

Preface

This book is a compilation of three educational digital games' packages, namely GCompris Education, Eduactiv8 and Tuxmath. It has been an interesting journey to explore and map digital games as an alternate pedagogy for facilitators. The attempt was to map the games in such a way that it becomes almost effortless for the teachers to select and use digital games as a method to teach various concepts/themes of different subjects. There have been many views on the purpose of games in schools, ranging from purely recreational to a fully utilitarian perspective. But an inclination towards any of these extreme approaches ends up bypassing the real goal of using games as a pedagogical tool altogether. The National Education Policy 2020 recognizes the importance of leveraging the advantages of technology and therefore, emphasizes, “..building a digital repository of content including Learning games, simulation etc. with a clear public system for ratings by users on effectiveness and quality” (NEP 2020).

These goals are difficult to visualize, let alone operationalise in the existing ground reality of overall lack of concrete resources and effective training of facilitators. And NEP 2020 adds to it the expectations of universalization of these goals by ensuring that every child can have access to all the digital innovations and facilities.

This book is an archive of digital games which are not only free and open source but can also be used offline. So, just having a desktop/laptop/tablet is sufficient, and even without a stable/no internet connectivity. The pathways and learning outcomes provided with each game also facilitates teachers in finding and making appropriate use of these games much easier.

Sincere efforts have been made to describe the games as thoroughly as possible, with provided learning outcomes. All the games have also been classified according to classes and themes. The attempt has been to facilitate the teachers with a relevant repository of digital games which they can use to bring innovations in their pedagogy and make the overall teaching learning process joyful for children.

This book is the result of the combined efforts of the whole development and review team. We accepted ideas and suggestions from each other and stretched ourselves to our potential in the hopes to do justice to the vision of NEP 2020 and the policies which came before it.

Ideas and suggestions from practitioners, ICT experts, pedagogical experts have been integrated in the handbook to do justice to the vision and implementation of NEP 2020.

However, this book is by no means a complete source of digital games, and CIET-NCERT will be working continuously to make this book a valuable resource for facilitators and students. We look forward to your comments and suggestions on the book.

Dr. Indu Kumar

Chief Advisor

Foreword

Game's as an activity embodying well established principles of knowledge, models of learning and teaching aid that adds a meaningful element to education was recognized quite a few decades back, making it an inextricable part of classroom pedagogy. As technology gradually started transforming schools and classrooms as learning spaces, games also reframed its nature and with time digital games came into play. The Government of India (GOI) recognizing the urgency of the hour to keep up with the dynamic nature of technology, emphasized on the use of technology in the most recent and visionary National Education Policy (2020). The recent efforts of the Government of India (GOI) seek to deepen the use of ICT in almost every sphere of life. NEP 2020 acknowledging. "...the emerging importance of leveraging technology for teaching-learning at all levels from school to higher education..." (NEP 2020; 59) recommends building a digital archive of content including learning games, simulation etc. with a clear public system for ratings by users on effectiveness and quality.

Acknowledging India's lagging position in developing toys and games conceptualized to cater Indian children keeping in mind their context i.e., Bharatiya civilization, history, culture, mythology and ethos, the Government of India (GoI) undertook an inter-ministerial initiative organized by the Ministry of Education's Innovation Cell with support from All India Council for Technical Education, Ministry of Women and Child Development, Ministry of Commerce and Industry, Ministry of MSME, Ministry of Textiles and Ministry of Information and Broadcasting by the name of Toycathon. It aims to recapture the 1.5 Billion USD toy market that India currently hosts through toys that represent Indian heritage, civilization and value systems. Toycathon provided a unique opportunity for Students, Teachers, Start-ups and Toy experts/professionals in India to submit their innovative toys/games concepts to win large numbers of prizes worth Rs. 50 lakhs.

Over the past decade, digital games have come up as an efficient teaching tool for education. It is an innovative approach to engage learners actively in the classroom and an effective way to understand difficult concepts. Students incidently learn different strategies to solve problems, and are highly confident while practising. But bringing digital games efficiently into pedagogical classroom practices requires careful consideration of a lot of factors on the part of the facilitator. Effective use of this dynamic resource needs guided participation of students because haphazard use of digital games rarely end up cultivating the envisioned results. When used diligently these include a fun element which allows student's fantasy, curiosity, sense of challenge and freedom to choose to flourish. Students are able to grasp complex/abstract concepts better through representation with simulations and gaming features.

This book is an effort to compile and map some pedagogically appropriate digital game packages which can help teachers to integrate technology in daily pedagogical practices, helping to achieve the foreseeing goals envisaged by NEP 2020. Games provided in three game packages, eduActiv8, GCompris and Tux Maths have been mapped according to subjects, grades and wherever possible, according to themes (standard NCERT syllabus) to facilitate teachers to use these for jump starting use of digital games in their classrooms. But these games, by no means, even begin to cover the wide range of games, simulations, AR/VR technology available out there. So, treating these games as the only resource will lead to ignorance of other brilliant sources and sites of learning, limiting the potential it has of bringing innovations in the classroom. We hope every facilitator out there can use these games for teaching and assessment, making the teaching-learning process enjoyable and fruitful.

The National Council of Educational Research and Training (NCERT) appreciates the hard work done by the handbook development committee responsible for this book. We are indebted to the institutions and organizations which have generously permitted us to draw upon their resources, material and personnel. As an organisation committed to systemic reform and continuous improvement in the quality of its products, NCERT welcomes comments and suggestions which will enable us to undertake further revision and refinement.

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Introduction

Games are a part of classroom activity from past decades. Types of games varied as per the classroom needs. Some use it as a warm-up activity, previous knowledge testing, teaching aid, or to add a fun element to education. As technology transforms, games also reframe its nature. For a long time, learning has demanded something different. Takes up this hypothesis, it explores the opportunities and challenges of game-based learning. This provides the key ideas propel the application of games and their design to teaching and learning, within the domains of pedagogy, implementation, and assessment. From decades ago games embodied well established principles of knowledge, models of learning and teaching aid that adds a meaningful element to education. As technology transforms, games also re-frame its nature and slowly & gradually digital games come into play.

Digital Game- based Learning, a straightforward introduction to the creation and use of computer games aimed at anyone to support & enhance learning, teaching with an interest in the use of digital games. Now, digital games can be played through tablets, computers, mobile phones, PlayStation etc. Digital games also get considerable attention and their pedagogical uses.

Even after years of research, the action of digital game-based learning (DGBL) has been grasped unaware. Questions arise on the efficiency of digital games in education. Nevertheless, digital games have everyone's attention. The combined weight has resulted in widespread public interest in games as learning tools. Many researches stand to support game-based learning. Over the past decade, digital games have come up as an efficient teaching tool for education. It is an innovative approach to engage learners actively in the classroom and an effective way to understand

difficult concepts, students unknowingly learn different strategies to solve problems, and are highly confident while practising.

Before the intervention of technology in education, the whole system was based on the textbook-learning culture and learning considered as content mastery of textbooks rather than skill mastery. But now, learners of different ages, learning styles, educational backgrounds, have choices to acquire skills, the games are developed with meaningful context. It focuses on integrating games with educational practices and placing learners in a situation to solve problems, make decisions and tackle challenges to acquire higher-order skills. In this scenario, the teacher's role also shifts, instructor to the facilitator who provides guided participants in game based learning. Digital games include a fun element which allows student's fantasy, curiosity, challenge and freedom to choose. Students are able to grasp complex/abstract concepts better through representation with simulations and gaming features. (Jan & Gaydos, 2016).

A wider definition is used by Freitas, S. de, & Maharg, P. (2011) defines computer-based learning games as: "applications using the characteristics of video and computer games to create engaging and immersive learning experiences for delivering specific learning goals, outcomes and experiences." Freitas, S. de, & Maharg, P. (2011) explained that these digital games introduce real context and problems to students which helps them in developing advanced skills. Digital games tend to provide an authentic context and purpose for activity for the child. They both are equally essential in the real as well as offline worlds as they are fundamentally collaborative in nature.

Game-based learning changed the learning style of students as observed by teachers and school leaders. Now students want to learn more, easily work with other students and feel proud about their work. It will also increase motivation, self-esteem & confidence. Students started helping each other and work in a collaborative & communal manner with teachers, and their peers. This approach also increased concentration towards class teaching and learning actively in the classroom. Game based learning provides space to communicate with parents, other students and teachers, this prompts critical thinking and helps in engaging deeply with activities. This is often related to development of ICT skills in parents, students and teachers. (Groff, Howells & Cranmer, 2010)

Divjak & Tomić (2011) explains game-based learning as an uplift in their learning, build their positive attitude towards mathematics, help them to understand quickly and for the long term with increased motivation.

According to the U.S. Department of Education (2017), game-based learning creates an environment with quality education, personalized learning, and increased capacity for educators. Learners need core academic competencies with the development of critical thinking, complex problem-solving, collaboration, multimedia communication skills with a sense of their own agency on learning, self-awareness, work cooperatively, etc.

For effective use of games in the classroom; teachers and parents need to understand & agree on digital games based learning functions & roles. It will disseminate the acquired educational games skills & knowledge into the teaching field. Researchers have pointed out that play is a primary socialization that also improves the cognitive benefits of games. It is a learning

mechanism common to all human cultures. It is also shown in Jean Piaget's theories about children that includes the concepts of assimilation and accommodation. With assimilation, we try to fit new information into existing and Accommodation involves modifying our existing model to accommodate new information.

Various studies on digital gaming highlight the positive effect of DGBL that traced the transformation in the teaching-learning process, teaching aids, and learning styles by the intervention of technology. This is seen in development of educational games for learners, the role of teachers in the development of learners. This means that DGBL can be implemented most effectively by attending the fundamentals of learning. We know from research, when it's about learning, practically doing it far outweighs than theoretically showing and telling. One enables to explore the use of games in learning contexts that matter to them and the young people in their lives. Digital Games Based Learning have such potential for learning: they are really nothing more than complex problems waiting to be solved by players in a way that is both fun and challenging.

Significance of Digital Games in Education

Thinkers from Plato to Piaget have concede the importance of child play in learning and child overall development. There had been a great deal of linkage between the digital game and the effective educational learning experiences.

