS** |  | **WEEK** |  |
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| **CHAPTER** | 1.0 Introduction to Scientific Investigation | **DAY** |  |
| **TITLE** | Science is Part of Daily Life | **TIME** |  |
| **LEARNING OBJECTIVE** | | | |
| At the end of PdPc, students can:   1. Describe two innovations in technology. | | | |
| **TEACHING AND LEARNING ACTIVITIES** | | | |
| **Introduction:**   1. The teacher showed some technological innovations nowadays. 2. Students and the teacher engage in a question-and-answer session to test the level of students' existing knowledge. | | | |
| **Activities:**   1. Students are divided into several groups. 2. Each group is given a task to collect information about a technological innovation that makes everyday life easier. 3. Each group searches for information and discusses. The results of the discussion were summarised in the form of Microsoft PowerPoint. 4. Each group takes turns to present the results of the discussion in class. | | | |
| **Closing:**  Students answer the questions in the Target PBD Sains Tingkatan 1 book page 2. | | | |
| **REFLECTION** | | | |
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| **DAILY LESSON PLAN** | | | |
| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Introduction to Scientific Investigation | **DAY** |  |
| **TITLE** | Your Science Laboratory | **TIME** |  |
| **LEARNING OBJECTIVE** | | | |
| At the end of PdPc, students can:   1. Identify and state the functions of five apparatuses. 2. Draw and label three commonly used apparatuses in the laboratory and classify them based on their use. | | | |
| **TEACHING AND LEARNING ACTIVITIES** | | | |
| **Introduction:**   1. The teacher scans the QR code of Laboratory Apparatus and Their Functions ( Target PBD Sains Tingkatan 1 book page 3) and shows it to the students. 2. Students pay attention to the teacher's explanation about the laboratory apparatus and their functions. | | | |
| **Activities:**   1. The teacher prepares several stations and worksheets related to the apparatus. 2. Several different apparatuses are placed at each station. 3. Students have to move from one station to the next until all stations are completed. 4. Students identify and draw the apparatus and its function based on the given worksheet. | | | |
| **Closing:**  Students answer the questions in the Target PBD Sains Tingkatan 1 book pages 3-4. | | | |
| **REFLECTION** | | | |
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| **TITLE** | Your Science Laboratory | **TIME** |  |
| **LEARNING OBJECTIVE** | | | |
| At the end of PdPc, students can:   1. Identify the four symbols and examples of hazardous materials in the laboratory. | | | |
| **TEACHING AND LEARNING ACTIVITIES** | | | |
| **Introduction:**   1. The teacher scans the QR code of Hazard Symbols and Examples of Chemicals ( Target PBD Sains Tingkatan 1 book page 3) and shows it to the students. 2. Students pay attention to the teacher's explanation about hazard symbols and chemicals in the science laboratory. | | | |
| **Activities:**   1. Students are divided into several groups. 2. Students have to write the name of the hazard symbol and one example of a dangerous materials that uses the symbol on thewhiteboarddistributed by the teacher. 3. Students show their answers without said anything. 4. The group that gives the most accurate and fastest answers is counted as the winner. | | | |
| **Closing:**  Students answer the questions in the Target PBD Sains Tingkatan 1 book page 3. | | | |
| **REFLECTION** | | | |
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| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Introduction to Scientific Investigation | **DAY** |  |
| **TITLE** | Your Science Laboratory | **TIME** |  |
| **LEARNING OBJECTIVE** | | | |
| At the end of PdPc, students can:   1. Justify five regulation and safety measures in the laboratory. | | | |
| **TEACHING AND LEARNING ACTIVITIES** | | | |
| **Introduction:**   1. The teacher scans the QR code of Rules and Safety Measures in the Laboratory ( Target PBD Sains Form 1 book page 5) and shows it to the students. 2. Students pay attention to the teacher's explanation about the rules and safety measures in the science laboratory. | | | |
| **Activities:**   1. Students are divided into several groups. 2. Each group is given a card that shows a situation related to the rules and safety measures in the laboratory. 3. Each group takes turns to act out the situation. 4. The other group guessed the acts acted out and judged whether the situation is right or wrong if carried out in a laboratory. 5. After that, students and teachers discuss the situations acted out by all groups and their effects on themselves and the environment. | | | |
| **Closing:**  Students answer the questions in the Target PBD Sains Tingkatan 1 book page 4. | | | |
| **REFLECTION** | | | |