Classrooms today look very different than they did years ago. Reason behind the change is a well known teaching method- digital game-based learning. It's now become a prominent teaching method, thanks to the advancement in technology. This has drastically changed the

scenario of how students are taught as well as how they learn. Studies show children use digital games based learning methods an average of 4-6 hours a day and its thought increases engagement and overall learning in classes. Research has shown that the teachers have started implementing digital game-based learning in classrooms to help augment instruction.

The use of technology has become an inseparable part of our society and consequently an important aspect of the teaching and learning process. Technology changes many aspects of our life such as tourism, medicine, business, law, banking, architecture etc. these changes also demand improvement in skills and abilities of students. New technology, globalisation, international competition, transnational environment and migration also challenge the education sector to prepare students as a citizen and as an employee in the twenty-first century (Scott,2015), as well as enables the teaching community to reformulate strategies, approaches (child-centric approach) and content for teaching and learning. Technology also helps in both the personal development of students as well as cooperation among them. The teacher can develop his/her own teaching-learning materials (e.g. e-dairies, use presentation tools, interactive games, concrete and virtual objects) and/or guide students to develop for themselves (e.g. audio/video presentation, interactive stories, audiobooks, and animations). Massive books, videos, audio, images, and information are available online worldwide that opens opportunities to access quality education. Technology in this way changes the role of the teacher as well as the learner.

Twenty-first-century requires skills, more than thinking, reproduction of knowledge and content knowledge. Learners imagined with personal skills (responsible, risk-taking, creative, resilience and initiative), social skills (teamwork, compassion and networking) and learning skills (organising, managing, metacognitive skills, response to failure) (Scott,2015). Students

also required seven survival skills for the twenty-first-century existence, these seven skills are critical thinking & problem solving, collaboration & leadership, agility & adaptability, initiative & entrepreneurialism, effective oral & written communication, accessing & analysing information, curiosity & imagination (Wagner as cited in Scott, 2015). Teachers use many aids to develop skills among students, such as storytelling, puzzles, flashcards, role-play, games, audio-video aids, worksheets, concrete materials etc. After the intervention of technology, these aids have also transformed their form such as e-content which include interactives, animations, simulations, mobile apps, text, interactive games, etc. one of the effective ways to learn is game-based learning.

There are different types of games that influence their learning in various areas. Many researchers have tried to categorize computer games into types or taxonomies, and although there are often large differences between them, there is also much similarity in terms of the general classifications.

The types of games are-

- **Motivational games**, These games include a fun element associated with the games which allow student's fantasy, curiosity, challenge and freedom to choose as per their own choice.
- **Drill and practice games**, before exposure to these games, the teacher needs to introduce concepts by other methods such as instructional method, through a textbook, After that

the students should engage in repetitive challenging tasks to practice a particular concept. These also develop higher-order thinking among students.

- **Content mastery games** include games with mostly mastery of knowledge, facts, and information. These games represent a complex/abstract concept with better representation with simulations, gaming features, and representation. Which helps students to understand it easily.
- **Adventure games** are one of the oldest forms of computer game. They involve the player undertaking a series of tasks or puzzles in which they must interact with the virtual world, performing actions, talking to characters and manipulating objects in order to achieve the objectives of the game, often to solve some mystery or complete a quest.
- **21st-century competencies games** encourage students to develop higher-level thinking and social skills (like problem-solving, systems thinking, argumentation and collaboration). These games introduce real context and problems to students which helps them to develop advanced skills. Games must have motivational elements, interactive elements, fun elements, multimedia elements (Jabbar & Felicia, 2015). Games incorporate RETAIN (relevance, embedding, Translation, Adaptation, Immersion & naturalisation), model. This model helps to overcome errors in instructional principles.

Games include both intended educational games for educational purposes (formal learning) and commercial entertainment games (informal learning) (Whitton, 2013). Games should have an aim and not only for fun, should use a language by which students refine, learn, practice their language skills, use appropriate content as per curriculum prescribed, technically easy and as per

the age of the students, but short games may also help students to engage better as they may not engage in long games. (Constantinescu as cited in Gozcu & Caganaga, 2016). Students have their agency to control their action and choose as per their choices, and also their efforts should be acknowledged and awarded. One of the key aspects of game based learning is that each student receives immediate feedback and guidance on their facilitation and correct performance and acknowledges them with improvements. Care should be taken to meet the objectives and proper alignment of curriculum & academic performance to clear the goal & challenges.

Digital games should have rules & laws which allow student's decision-making processes. Murphy, (2011) states laws of learning, as

- **Law of readiness** as students learn best when they are mentally, physically and emotionally ready to learn and motivation is an important part of effective learning. Flow is the basic attraction of the game.
- **Law of Exercise**, learners should repeat and practice. Teachers should give feedback because practice and feedback exist together. Feedback is an essential part of the game.
- **Law of effect** students learn better when they associate with positive emotion. It is also known as the law of positive feeling. Simplicity and involvement of games motivates the learner.
- **Law of intensity** as things which are more intense, heightens our perception, concentration to bear on a task, which increases the learning. The feedback upon the loopholes and games as a combination of immersion and engagement to create intense experiences.

- **Law of primacy** is to replace negative training, unlearn bad habits, and flawed logics and is related to time. Learners are actively engaged in the process of learning.
- **Law of Recency** as learning builds upon previously done. As a cyclic approach of learning because we remember the things which are done earlier

Play is a powerful influence on learning, that the whole purpose of games is to learn, that play is fundamental to our development (Reiber, 1996) in that it can promote engagement in and mastery of a range of tasks as we mature into adults (Colarusso, 1993). Koster (2005) argues that games are an essential part of the human learning experience, providing the opportunity to safely practise skills like aiming, timing, hunting, strategy and manipulation of power.

Gagné and colleagues (1992) identify five main categories of learning that can be facilitated with games- Intellectual skill, which includes Concepts, rules and relationships, and making discriminations (e.g. using algebra to solve a mathematical puzzle). Cognitive strategy, referring to personal techniques for thought and action (e.g. developing a mental model of a problem). Verbal information which relates to facts (e.g. recalling the names of the bones in the hand). Motor skill, it refers to actions that use the muscles (e.g. dancing) and lastly attitude Beliefs and feelings (e.g. choosing to read detective fiction). Ardito, Costabile, Lanzilotti & Desilda (2013), explores effectiveness of game based learning and found that students more effectively learn, when game- based learning integrates with formal education like school trips, as well as lessons in the classrooms. Integration must be followed by theory of bruner, firstly by symbolic phase, as the teacher presents content in the classroom. Secondly, active phase, as

acting in real life context. Thirdly, Iconic phase, interaction with technological tools like in educational games on the screen. These may not present in the sequence given but can be modified by the facilitator according to their needs.

Learning does not occur only with the guidance of the teacher but through also with the interaction with peers, teachers and other sources. Digital games contain challenges, role-play, competition, reward system. Many different types of digital games influence students' learning in different areas (Jan & Gaydos, 2015) . Digital games are basic human activity in everyday life.... They include a fun element which allows student's fantasy, curiosity, challenge and freedom to choose but before the exposure of these digital games, the teacher needs to introduce concepts by other methods such as instructional methods, through a textbook which also helps in the development of higher-order thinking and social skills. Various studies support the enhancement of education through digital gaming. As explained by Jan & Gaydos, 2015, Students are able to grasp complex/abstract concepts better through representation with simulations and gaming features. These games introduce real context and problems to students which helps them in developing advanced skills Students and teachers recognize the change in learning as speed to access learning materials, instant search for additional information, Integrate learning of students (Montrieux, Vanderlinde, Schellens, Marez, 2015) whereas (Hsu, Tsai, Chang, Liang, 2017) identifies game-based learning as effective learning which enhance their higher-order thinking, increases problem-solving skills, promote more engagement. Mathrani, Christian & Sutton (2016) identify, Students perceived game-based learning as active learning

and effective learning with a fun element. Students feel more confident in helping others in identifying strategies to solve games.

Orr & McGuinness (2018), studied the nature of learning in game-based learning and cognitive & motivational processes. Explains, it alters the conception of learning from last decade. Changes in learning theories also foster the growth of game-based learning. Game based learning also benefits the cognition of students, collaborative works, school attainment, engaging appeal and motivation. Whereas Plass, Homer & Kinzer, (2015) explained games, which foster learner's cognitive, motivational, affective and sociocultural engagement. Students have their agency to make decisions. Problems are well ordered as well as simple to complex, which help students to move on one by another.

Game-based learning changed learning style of students as observed by teachers and school leaders of school (Groff, Howells & Cranmer, 2010) now students wanted to learn more, easily work with other students, felt proud about their work, it also increased motivation, self-esteem & confidence, students started helping each other and work in a collaborative & communal manner with teachers, and their peers, this approach also increased concentration towards class teaching and learning actively in the classroom. This also provides space to communicate with other students and teachers, think critically and engage deeply with activities. This also increases the ICT skills of students and teachers. Teachers also design activities with more enthusiasm and creativity. This approach also allowed teachers to integrate curricular activities interdisciplinary (Groff, Howells & Cranmer, 2010).

Advancement in technology influenced education as now educators can develop new technology-mediated spaces for effective teaching and learning processes (Dia & Zin, 2013).

Woo (2014), there is a correlation between motivation and cognition load with Performance. Digital games should be designed with high motivational factors such as interactives, feedback, challenges, representation of problems, and rules. Although Eseryel, Law, Ifenthaler, Ge, Miller (2014) identified that, there is a complex relationship between students' motivation and engagement (with the task) with problem-solving abilities. Digital games can even foster or suppress their learning, choices and self-efficiency. So, it's also essential to design games with the ability to motivate and engage with competencies like problem-solving, autonomy, attainable challenge to complete goals. While Spires (2015) stressed on integration of disciplinary content with games rather than supplementary content. Content should be designed in a way that students can work collaboratively and independently, creating a balance between learning as play and disciplinary learning goals achieved by all students.

Gozcu & Caganaga (2016), asserts that game-based learning creates a situation, where students learn without anxiety & stress, with an effective, enjoyable & interesting environment. Divjak & Tomić (2011) explains game-based learning as an uplift in their learning, build their positive attitude towards mathematics, help them to understand quickly and for the long term with increased motivation.