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| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Introduction to Scientific Investigation | **DAY** |  |
| **TITLE** | Physical Quantities and Their Units | **TIME** |  |
| **LEARNING OBJECTIVE** | | | |
| At the end of PdPc, students can:   1. Identify and use the three correct units for different physical quantities. | | | |
| **TEACHING AND LEARNING ACTIVITIES** | | | |
| **Introduction:**   1. The teacher shows the S.I. units and its symbol for base quantity in the textbook page 15. 2. Students pay attention to the teacher's explanation about the S.I. units and its symbol for base quantity. | | | |
| **Activities:**   1. Students see the apparatus and materials that have been prepared by the teacher according to the following stations:  * Measure the length of the laboratory table * Measure the mass of textbook * Measure the temperature of boiling distilled water * Measure the current value of a battery * Measure the time travel for a distance  1. Students are divided into several groups. 2. Each group has to complete the task at each station according to the set time. Measurements made using the S.I. units. | | | |
| **Closing:**  Students answer the questions in the Target PBD Sains Tingkatan 1 book page 5. | | | |
| **REFLECTION** | | | |
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| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Introduction to Scientific Investigation | **DAY** |  |
| **TITLE** | Physical Quantities and Their Units | **TIME** |  |
| **LEARNING OBJECTIVE** | | | |
| At the end of PdPc, students can:   1. Identify the meaning of the three symbols and the values of prefixes used in the measurement. 2. Convert the three base quantity units for mass, length and time such as grams to kilograms, centimetres to meters and seconds to hours. | | | |
| **TEACHING AND LEARNING ACTIVITIES** | | | |
| **Introduction:**   1. The teacher prepares some materials that can be measured using S.I. units in front of the class. 2. Students and the teacher engage in a question-and-answer session to test the level of students' existing knowledge. 3. Students pay full attention to the teacher's explanation about basic physical quantities, S.I. units and unit symbols based on the material. | | | |
| **Activities:**   1. Students are divided into pairs. 2. Students are given a worksheet prepared by the teacher with basic unit conversion; mass, length and time. 3. Students share ideas about the importance of using S.I. units in daily life and present the results of the discussion in class. | | | |
| **Closing:**  Students answer the questions in the Target PBD Sains Tingkatan 1 book page 5. | | | |
| **REFLECTION** | | | |
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| **DAILY LESSON PLAN** | | | |
| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Introduction to Scientific Investigation | **DAY** |  |
| **TITLE** | The Use of Measuring Instruments, Accuracy, Consistency, Sensitivity and Errors | **TIME** |  |
| **LEARNING OBJECTIVE** | | | |
| At the end of PdPc, students can:   1. Use the five right measuring instruments and in the correct manner, to accurately and precisely measure the quantities of length, mass, time, temperature and electric current. 2. Use two measuring instruments with higher accuracy and compare the measurements in terms of accuracy, consistency and sensitivity. | | | |
| **TEACHING AND LEARNING ACTIVITIES** | | | |
| **Introduction:**   1. The teacher demonstrates the use of right measuring instruments with higher accuracy in the textbook pages 19 to 24. 2. Students pay full attention to the teacher's explanation about the right measuring instruments with higher accuracy. | | | |
| **Activities:**   1. Students see the apparatus and materials provided by the teacher according to the following stations:  * Measure the thickness of the textbook * Measure the mass of textbook * Measure body temperature * Measure the current value of a battery  1. Each group completes the task at each station using all the measuring instruments given. 2. Students compare the accuracy, consistency and sensitivity of the measuring instruments used. | | | |
| **Closing:**  Students answer the questions in the Target PBD Sains Tingkatan 1 book page 6. | | | |
| **REFLECTION** | | | |
| \_\_\_\_\_\_ / \_\_\_\_\_\_ students can achieve the set learning objectives.  \_\_\_\_\_\_ / \_\_\_\_\_\_ students can complete the exercises given.  \_\_\_\_\_\_ / \_\_\_\_\_\_ students need further exercise and teacher guidance.  Note: Teaching and learning cannot be carried out today and will be aggravated in the next learning session because:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |

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| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Introduction to Scientific Investigation | **DAY** |  |
| **TITLE** | Density | **TIME** |  |
| **LEARNING OBJECTIVE** | | | |