Although Jabbar & Felicia (2015) indicate that individual differences (in gaming proficiency, personality, preferences and emotional state) impact on learning and engagement of students and

learning is a personal process. Whitton (2013) explains that a variety of digital games are there to include diverse social groups but at the same time, there are many advantages and disadvantages of games. Many games may empower masses but at the same time unconsciously excludes some. So, it depends on the diverse techniques to use certain games with an account of the individual needs of learners.

Interesting sounds and pictures construct an enjoyable environment for students. Students do not realise that the learning takes place but unknowingly they engage in language learning. Students engage in learning by taking responsibility for their own learning. Earlier students feel anxiety because they have fear from mistakes and punishment but games help them to reduce anxiety and increase positive feelings due to no fear about punishment, criticism from peers and teachers (Rahayu, putri, zulkardi & Hartono, 2019).

Educational games are most efficient since they allow collaborative learning and stimulating learning. Some games are purposefully there to motivate or with engaging experiences. Students interact socially with other people, students start giving constructive feedback to each other, students' sensitisation increases as now they are more engaged in conversation with students of different schools (Kayali, Fares & Schwarz, Vera & Purgathofer, Peter & Götzenbrucker, Gerit ,2018)

Fujimoto 2017 (As cited in Fujimoto, Shigeta & Fukuyama) states that games as a motivation for learning, help students to get mastery in particular area, also decrease interest in conventional

learning, create learning environment by trial and error method, learns in safe environment, even students can practice individually.

Rockwell & Gouglas, (2019) studied the role of locative games. Found that combination of intrinsic with extrinsic motivation helps in catering their interest. Locative games help in discovery learning. It engages participants with more interest and also inspires. Game based learning also termed as ‘adapting learning’ as learners can adapt according to their level and preferences and therefore get more attention. Game based learning is also influenced by Felder-silverman classification, Perception, Input, Processing, and organization of information. This study also tries to find out the learning gain and motivation in mathematics games (proportional reasoning) and found that the students with prior knowledge learn better from the game rather than students with no prior knowledge have a decline in their performance. Students who have active processing performed better than students with reflective processing. (Wouters & Meulen, 2020)

As an indispensable part of modern education, Game-based learning has shifted focus from learning with lectures and written tasks to learning with games. But it is also true that the role of the teacher in game-based learning contributes to the current understanding of the domains & engages students to enhance the learning experience.

Teachers must choose games which have a balance with fun elements and learning and academic content should be added to specific games. Teachers should help them in providing guidance

when needed, maintain rules for students and also ensure that students follow the rules and maintain a respectful environment (Perrotta, 2013). Earlier a traditional teacher assumed high degrees and personal contacts with learners but as technology enters the classroom, it also changes the role of learner simultaneously of teacher. Technology in the classroom, also welcomes mentors, workspace trainers, mentors, specialists that create opportunities for students to explore more even in an affordable and comfortable manner. Teacher's job is only to provide a flexible setting for learning as well as a specific skill set of teachers which includes their skill set for future teaching (Oliver, 2018).

Montrieux, H., Vanderlinde, R., Schellens, T., & De Marez, L (2015) unfolds the impact of tablet devices on teaching and learning processes in the classroom setting and found that teachers shared that now they have more authority among students than earlier, much time was earlier wasted on organising content as compatible to the learner, earlier more time was spent in checking notebooks or collecting/ distribute notebooks but now students have to follow my instruction on tablet and they get feedback on the spot, now we are more closely with the students than before. Tablets shift their learning to 'learning by heart' that includes learning with multimedia, social media and integration with the personal world with students.

Students pointed to the teacher's role as the provider of factual information and rules about the games. The teacher helps in communicating with other students by choosing appropriate characters, appropriate voices. Also, the teacher helps and provides support as an intermediary. Feedbacks also incorporate the personal development of each student. (Greenberg,2019).

Students acquire knowledge and skills not only to merely practise it but also to imagine an individual who thinks rationally, makes decisions on time, reacts purposefully in each situation and is trained for life-long learning. Educational purposes should be more creative, contemporary and updated as new generations. Games should be an integral part of learning as it motivates students to learn and retain (Divjak & Tomić, 2011).

Hamari & Nousiainen, (2015) analysis individual and institutional factors that affect ICT readiness which impacts teacher's selection of game-based learning and found teacher's adoption with openness towards ICT, ICT attitude, ICT compatibility with teaching positively influenced the perceived value, supportive organisation ICT culture, ICT self-efficiency and ICT compatibility with teaching positively influence Game-based learning.

Game-based learning is an essential part of education where games are tools, through which teachers instruct direction of learning, discussion and debrief and support in the construction of social learning culture. Prior to the game, the teacher must ensure that the objective of the game is clear to them and students, each game should not have an entire educational goal but with only playing purpose, time a lot as per the need of the individual student, separate time for any kind of technical issues, endorse students to guide/lead/train others, technical staff also help the teacher, encourage a larger culture of collaborative learning among peers (Groff, Howells, & Cranmer, 2012).

Fujimoto 2017 (As cited in Fujimoto, Shigeta & Fukuyama) states teacher should be concerned that games shouldn't make difficult to control classroom, winning the game is not be a only priority than learning, facilities shouldn't bound students to learn and tends should be evaluate against games for entertainment. Teachers should plan 'Embedded assessment' to assess students while engaged in the process of learning.

Molin (2017), studies the role of teacher as an agentive in digital game-based learning. Game-based learning used to engage students in learning, empower students. Game based learning also creates opportunities for teachers to empower them, giving a sense of ownership of teaching and learning. and Magerko (2010) states that teachers should be focus on four main factors for real world educational experiences; content should be adapt for each individual's learning and playing style, evaluation should be rigorous which not only stops the learning but give chance to improve learning , games could be modified easily if needed, games should be appropriate as per the new domains of teaching.

Digital game based learning is effective for teachers and students it helps in creating a healthy environment to teach and learn new skills, concepts as well as decreases cognitive pressure. ICT curriculum can not be implemented in primary classes but should be integrated with curriculum, Digital games can be a tool to enhance ICT skills, as mentioned above the skills such as problem solving, higher order thinking, critical thinking, reasoning, etc enhance when digital games included in the classroom.

Theme wise mapping of Digital Games

To initially start with digital game packages that are Free and Open Source Software (FOSS) like GCompris, Tux math and eduActive8 was identified and the games were mapped according to the themes in NCERT Curriculum. 103 activities from GCompris, 192 activities from eduActive8 and 58 activities from tux maths mapped with description and learning outcome with keep in view syllabus and NCERT textbooks.

English

Theme: Listening

Name of the game	Game path	Learning Outcome	Description
Word Matchers (Listening Exercises): Nature	open eduactv8-first option-word matchers(listening exercise)-nature	listening and responding orally	Match sounds to words. Click on any one of the speaker signs, hear the word carefully, then click on the corresponding written word to make a match.
Word Builders (Listening Exercises): Nature	open eduactv8-first option-word builders(listening exercise) option 6-nature	listen and write the correct spelling	Hear the word and fill in the missing letters to complete the written version of that word by dragging and dropping the missing letters from the alphabets provided at the bottom of the screen.
Word Matchers (Listening Exercises): Body	Open eduactv8-first option-word matchers(listening exercise)-body	listening and responding orally	Match sounds to words. Click on any one of the speaker signs, hear the word carefully, then click on the corresponding written word to make a match.
Word Matchers (Listening Exercises): Clothes and Accessories	Open eduactv8-first option-word matchers(listening exercise)-clothes and accessories	listening and responding orally	Match sounds to words. Click on any one of the speaker signs, hear the word carefully, then click on the corresponding written word to make a match.

Word Builders (Listening Exercises): Body	Open eduactiv8-first option-word builders(listening exercise)-body	listen and write the correct spelling	Hear the word and fill in the missing letters to complete the written version of that word by dragging and dropping the missing letters from the alphabets provided at the bottom of the screen.
Word Builders (Listening Exercises): Clothes and Accessories	Open eduactiv8-first option-word builders(listening exercise)-body	listen and write the correct spelling	Hear the word and fill in the missing letters to complete the written version of that word by dragging and dropping the missing letters from the alphabets provided at the bottom of the screen.
Word Matchers: Nature	open eduactiv8-first option-word matchers-nature	identification of the picture and matching with the correct word	Match images to words. Click on any one of the images given in the left half of the screen then click on the name corresponding to that image, provided in the right half of the screen, to make a match.
Word Builders (Listening Exercises): Fruits and Vegetables	Open Eduactiv8/ First circle (book icon)/ word builders listening exercise/ fruits and vegetables	Identification of fruits and vegetables recognises letters and their sound A-Z, listens to sounds and try to build the unknown spellings, the pronunciation of words will be improved	Hear the word and fill in the missing letters to complete the written version of that word by dragging and dropping the missing letters from the alphabets provided at the bottom of the screen.
Word Matchers (Listening Exercises): Fruits and Vegetables	Open Eduactiv8/ First circle (book icon)/ word matchers listening exercise/ fruits and vegetables	Identification of fruits and vegetables recognises words and their sounds, improved spellings i.e. less errors, the recapitulation of known spellings, improvement in concentration level	Match sounds to words. Click on any one of the speaker signs, hear the word carefully, then click on the corresponding written word to make a match.
Word Matchers (Listening Exercises):	open eduactiv8-first option-word	enhancing listening skills and association of	Match sounds to words. Click on any one of the speaker signs, hear the word carefully, then click on the corresponding written word to make a match.

Action	matchers (listening exercise)-action	sounds with words	
Word Builders (Listening Exercises): Action	open eduactiv8-first option-word builders(listening exercise)-action	Enhancement of vocabulary, listening skill, and learning action words.	Hear the word and fill in the missing letters to complete the written version of that word by dragging and dropping the missing letters from the alphabets provided at the bottom of the screen. If spelling goes wrong then it will show the errors by reflecting the symbols 'right' 'wrong' in the boxes. After that, you can correct the word by dragging the wrong alphabets to their right positions.
Word Matchers (Listening Exercises): People	Open eduactiv8-first option-word matchers(listenin g exercise)-people	listen and choose the correct option	Match sounds to words. Click on any one of the speaker signs, hear the word carefully, then click on the corresponding written word to make a match.
Word Builders (Listening Exercises): People	Open eduactiv8-first option-word builders(listening exercise)-people	listen and fill the correct spelling	Hear the word and fill in the missing letters to complete the written version of that word by dragging and dropping the missing letters from the alphabets provided at the bottom of the screen
Enrich your vocabulary(Nature)	Educational Suite G.Compris/Go to reading activities/language learning activities/enrich your vocabulary-nature category	Enhance Listening skill, eye-hand-ear coordination, associate objects with pictures, identifying sounds related to objects, Remember and recall pictures related to words categorised in headers- animals, fruits, nature, plant and vegetables	Different pictures are given with their categorisation on top and their names at the bottom.Listen to pronunciation carefully. Next, it displays the name of an object, choosing from the options below what it shows. In later levels, Listen to the sound and identify what is being said and write the word you hear, take help from Hints if needed.
Enrich your vocabulary(Object)	Educational Suite GCompris/Go to reading activities/language learning activities/enrich your	Enhance Listening skill, eye-hand-ear coordination, associate objects with pictures, Identifying sounds, Remember and	Different pictures are given with their categorisation on top and their names at the bottom.Listen to pronunciation carefully. Next, it displays the name of an object, choosing from the options below what it shows. In later levels, Listen to the sound and identify what is being said and write the word you hear, take help from Hints if needed.

	vocabulary-object category	recall pictures related to words categorised in headers- Construction, furniture, tool, actions, describing words,	
Enrich your vocabulary(Other)	Educational Suite GCompris/Go to reading activities/Language learning activities/Enrich your vocabulary-other category	Enhance Listening skill, eye-hand-ear coordination, associate objects with pictures, Identifies describing words as Adjectives, identify similar-sounding words, uses words related to other subjects like Maths, EVS, identify pictures associated with words	Different pictures are given with their categorisation on top and their names at the bottom. Listen to pronunciation carefully. Next, it displays the name of an object, choosing from the options below what it shows. In later levels, Listen to the sound and identify what is being said and write the word you hear, take help from Hints if needed.
Enrich your vocabulary(People)	Educational Suite GCompris/Go to reading activities/Language learning activities/Enrich your vocabulary-people category	Enhance Listening skill, eye-hand-ear coordination, associate objects with pictures, Identifying sounds, Remember and recall pictures related to words categorised in headers- clothes, body parts, food, sport, emotion	Different pictures are given with their categorisation on top and their names at the bottom. Listen to pronunciation carefully. Next, it displays the name of an object, choosing from the options below what it shows. In later levels, Listen to the sound and identify what is being said and write the word you hear, take help from Hints if needed.
Click on a lowercase letter	Educational Suite GCompris/Go to reading activities/Click on a lowercase	Sound identification, Prompt response, Recognise letters and their sounds,	A train with lowercase letters written on it. Click on the letter you hear. The number of letters keeps on increasing as the level progresses.

	letter	Formation of lower case letters	
Click on an uppercase letter	Educational Suite GCompris/Go to reading activities/Click on an uppercase letter/	Sound identification, Prompt response, Recognise letters and their sounds, Formation of upper case letters, differentiate between uppercase and lowercase letters	A train with uppercase letters written on it. Click on the letter you hear. The number of letters keeps on increasing as the level progresses.
Go To Memory Activity	Educational Suite G-Compris/go to discovery activity/go to memory activities/go to audio memory game	enhancing listening skills, recognising and comparing different sounds	Click on TUX the violinist and listen to find the matching sounds from the shown set of violinist Tux. Each Tux has an associated sound, and each sound has a twin exactly the same. Click on a Tux to see its hidden sound, and try to match the twins. You can only activate two Tux at once, so you need to remember where a sound is, while you listen to its twin. When you turn over the twins, they both disappear.
Go To Memory Activity	Educational Suite G-Compris/go to discovery activity/go to memory activities/go to audio memory game against tux	recognise and compare different sounds	Play the audio memory game against TUX. A set of violinist Tux is shown. Each Tux has an associated sound, and each sound has a twin exactly the same. Click on a Tux to see its hidden sound, and try to catch the twins. You can only activate two Tux at once, so you need to remember where a sound is, while you listen to its twin. When you turn over the twins, they both disappear.
Go To Memory Activity	Educational Suite G-Compris/go to discovery activity/go to memory activities/go to memory game with images, against tux	recognise and compare different sounds	A set of cards are given. Find the cards that have the same image hidden behind them. Once you twin, they disappear. The number of cards increases as the level progresses.

Theme: Reading

Name of the game	Game path	Learning Outcome	Description
Word Matchers: Body	Open eduactv8-first option-word matchers-body	identification of the picture and matching with the correct word	Match images to words. Click on any one of the images given in the left half of the screen then click on the name corresponding to that image, provided in the right half of the screen, to make a match.
Word Matchers: Clothes and Accessories	Open eduactv8-first option-word matchers-clothes and accessories	identification of the picture and matching with the correct word	Match images to words. Click on any one of the images given in the left half of the screen then click on the name corresponding to that image, provided in the right half of the screen, to make a match.
Learn New Words: People	Open eduactv8-first option-learn new words-people	associate words with pictures and correlate the relations with their real-life	The screen contains a picture and the word related to that picture is written at the bottom. This activity contains pictures and terms used for individuals as well as the relationships among them. There are two buttons, one for moving to the next word, once you have learnt the name of the relationship and one for going back if you want to visit the previous one
Word Builders (Complete the words): People	Open eduactv8-first option-word builders-people	identification of relations, enhancement of vocabulary	The activity contains a picture and the word related to that picture is written at the bottom with a few letters missing from it. Below the incomplete word, the letters required to complete it are given in a random arrangement. Instruct the students to identify the word and then complete it by clicking and dragging the letters in the right order to the empty boxes. As the level advances, more and more letters are missing from the word until you have to make the whole word by yourself.
Word Matchers: People	Open eduactv8-first option-word matchers-people	identification of the picture and matching with the correct word	Match images to words. Click on any one of the images given in the left half of the screen then click on the name corresponding to that image, provided in the right half of the screen, to make a match
Horizontal reading practice	Educational Suite GCompris/Go to reading activities/Horizontal reading practice	Reading and responding, Identify the correct word from a set of words, Can read, comprehend, remember and	A word is shown in blue colour on the board on the right. A list of words appears and disappears horizontally on the left board. Look carefully and answer if you have or haven't seen the word, where speed increases as the level progresses.

		recall the moving words. Improve memory	
Vertical reading practice	Educational Suite GCompris/Go to reading activities/Vertical reading practice	Reading and responding, Identify the correct word from a set of words, Remember and recall the word coming vertically.	A word is shown in blue colour on the board on the right. A list of words appears and disappears vertically on the left board. Look carefully and answer if you have or haven't seen the word, where speed increases as the level progresses.
Image Name	Educational Suite GCompris/Go to reading activities/Image Name	Relate the words with their pictures, learn about the functions of a mouse	A few pictures are vertically given on the left side. Drag and drop the items onto their names.
Reading Practice	Educational Suite GCompris/Go to reading activities/Reading practice	Association of words with pictures and name familiar pictures.	Some pictures are given with a number of options. Click on the word matching the picture.
Missing Letter	Educational Suite GCompris/Go to reading activities/Missing Letter	Enhances reading and writing skills, Improves vocabulary, Can spell the word orally or on paper.	Choose the missing letter to complete the word related to the picture given.
The Classic Hangman Game	Educational Suite GCompris/Go to reading activities/The classic Hangman Game	Improve Reading and spelling skills, Solve crosswords puzzles, learn new words and their meanings.	A word is hidden in the blanks. Discover it by first placing all possible vowels and then the consonants to fill up the remaining places.

Simple Letter	Educational Suite GCompris, Discover Computer, Keyboard manipulation boards, Simple Letter	Identification of alphabets(both uppercase and lowercase) and numbers, Hand-Ear-Eye coordination	The game is to type the falling letters (capital and small) as well as digits before they reach the ground. As the levels are crossed, the difficulty level increases as a mix of small, capital and digits all fall together.
Make The Ball Go To Tux	Educational Suite GCompris, Discover Computer, Keyboard manipulation boards, make the ball go to tux	Learns to position of Shift keys on the keyboard, Hand coordination	Go through the levels by sending the ball to Tux by pressing both the shift keys on the keyboard at the same time

Theme: Writing

Name of the game	Game path	Learning Outcome	Description
Learn to Write	open eduactiv8-first option-disc over letters-learn to write	learn to trace alphabets in upper and lower case in cursive and numbers 1 -12, command on mouse dragging	Trace letters and numbers click on the letter or number you want to trace then choose the colour in which you want to trace that letter. then trace the alphabet or number by dragging the mouse.
Learn to Write	open eduactiv8-first option-disc over letters-learn to write	learn to write alphabets in upper and lower case and numbers 1 -12	Trace Letters and Numbers. Click on the Letter or Number you want to trace. The numbers and letters to be traced are in Standard font.
Complete the ABC (Lower case letters)	open educative8-first option-disc	ability to choose the correct word, able to write the alphabet in	There are some missing letters given in the first line. In the second line, the missing letters(answer) are given. the missing letter has to be dragged and put in the right place to get a green tick.fill in the boxes with correct alphabet, click on the

	over letters-complete abc	alphabetical order	alphabet and drag it with the mouse to fill the blank space
Complete the ABC (Uppercase letters)	open eduactive8-first option-disc over letters-complete ABC	ability to choose the correct word, Able to choose correct alphabet to write in alphabetical order	There are some missing letters given in the first line. In the second line, the missing letters(answer) are given. the missing letter has to be dragged and put in the right place to get a green tick., fill in the boxes with correct alphabet, click on the alphabet and drag it with the mouse to fill the blank space
Word Maze	Open Eduactiv8/ First circle (Book icon)/ Discover letter icon/ Word Mazes	Identification of letters, word building, developing command of operating mouse i.e. up, down right and left, developing interest for the language, spellings, vocabulary enhancement.	Collect all letters in the right order. The activity contains a maze with a word in the middle of it and a beetle lying alongside the word. The letters making up the word are scattered throughout the maze. Instruct the students to click on the Beetle and navigate through the Maze to drag it to each letter, in the right order, to complete the word.
Word Maze + 4	Open Eduactiv8/ First circle (Book icon)/ Discover letter icon/ Word Mazes + 4	Recognise letters and their sounds, developing command in operating the mouse i.e. up, down right and left, developing interest for the language, spellings, vocabulary enhancement.	Collect all letters in the right order. The activity contains a maze with a word in the middle of it and a beetle lying alongside the word. There are several other beetles roaming around the maze. The letters making up the word are scattered throughout the maze. Instruct the students to click on the Beetle and navigate the beetle through the Maze to drag it to each letter, in the right order, to complete the word.
Sorting Letters (Lowercase letters)	open eduactiv8-first option-disc over letters-sorting letters	arrange the letters in correct alphabetical order	Rearrange the letters so they are in the alphabetical order. Click and drag the letters to drop them in the empty boxes, in order to arrange them.

Reading Practice	Educational Suite GCompris/ Go to reading activities/Reading practice	Association of words with pictures and name familiar pictures.	Some pictures are given with a number of options. Click on the word matching the picture.
Missing Letter	Educational Suite GCompris/ Go to reading activities/Missing Letter	Enhances reading and writing skills, Improves vocabulary, Can spell the word orally or on paper.	Choose the missing letter to complete the word related to the picture given.
The Classic Hangman Game	Educational Suite GCompris/ Go to reading activities/The classic Hangman Game	Improve Reading and spelling skills, Solve crosswords puzzles, learn new words and their meanings.	A word is hidden in the blanks. Discover it by first placing all possible vowels and then the consonants to fill up the remaining places.
Your Word Processor	Educational Suite GCompris, Go to amusement activities, Your Word Processor	Spellings, Vocabulary, Sentence Formation	The programme can be used as a word processor to create documents. There are options to put titles, headings and also hyperlinks. The created document can also be saved.

Theme: Vocabulary

Name of the game	Game path	Learning Outcome	Description
Learn New Words: Body	Open eduactiv8-first option-learn new words-body	associates words with pictures, enhancement of vocabulary	The screen has a picture of a body part and its name at the bottom. There are two buttons, one for moving to the next word, once you have learnt the name of the part and one for going back if you want to visit

			the previous one.
Learn New Words: Clothes and Accessories	Open eduactiv8-first option-learn new words-clothes and accessories	associates words with pictures, enhancement of vocabulary	The screen has a picture of an item of clothing or an accessory and its name at the bottom. There are two buttons, one for moving to the next word, and one for going back if you want to visit the previous one, once you have learnt the name of that item of clothing or accessory
Word Builders (Complete the words): Body	Open eduactiv8-first option-word builders-body	identification of body parts, enhancement of vocabulary	The activity contains a picture of a body part and its name at the bottom with a few letters missing from the word. Below the incomplete word, the letters required to complete it are given in a random arrangement. Instruct the students to identify the part and then complete the word by clicking and dragging the letters in the right order to the empty boxes to finish the incomplete name. As the level advances, more and more letters are missing from the word until you have to make the whole word by yourself.
Word Builders (Complete the words): Clothes and Accessories	Open eduactiv8-first option-word builders-clothes and accessories	identification of clothes and accessories, enhancement of vocabulary	The activity contains a picture of an item of clothing or an accessory and its name at the bottom with a few letters missing from the word. Below the incomplete word, the letters required to complete it are given in a random arrangement. Instruct the students to identify the clothing item or the accessory and then complete the word by clicking and dragging the letters in the right order to the empty boxes to finish the incomplete name. As the level advances, more and more letters are missing from the word until you have to make the whole word by yourself.

Maths

Theme: Numbers (basics)

Name of the game	Game path	Learning Outcome	Description
Number typing	Tux maths	Identification of numbers(1 digit)	This game is a time-based game. Use a keyboard to type the numbers you see in falling asteroids. As you type the correct number the asteroid gets destroyed. As the level increases, The number of asteroids and the speed of falling asteroids also increases.

memory	educativ8/ third option/Me mory/ Photographi c memory	identifies the number and visualises and memories it.	Click the numbers in the order they blink. look at the number that blinks. Click on the numbers following the same order they were blinked before. The speed increases as the level progresses.
memory	educativ8/ third option/Me mory/ Match Numbers	identifies the numbers and matches it	Match the numbers which are hiding behind the bear by clicking on them.A set of cards are given. Find and twin the cards that have the same number hidden behind them. The number of cards increases as the level progresses.
Temperature	Open Eduactiv8/ Numbers/N egative numbers/Ba sics/Temp erature	Explores negative numbers.	Instruct the children to drag the mouse up and down to observe positive and negative numbers.
Even or odd	Open Eduactiv8/ Numbers/N egative numbers/Ba sics/Even or odd	Sorts numbers as even or odd.	Two boxes termed Even and Odd are given. The upper box named 'Even' is empty while the bottom box, 'Odd', holds an assortment of numbers. Hold and drag the even numbers from the odd box to the even one. When these two types of numbers are divided properly, click the OK sign at the top left corner of the screen to submit the activity. As soon as it is submitted, the screen will start reflecting green tick signs on the right answers and red crosses on the wrong ones.
Sorting numbers	Open Eduactiv8/ Numbers/N egative numbers/Ba sics/Sorting numbers	Works with three-digit numbers – reads and writes numbers up to 999 (both negative and positive numbers) and sorts numbers in ascending order.	Rearrange the numbers so they are in ascending order. Hold and drag the numbers into the empty boxes to arrange them.
Number comparison	Open Eduactiv8/ Numbers/N egative	Compares numbers up to 9999 for their value (both	Drag the slider up and down so that the right sign is in the square and then click the green OK sign at the top left corner of the screen to submit and verify your answers.

	numbers/Basics/Number comparison	positive and negative numbers)	
Count the items	Gcompris\mathematics\numeration\count the items	learn to count	count the items showing on the screen and write the number in the box given using a keyboard.
Enumeration memory game	Gcompris\mathematics\numeration\enumeration memory game	learn to identify the numbers by doing calculations	There are some cards. Each card is hiding a number of pictures/written numbers. you have to match the card with the same number of pictures and written numbers on it. As the level increased, the number of cards also increased.
Number with pair of dice	Gcompris\mathematics\numeration\numbers with a pair of dice	learn to count	It's a time-based activity, count the number of dots at the upper face of falling dice. Type that number with the help of a keyboard.
The magician hat	Gcompris\mathematics\numeration\the magician hat	learn to subtract one-digit number	Click on the hat to open it. Under the hat, how many stars can you see moving around? count carefully. Click on the button to validate your answer.
The magician hat	Gcompris\mathematics\numeration\the magician hat	learn to add the one-digit number	Click on the hat to open it. Under the hat, how many stars can you see moving around? count carefully. Click on the button to validate your answer.
Numbers in order	Gcompris\mathematics\numeration\numbers in order	learn to put numbers in order	catch the numbers in increasing order , using the up, down, right and left arrows on the keyboard to move the helicopter.
equal number munchers	Gcompris\mathematics\calculation	give expression to equal the number	Guide the number muncher to the expression that is equal to the number at the top of the screen. Use the arrow keys to navigate around the board and to avoid the toggles. Press the spacebar to eat the number.

	activities\number muncher activities\equal number muncher		
inequality number munchers	Gcompris\mathematics\calculation activities\number muncher activities\inequality number muncher	give the expressions that do not equal the number	Guide the number Muncher to the expressions that do not equal the number at the top of the screen. Use the arrow keys to navigate around the board and to avoid the toggles. Press the spacebar to eat the number.
Numbers with Dice	Educational Suite GCompris, Discover Computer, Keyboard manipulation boards, Numbers with Dice	Hand-eye coordination, Identify the keys on the keyboard	The game is to count the number of dots on the dice and type the digit before the dice falls on the ground.
Guess the number	Gcompris\mathematics\numeration\guess the number	learn to tell the number between two digits	enter a number in the top right blue entry box. Tux will tell you if your number is higher or lower than the number entered. The distance between Tux and the escape area on the right represents how far you are from the correct answer. if the Tux is over or under the escape area, it means your number is over or under the correct number.
The Fifteen Game	Educational Suite GCompris, Puzzles, Sudoku, The fifteen game	Counting, Arrangement of numbers in increasing order	The game is to arrange numbers in increasing order. Move each item to make an increasing series; from the smallest to the largest. Click on any item that has a free block beside it, and it will be wrapped with the empty block.
Practice subtraction with fun	Gcompris\mathematics\numeratio	learn to count	Click on the dice to show how many ice spots there are between Tux and the fish. Click the dice with the right mouse button to count backwards.

game	n\practice subtraction with fun game		
Miscellaneous Activities	Educational Suite G-Compris/go to discovery activity/go to miscellaneous us/go to double entry table	get to know about classification and about numbers	just drag and drop the items in the boxes on the basis of their number {i.e, how many they are}

Theme: Numbers (Percentage)

Name of the game	Game path	Learning Outcome	Description
Match Percentage	Eduactiv 8/ second option/ Percentages/match percentage	Solve problems related to conversion of percentage into Pie- chart, Understand the concept of percentage, Use percentages in day to day Understanding what is bigger and smaller , Show/depict the data in different percentage, Understanding of different kind of angles	There are shaded pie-charts that represent certain percentages. Children have to match the percentage numbers with their related Pie-charts by clicking on the same percentage number and pie chart. doing that if correct will make them fade away with a green tick mark.
Group percentage together	Eduactiv 8/ second option/ Percentages/grou	Conversion and grouping percentage into Pie-graph/Fractions/Decimal/Pictorial representation of	Child have to Group percentage numbers with their corresponding/ related fractions, decimals, and pictorial representations by dragging and dropping them in front of given percentages

	p percenta ge together	fractions. Understand the concept of one-fourth, half, one-third etc, Read the fraction, decimal, pictorial representations as a percentage.	
Experiment with percentages	Eduact v8/Second Option/ Percent ages/ Experi ment with percent ages	Know about the percentages and their concentration in a whole, Distinguish between the percentages, Can learn and use the acquired knowledge in their day to day life.	Percentage in numbers are given alongside their shaded part which indicates its part in a whole.
Percentage in a Pie Chart	Eduact v8/Second Option/ Percent ages/ Percent age in a Pie Chart	Visualize and explore percentages, conceptualization about Pie-charts, Representing percentages as Pie-chart, Making conclusions from the pictorial representations, Understand that percentages are part of the whole and together they make a whole.	A pie-chart is shaded with different colours representing some percentages. On the right side, some percentages are given at the top. Drag and drop them in the front of the colour they're representing.

Theme: Numbers (Subtraction)

Name of the game	Game path	Learning Outcome	Description
Subtracti on: 0 to	Tux maths	Able to subtract one-digit number	This game is a time -based game. Use a keyboard to type the subtraction of numbers you see in falling asteroids.As you type

10			the correct number the asteroid gets destroyed. As the level increases, The number of asteroids and the speed of falling asteroids also increases.
Subtraction: 0 to 20	Tux maths	Able to subtract one and two-digit numbers	This game is a time-based game. Use a keyboard to type the Subtraction of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As the level increases, The number of asteroids and the speed of falling asteroids also increases.
Subtraction: Two digits numbers	Tux maths	Able to subtract one and two-digit numbers	This game is a time -based game. Use a keyboard to type the Subtraction of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As the level increases, The number of asteroids and the speed of falling asteroids also increases.
Subtraction of Numbers Practice the subtraction operation.	Gcompris\mathematics\calculation activities\algebra activities\practice	able to subtract one-digit number	A subtraction is displayed on the screen. Quickly find the result and use your computer's keyboard or the screen keypad to type it. You have to be fast and submit the answer before the penguins in their balloon.
Find Solution	eduactive8/Numbers/Positive Number s/Subtraction/Find solution	Subtract numbers upto 20 and find the right solution.	Some subtraction problems are given in a column and in front of these sums there is a table displaying the answer to these sums randomly. Instruct the students to solve these sums and then drag the correct answers to the empty boxes in front of each sum. When they are done with all the sums they can click on the green OK sign at the top left corner to submit and verify their answers.
Find missing number	eduactive8/Numbers/Positive	Subtract numbers upto 20 and find the missing number.	The activity contains simple subtraction problems. The first number from which the second number is going to be subtracted is given along with the answer to every problem. The second

	Number s/Subtra ction/Fi nd missing number		number which is to be added to obtain the given answer is missing from every problem. There is a table next to the sums with the missing numbers randomly provided. Students need to identify which number from this table completes which problem correctly and then drag that number into the empty box in the middle of that particular sum. When they are done with all the sums they can click on the green OK sign at the top left corner to submit and verify their answers.
MATHS MATCHIN G GAME	eduactiv8/ Number s/Positiv e Number s/Subtra ction/ma ths matchin g name	Subtract numbers upto 20 and match with the right answer.	The activity contains subtraction sums as well as their jumbled up answers on the screen. The students need to figure out the answers of each of these sums separately, then, click first on the sum and then on its answer to make a match. When they are done with all the sums they can click on the green OK sign at the top left corner to submit and verify their answers.
PLUS OR MINUS	Open Eduactiv 8/Numb ers/Posit ive Number s/Subtra ction/Pl us or minus	Analyses and applies an appropriate number operation in the situation/ context.	Drag the slider up and down so that the right sign is in the square and then click the green OK sign at the top left corner of the screen to submit and verify your answers.
Columnar Subtractio n (Demonstr ation/practi ce)	Open Eduactiv 8/Numb ers/Posit ive Number s/Subtra ction/Co lumnar subtracti on(optio n 1)	Solved sums on subtraction with and without regrouping(borrowin g) numbers not exceeding 9999.	The activity contains 3-4 digit columnar subtraction problems. To solve a problem click on the box at the bottom of the rightmost column first, type your answer and if the number at the top is smaller than the number at the bottom of that column you can borrow 10 from the next column to your left by clicking at the small box with a minus sign at the top of the column that you are borrowing from and typing one (as your borrowing 1 from that column). A 10 will automatically appear on the small box with a plus sign at the top of the column that you are borrowing for, then you can go ahead and solve the problem by adding 10 to the first number and subtracting the now smaller bottom unit from it. If there is no need to borrow, you can simply click on the empty box at the bottom of each column and fill in your answer. When you are done with all the columns of one sum, click on the green OK sign at the top left corner to submit and verify your answer.

Practice subtraction with fun game	Gcompris\mathematics\numeration\practice subtraction with fun game	learn to count	Click on the dice to show how many ice spots there are between Tux and the fish . Click the dice with the right mouse button to count backwards .
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Theme : Numbers(Addition)

Name of the game	Game path	Learning Outcome	Description
Addition: 1 to 3	Tux maths	Learns to add 0 to 9	This game is a time-based game. Use a keyboard to type the addition of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Addition :0 to 5	Tux maths	Learns to add 0 to 9	This game is a time based game. Use a keyboard to type the addition of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Addition : Sums to 10	Tux maths	Learns to add 0 to 9	This game is a time based game. Use a keyboard to type the addition of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Addition :Sums to 15	Tux maths	Learns to add 0 to 15	This game is a time based game. Use a keyboard to type the addition of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Addition : sums to 20	Tux maths	Learns to add 0 to 20	This game is a time based game. Use a keyboard to type the addition of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Adding two digit numbers	Tux maths	Learns to add two digit numbers	This game is a time based game. Use a keyboard to type the addition of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases,

			The number of asteroids and speed of falling asteroids also increases.
Addition: Missing numbers	Tux maths	Learns to add two digit numbers	This game is a time based game. Use a keyboard to type the missing number you see in falling asteroids. You can use subtraction/addition to find the missing number. As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
FIND SOLUTION	eduactiv8/ Numbers/Positive Numbers/Addition/Find solution	learn to add number up to 20	Some additional problems are given in a column and in front of these sums there is a table displaying the answer of these sums randomly. Instruct the students to solve these sums and then drag the correct answers to the empty boxes in front of each sum. When they are done with all the sums they can click on the green OK sign at the top left corner to submit and verify their answers.
FIND MISSING NUMBER	eduactiv8/ Numbers/Positive Numbers/Addition/Find missing number	Adds /Subtracts numbers upto 20 and finds the missing number.	The activity contains simple addition problems. The first number to be added is given along with the answer of every problem. The second number which is to be added to obtain the given answer is missing from every problem. There is a table next to the sums with the missing numbers randomly provided. Students need to identify which number from this table completes which problem correctly and then drag that number into the empty box in the middle of that particular sum. When they are done with all the sums they can click on the green OK sign at the top left corner to submit and verify their answers.
MATHS MATCHING GAME	eduactiv8/ Numbers/Positive Numbers/Addition/Maths matching game	Adds numbers upto 20 and matches with the right answer.	The activity contains additional sums as well as their jumbled up answers on the screen. The students need to figure out the answers of each of these sums separately, then, click first on the sum and then on its answer to make a match. When they are done with all the sums they can click on the green OK sign at the top left corner to submit and verify their answers.
PLUS OR MINUS	eduactiv8/ Numbers/Positive Numbers/Addition/Plus	Analyses and applies an appropriate sign in the situation/context.	Drag the slider up and down so that the right sign is in the square and then click the green OK sign at the top left corner of the screen to submit and verify your answers.

	or minus		
Columnar Addition (Demonstration/practice)	eduactiv8/Number s/Positive Number s/Addition/Columnar Addition	Solves sums on addition with and without regrouping numbers not exceeding 9999.	The activity contains 3-4 digit columnar addition problems. To solve a problem click on the box at the bottom of the rightmost column first, type your answer and if there is a number left to be carried over, click on the carry box at the top of the next column to the left. Again, type the number to be carried then move to the box at the bottom of the same column, add the two numbers to be added as well as the carried over number, type your answer, then move to the next column to your left. If there is nothing to carry over, simply go to the bottom box of every column and type your answer. When you are done with all the columns of one sum, click on the green OK sign at the top left corner to submit and verify your answer.
Addition of numbers	Gcompris\mathematics\calculation activities \algebra activities \practice addition operation	able to add one digit number	An addition is displayed on the screen. Quickly find the result and use your computer's keyboard or the on-screen keypad to type it. you have to be fast and submit the answer before the penguins land in their balloon.
Addition memory game	Gcompris\mathematics\calculation activities \mathematics memory activities \addition memory game	addition of one digit number	You can see some cards, but you can't see what's on the other side of them. Each card is hiding an adding-up sum, or the answer to the sum. Add until all cards are gone.
practice addition with a target game	Gcompris\mathematics\calculation	learns addition	Throw the darts at the target and count your score. when all your darts are thrown, you are asked to count your score. Enter the score with the keyboard. As levels increased, the number of darts and numbers on board also increased.

	activities \practice addition with a target game		
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Theme: Numbers (Division)

Name of the game	Game path	Learning Outcome	Description
Division by 2	Tux maths	Learns to divide by 2	This game is a time based game. Use a keyboard to type the division of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Division by 3	Tux maths	Learns to divide by 3	This game is a time based game. Use a keyboard to type the division of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Division by 4	Tux maths	Learn to divide by 4	This game is a time based game. Use a keyboard to type the division of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Division by 5	Tux maths	Learn to divide by 5	This game is a time based game. Use a keyboard to type the division of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Division: 1 to 5	Tux maths	Learn to divide by 1 to 5	This game is a time based game. Use a keyboard to type the division of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Division by 6	Tux maths	Learns to divide by 6	This game is a time based game. Use a keyboard to type the division of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.

Division by 7	Tux maths	Learns to divide by 7	This game is a time based game. Use a keyboard to type the division of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Division by 8	Tux maths	Learns to divide by 8	This game is a time based game. Use a keyboard to type the division of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Division by 9	Tux maths	Learns to divide by 9	This game is a time based game. Use a keyboard to type the division of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Division by 10	Tux maths	Learns to divide by 10	This game is a time based game. Use a keyboard to type the division of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Division: 1 to 10	Tux maths	Learns to divide from 1 to 10	This game is a time based game. Use a keyboard to type the division of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Division by 11 and 12	Tux maths	Learns to divide by 11 and 12	This game is a time based game. Use a keyboard to type the division of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Division: 1 to 12	Tux maths	Learns to divide from 1 to 12	This game is a time based game. Use a keyboard to type the division of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Division by 13,14 and 15	Tux maths	Learns to divide by 13, 14 and 15	This game is a time based game. Use a keyboard to type the division of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Division: 1 to 15	Tux	Learns to divide	This game is a time based game. Use a keyboard to type the division of numbers you see in falling asteroids.As you type the

	maths	from 1 to 15	correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
DIVISION	Open Eduactive/NUMBERS/Positive numbers/Division/Division(option 1)	Divides numbers upto 3 digit numbers and finds the quotient.	Some (2,3,digits) division problems are given in a column and in front of these sums there is a table displaying the answer of these sums randomly. Instruct the students to solve these sums and then drag the correct answers to the empty boxes in front of each sum. When they are done with all the sums they can click on the green OK sign at the top left corner to submit and verify their answers.
Find solution	Open Eduactive/NUMBERS/Positive numbers/Division/Find solution	Divide numbers upto 99 and find the right solution.	Some one to three digit division problems are given in a column and in front of these sums there is a table displaying the answer of these sums randomly. Instruct the students to solve these sums and then drag the correct answers to the empty boxes in front of each sum. When they are done with all the sums they will automatically move to the next level.
Find the missing number	Open Eduactive/NUMBERS/Positive numbers/Division/Find the missing number	Divides numbers upto 99 and finds the quotient	The activity contains simple one or three digit division problems. The Dividend is given along with the answer of every problem. The Divisor is missing from every problem. There is a table next to the sums with the missing Divisors randomly provided. Students need to identify which number from this table completes which problem correctly and then drag that number into the empty box in the middle of that particular sum. When they are done with all the sums they will automatically move to the next level.
MATHS MATCHING GAME	Open Eduactive/NUMBERS/Positive numbers/Division/Maths matching game	Explores the meaning of division facts by equal grouping/sharing and finds it by repeated subtraction	The activity contains one to three digit division sums as well as their jumbled up answers on the screen. The students need to figure out the answers of each of these sums separately, then, click first on the sum and then on its answer to make a match. When they are done with all the sums they will automatically move to the next level.

DIVISION	Open Eduactiv 8/Numbers/Negative numbers /division -FIND SOLUTION	divides numbers upto 99 and find the right solution.(Both positive and negative numbers)	Some one to two digit division problems are given in a column and in front of these sums there is a table displaying the answer of these sums randomly. Instruct the students to solve these sums and then drag the correct answers to the empty boxes in front of each sum. When they are done with all the sums they will automatically move to the next level.
Find missing number	Open Eduactiv 8/Numbers/Negative numbers /division /find missing number	divides numbers upto 99 and finds the missing number.(Both positive and negative numbers)	The activity contains one to three digit division problems. The divisor is missing from every problem. There is a table next to the sums with the missing numbers randomly provided. Students need to identify which number from this table completes which problem correctly and then drag that number into the empty box in the middle of that particular sum. When they are done with all the sums they will automatically move to the next level.
maths matching game	Open Eduactiv 8/Numbers/Negative numbers /division /maths matching game	divides numbers upto 99 and matches with the right answer.(both positive and negative numbers)	The activity contains one to two digit division sums as well as their jumbled up answers on the screen. The students need to figure out the answers of each of these sums separately, then, click first on the sum and then on its answer to make a match. When they are done with all the sums they will automatically move to the next level.

Theme: Numbers (Multiplication)

Name of the game	Game path	Learning Outcome	Description
Multiplication 0 to 3	Tux maths	Learns multiplication of one digit number	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiples of 2	Tux maths	Learns multiplication	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level

		of one digit number	increases, The number of asteroids and speed of falling asteroids also increases.
Multiples of 3	Tux maths	Learns multiplication of one digit number	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiples of 4	Tux maths	Learns multiplication of one digit number	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiples of 5	Tux maths	Learns multiplication of one digit number	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiplication : 0 to 5	Tux maths	Learns multiplication of one digit number	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiples of 6	Tux maths	Learns multiplication of one digit number	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiples of 7	Tux maths	Learns multiplication of one digit number	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiplication : 0 to 7	Tux maths	Learns multiplication of one digit number	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiples of 8	Tux maths	Learns multiplication of one digit number	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling

			asteroids also increases.
Multiples of 9	Tux maths	Learns multiplication of one digit number	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiples of 10	Tux maths	Learns multiplication of two digit numbers	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiplication: 0 to 10	Tux maths	Learns multiplication of two digit numbers	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiples of 11 and 12	Tux maths	Learns multiplication of two digit numbers	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
multiplication : 0 to 12	Tux maths	Learns multiplication of two digit numbers	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiples of 13, 14 and 15	Tux maths	Learns multiplication of two digit numbers	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiplication :0 to 15	Tux maths	Learns multiplication of two digit numbers	This game is a time based game. Use a keyboard to type the multiplication of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiplication: Missing numbers	Tux maths	Learns multiplication of two digit numbers	This game is a time based game. Use a keyboard to type the missing number (To complete multiplication of numbers) ,you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.

Addition of numbers	Gcompris\mathematics\calculation activities\practice the multiplication operation	able to multiply one digit number	A multiplication is displayed on the screen. Quickly find the result and use your computer's keyboard or the on-screen keypad to type the product of the numbers. You have to be fast and submit the answer before the penguins in their balloon land on the ground.
Multiplication table	Open Eduactiv8/Numbers/Positive Numbers/Multiplication/Multiplication table(option 2)	Constructs and uses the multiplication facts (tables) of 2, 3, 4, 5 etc and finds the product.	The activity contains multiplication tables from two to twelve (higher tables with each advancing level) marking the whole first row as well as the first column. Randomly, any one of the row and column is highlighted and the student needs to look at the box which is at the intersection of these column and row to figure out the answer of multiplication of the numbers at the top of these two rows and column. Then type the answer in the box above the table and hit enter. If the answer is right, another box will be highlighted but if the answer is wrong you will have figured out the correct answer. Until you get the sum right you won't be able to move to another sum. As soon as the whole table is completed you move to the next level with added rows and/or columns.
Multiplication table	Open Eduactiv8/Numbers/Positive Numbers/Multiplication/Multiplication table	Constructs and uses the multiplication facts (tables) of 2, 3, 4, 5 etc and finds the multiplier	The activity contains multiplication tables from two to twelve (higher tables with each advancing level) marking the whole first row as well as the first column. One multiplication sum is given next to the multiplication table and the multiplicand (a quantity which is to be multiplied by another) column as well as the multiplier row for the same sum is also highlighted in the table. In the given multiplication sum, only the multiplicand and the answer of the sum is provided, you have to lookup the multiplier from the table and fill it in the given empty box to complete the sum. With advancing level each multiple will be highlighted in both ways, $a \times b$ as well as $b \times a$, so you can verify your answer both ways . If the answer is right, another box will be highlighted but if the answer is wrong you will have figured out the correct answer. Until you get the sum right you won't be able to move to another sum. As soon as the whole table is completed you move to the next level with added rows and/or columns. At the final level you only get the sum and you have to complete it without the help of the table.
Multiplication table(Find the	Open Eduactiv8/Numbers/Positive	multiplies 2 and 3 digit numbers and finds the	The activity contains multiplication tables from two to twelve (higher tables with each advancing level) marking the whole

multiplier)	e numbers/Multiplication/Multiplication table(find the multiplier)	right answer.	first row as well as the first column. Randomly, any one of the row and column is highlighted and the student needs to look at the box which is at the intersection of these columns and row to figure out the answer of multiplication of the numbers at the top of these two rows and columns. Then type the answer in the box adjacent to the table and hit enter. With advancing level each multiple will be highlighted in both ways, a x b as well as b x a, so you can verify your answer both ways . If the answer is right, another box will be highlighted but if the answer is wrong you will have figured out the correct answer. Until you get the sum right you won't be able to move to another sum. As soon as the whole table is completed you move to the next level with added rows and/or columns.
Find solution	Open Eduactiv8/Numbers/Positive numbers/Multiplication/Find solution	Multiplies numbers upto 12 and finds the right solution.	Some multiplication problems are given in a column and in front of these sums there is a table displaying the answer of these sums randomly. Instruct the students to solve these sums and then drag the correct answers to the empty boxes in front of each sum. When they are done with all the sums they can click on the green OK sign at the top left corner to submit and verify their answers.
FIND MISSING NUMBER	Open Eduactiv8/Numbers/Positive numbers/Multiplication/Find MISSING NUMBER	Multiplies numbers upto 12 and finds the product.	The activity contains simple multiplication problems. The first number to be multiplied is given along with the answer of every problem. The second number which is to be multiplied to obtain the given answer is missing from every problem. There is a table next to the sums with the missing numbers randomly provided. Students need to identify which number from this table completes which problem correctly and then drag that number into the empty box in the middle of that particular sum. When they are done with all the sums they can click on the green OK sign at the top left corner to submit and verify their answers.
MATHS MATCHING GAME	Open Eduactiv8/Numbers/Positive numbers/Multiplication/Maths matching game	Multiplies numbers upto 12 and finds the product.	The activity contains one to two digit multiplication sums as well as their jumbled up answers on the screen. The students need to figure out the answers of each of these sums separately, then, click first on the sum and then on its answer to make a match. When they are done with all the sums they will automatically move to the next level.
Long multiplication (Demonstrate / practice)	Open Eduactiv8/Numbers/Positive	Multiplies 2, 3 and 4 digit numbers LEARNS THE	The activity contains 3-4 digit long multiplication problems. To solve a problem click on the box at the bottom of the rightmost column first, type your answer and if there is a

	numbers/Multiplication/Long multiplication	STEPS FOR LONG MULTIPLICATION	number left to be carried over, click on the carry box at the top of the next column to the left. Again, type the number to be carried then move to the box at the bottom of the same column, add the two numbers to be added as well as the carried over number, type your answer, then move to the next column to your left. If there is nothing to carry over, simply go to the bottom box of every column and type your answer. When you are done with all the columns of one sum, click on the green OK sign at the top left corner to submit and verify your answer.
multiple number munchers	Gcompris\mathematics\calculation activities\number muncher activities\multiple number munchers	gives the expression of multiplied of the number	Guide the number muncher to find all the multiples of the number at top of the screen. Use the arrow keys to navigate around the board and to avoid the troggles. press the spacebar to eat the number.
Find solution	Open Eduactiv8/Numbers/Negative numbers/multiplication/find solution	multiplies numbers upto 9999 and find the right solution.(Both positive and negative numbers)	Some one to two digit multiplication problems are given in a column and in front of these sums there is a table displaying the answer of these sums randomly. Instruct the students to solve these sums and then drag the correct answers to the empty boxes in front of each sum. When they are done with all the sums they will automatically move to the next level.
FIND MISSING NUMBER	Open Eduactiv8/Numbers/Negative numbers/multiplication/find missing number	Multiplies numbers upto 9999 and finds the missing number.(Both positive and negative numbers)	The activity contains one to three digit multiplication problems. The multiplicand is given along with the answer of every problem. The multiplier is missing from every problem. There is a table next to the sums with the missing numbers randomly provided. Students need to identify which number from this table completes which problem correctly and then drag that number into the empty box in the middle of that particular sum. When they are done with all the sums they will automatically move to the next level.
MATHS MATCHING GAME	Open Eduactiv8/Numbers/Negative numbers/multiplication/maths matching game	Multiplies numbers upto 9999 and matches with the right answer.(both positive and negative	The activity contains one to two digit multiplication sums as well as their jumbled up answers on the screen. The students need to figure out the answers of each of these sums separately, then, click first on the sum and then on its answer to make a match. When they are done with all the sums they will automatically move to the next level.

		numbers)	
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Theme : Numbers (Factors & Multiples)

Name of the game	Game path	Learning Outcome	Description
Factor number muncher	Gcompris\mathematics\calculation activities\number muncher activities\nfactor number muncher	give the expression of all the factors of the number	Guide the number muncher to find all the factors of the number showing at top of the screen. Use the arrow keys to navigate around the board and to avoid troggles . press the spacebar to eat the number.
Factoroids	Tux maths	Learn factor and prime numbers	Factorize numbers with your laser beams. To win, you must destroy all the asteroids. Turn: arrow keys or mouse movement. Thrust: up arrow or right mouse button. Shoot: [Enter], [Space], or left mouse button. Switch Prime Number Gun: [D], [F], or mouse scroll wheel. Activate powerup: [Shift]. Shoot the rocks with their prime factors until they are all destroyed.

Theme : Numbers (Prime numbers)

Name of the game	Game path	Learning Outcome	Description
prime number munchers	Gcompris\mathematics\calculation activities\number muncher	able to identify the prime numbers	Guide the number muncher to find the less than or more than prime numbers of the number given at the top of the screen. Use the arrow keys to navigate around the board and to avoid troggles. Press the spacebar to eat the number.

	activities \prime number muncher s		
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Theme : Numbers (Fraction)

Name of the game	Game path	Learning Outcome	Description
Experiment with fractions	Open Eduactiv 8/NUMBERS/FRACTI ONS/BASICS/e xperime nt with fractions	represents the fractions as half, one fourth and three-fourths by using numbers/ numerals .	A visual representation of a fraction is provided, adjacent to which are two empty boxes on top of one another for numerator and denominator. Students need to calculate the numerator and denominator from the drawing and write it in the given boxes.
What fraction is it ?	Open Eduactiv 8/NUMBERS/FRACTI ONS/BASICS/ what fraction is it?	represents the fractions as half, one fourth and three-fourths by using numbers/ numerals .	This activity provides students an opportunity to visualize and explore fractions. A fraction is written in the right half of the screen with increase and decrease options alongside both the denominator and the numerator. The visual representation of that fraction is also displayed on the left half of the screen, which keeps changing along with the changes made in the fraction using the increase or decrease options.T
Match fractions	Open Eduactiv 8/NUMBERS/FRACTI ONS/BASICS/ match fractions	Matches the given fraction with the correct fractional number	The activity contains a fraction in the form of figures as well as numbers.(jumbled up answers on the screen). The students need to figure out the answers of each of these sums , then, click first on the figure and then on its answer to make a match. When they are done with all the sums they will automatically move to the next level.
Group fractions 1,2,3	Open Eduactiv 8/NUMBERS/F	Groups Fractions Together as halves ,quarters and so on	Match Fraction charts on the right to the ones on the left by dragging and dropping the ones on the left into the appropriate boxes on the right.

	RACTI ONS/B ASICS/g roup fractions		
Reduce and expand fractions	Open Eduactiv 8/NUM BERS/F RACTI ONS/Eq uivalent Fraction s/reduce and expand fractions	shows the equivalence of a fraction with other fractions. Identifies and forms equivalent fractions of a given fraction	instruct the children to increase the numerator or decrease it and observe the changes happening in the fraction chart.
Match equivalent fractions	Open Eduactiv 8/NUM BERS/F RACTI ONS/Eq uivalent Fraction s/match equivale nt fractions	shows the equivalence of a fraction with other fractions. Identifies and forms equivalent fractions of a given fraction	The activity contains different figures with equivalent fractions. The students need to figure out the answers of each of these , then, click on each to make a match. When they are done with all the sums they will automatically move to the next level.
addition	Open Eduactiv 8/NUM BERS/F RACTI ONS/Ad dition	adds fractions with same denominator	The activity contains different figures with numerals. The students need to add and figure out the answers of each of these , then, click on each to make a match. When they are done with all the sums they will automatically move to the next level.
subtraction	Open Eduactiv 8/NUM BERS/F RACTI ONS/SU BTRAC	Subtracts fractions with same denominator	The activity contains different figures with numerals. The students need to subtract and figure out the answers of each of these , then, click on each to make a match. When they are done with all the sums they will automatically move to the next level.

	TION		
multiplication	Open Eduactive/NUMBERS/FRACTIONS/multiplication	multiplies fractions with and without simplifying	The activity contains different figures with fractions. The students need to multiply and figure out the answers of each of these . When they are done with all the sums they will automatically move to the next level.
division	Open Eduactive/NUMBERS/FRACTIONS/division	divides fractions with and without simplifying	The activity contains different figures with fractions. The students need to divide and figure out the answers of each of these . When they are done with all the sums they will automatically move to the next level.

Theme : Numbers (Decimal Fraction)

Name of the game	Game path	Learning Outcome	Description
Experiment with decimal fractions	Open Eduactive/Numbers/Decimal Fractions/Experiment with decimal fractions	expresses a given fraction $1/2$, $1/4$, $1/5$ in decimal notation and vice-versa.	This activity provides students an opportunity to visualize and explore decimal fractions. A decimal fraction is written in the right half of the screen with increase and decrease options above and below it, respectively. The visual representation of that fraction is also displayed on the left half of the screen, which keeps changing along with the changes made in the fraction using the increase or decrease options.
What decimal fraction is it ?	Open Eduactive/Numbers/Decimal Fractions/What decimal fraction it is?	converts fractions into decimals and vice versa.	The activity contains visual representation of decimals as well as their jumbled up answers on the screen. The students need to figure out the answers of each of these sums separately, then, click first on the sum and then on its answer to make a match. When they are done with all the sums they will automatically move to the next level.

match decimals	Open Eduactiv 8/Numbers/Decimal Fractions/Match decimals	Match decimals with correct fractions and vice versa.	The activity contains visual representation of decimals as well as their jumbled up answers on the screen. The students need to figure out the answers of each of these sums separately, then, click first on the sum and then on its answer to make a match. When they are done with all the sums they will automatically move to the next level.
compare decimals and fractions	Open Eduactiv 8/Numbers/Decimal Fractions/Compare decimals and fractions	Compare fractions and decimals .	The activity contains visual representation of decimal as well as the representation of fraction on the screen. The students need to figure out the answers of each of these sums separately, then, put the signs (>,<=). When they are done with all the sums they will automatically move to the next level.

Theme : Numbers (Integers)

Name of the game	Game path	Learning Outcome	Description
Subtraction : Negative answers	Tux maths	Learn Subtraction of integers	This game is a time based game. Use a keyboard to type the subtraction of negative numbers, you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Adding negatives to Positives	Tux maths	Learn Addition of integers	This game is a time based game. Use a keyboard to type the addition of a negative and a positive number, you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Adding positives to Negatives	Tux maths	Learn Addition of integers	This game is a time based game. Use a keyboard to type the addition of positive and negative numbers, you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Subtracting Negatives From	Tux maths	Learn Subtraction of integers	This game is a time based game. Use a keyboard to type the subtraction of negatives and positives numbers, you see in falling asteroids.As you type the correct number the asteroid

Positives			gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Subtracting Positives From Negatives	Tux maths	Learn Subtraction of integers	This game is a time based game. Use a keyboard to type the subtraction of positives and negatives numbers, you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Adding Negatives to Negatives	Tux maths	Learn Addition of integers	This game is a time based game. Use a keyboard to type the addition of negatives and negatives numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Subtracting Negatives From Negatives	Tux maths	Learn Subtraction of integers	This game is a time based game. Use a keyboard to type the subtraction of negative and negative numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Negatives and Positive Numbers Review.	Tux maths	Sorting numbers as positive and negative numbers	This game is a time based game. Use a keyboard to type the addition/subtraction of integers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiplication and Division of negatives	Tux maths	Able to do multiplication and division of integers	This game is a time based game. Use a keyboard to type the multiplication or division of negative integers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Multiplication of Positives and Negatives	Tux maths	Able to do multiplication and of integers	This game is a time based game. Use a keyboard to type the multiplication of positive integers, you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Division of positives and Negatives	Tux maths	Able to do division of integers	This game is a time based game. Use a keyboard to type the division of positive and negative integers, you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.
Find solution	Open Eduactiv 8/Numbers/Negative	Adds numbers upto 9999 and find the right solution.(Both positive and negative numbers)	Some (2,3,4 digits) additional problems on negative numbers are given in a column and in front of these sums there is a table displaying the answer of these sums randomly. Instruct the students to solve these sums and then drag the correct answers to the empty boxes in front of each sum. When they

	numbers /Addition/Find solution		are done with all the sums they can click on the green OK sign at the top left corner to submit and verify their answers.
Find missing numbers	Open Eduactive/Numbers/Negative numbers /Addition/Find missing number	Adds /Subtracts numbers upto 9999 and finds the missing number.(Both positive and negative numbers)	The activity contains simple addition problems. The first number to be added is given along with the answer of every problem. The second number which is to be added to obtain the given answer is missing from every problem. There is a table next to the sums with the missing numbers randomly provided. Students need to identify which number from this table completes which problem correctly and then drag that number into the empty box in the middle of that particular sum. When they are done with all the sums they can click on the green OK sign at the top left corner to submit and verify their answers.
MATHS MATCHING GAME	Open Eduactive/Numbers/Negative numbers /Addition/Maths matching game	Adds numbers upto 9999 and matches with the right answer