| At the end of PdPc, students can:   1. Arrange the five materials sequentially based on their density. 2. Predict whether the five materials will float or sink according to their density. 3. Calculate the density of the five materials using the formula (density = mass / volume) and the water displacement method. | | | |
| **TEACHING AND LEARNING ACTIVITIES** | | | |
| **Introduction:**   1. The teacher scans the QR code of Video Tutorial about Density ( Target PBD Sains Form 1 book page 7) and shows it to the students. 2. Students pay attention to the video shown by the teacher in class. | | | |
| **Activities:**   1. All students look at the four objects (cork, distilled water, cooking oil, stone) shown by the teacher. 2. One student is asked to come forward to pour distilled water and cooking oil into a 1 000 ml measuring cylinder followed by a cork and stone. 3. Students answer questions posed by the teacher about the definition of density. 4. Students are asked to arrange the ingredients in the measuring cylinder according to their density. | | | |
| **Closing:**  Students answer the questions in the Target PBD Sains Tingkatan 1 book page 7-8. | | | |
| **REFLECTION** | | | |
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| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Introduction to Scientific Investigation | **DAY** |  |
| **TITLE** | Steps in a Scientific Investigation | **TIME** |  |
| **LEARNING OBJECTIVE** | | | |
| At the end of PdPc, students can:   1. Differentiate six science process skills. 2. Conduct one scientific investigation to solve a simple problem. | | | |
| **TEACHING AND LEARNING ACTIVITIES** | | | |
| **Introduction:**   1. Students are reminded about the Science Process Skills (SPS) that they have learned while in primary school. 2. Students and the teacher engage in a question-and-answer session to test the level of students' existing knowledge. 3. Students pay attention to the teacher's explanation about Science Process Skills. | | | |
| **Activities:**   1. Students read and understand the procedure of conducting an experiment to investigate the relationship between the length of a pendulum and the period of oscillation with the teacher's guidance. 2. Students set up the apparatus and conduct experiments using different lengths of pendulums. 3. Students record the time taken for 10 complete oscillations. 4. Students plot a graph with the teacher's guidance. 5. Students and the teacher discuss the sequence of steps in carrying out a scientific investigation using this experiment. | | | |
| **Closing:**  Students answer the questions in the Target PBD Sains Tingkatan 1 book pages 8-10. | | | |
| **REFLECTION** | | | |
| \_\_\_\_\_\_ / \_\_\_\_\_\_ students can achieve the set learning objectives.  \_\_\_\_\_\_ / \_\_\_\_\_\_ students can complete the exercises given.  \_\_\_\_\_\_ / \_\_\_\_\_\_ students need further exercise and teacher guidance.  Note: Teaching and learning cannot be carried out today and will be aggravated in the next learning session because:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |
| **DAILY LESSON PLAN** | | | |
| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Introduction to Scientific Investigation | **DAY** |  |
| **TITLE** | Scientific Attitudes and Values in Carrying Out Scientific Investigations | **TIME** |  |
| **LEARNING OBJECTIVE** | | | |
| At the end of PdPc, students can:   1. Support the two scientific attitudes and values practised by scientists. 2. Justify the need to practice two scientific attitudes and values when carrying out an investigation. | | | |
| **TEACHING AND LEARNING ACTIVITIES** | | | |
| **Introduction:**   1. The teacher scans the QR code of Video Tutorial about Scientific Attitudes and Values practiced by Scientists ( Target PBD Sains Tingkatan 1 book page 12) and shows it to the students. 2. Students pay attention to the video shown by the teacher in class. | | | |
| **Activities:**   1. Students are divided into pairs. 2. Each pair receives cards written on various scientific attitudes and values. 3. Students discuss and categorise the received cards into two groups, namely scientific attitudes and values. 4. Students summarise the results of the discussion in a suitable i-Think map. 5. A pair of students is chosen to share the results of their discussion in front of the class. 6. Other students give their own comments or opinions. | | | |
| **Closing:**  Students answer the questions in the Target PBD Sains Tingkatan 1 book page 10. | | | |
| **REFLECTION** | | | |
| \_\_\_\_\_\_ / \_\_\_\_\_\_ students can achieve the set learning objectives.  \_\_\_\_\_\_ / \_\_\_\_\_\_ students can complete the exercises given.  \_\_\_\_\_\_ / \_\_\_\_\_\_ students need further exercise and teacher guidance.  Note: Teaching and learning cannot be carried out today and will be aggravated in the next learning session because:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |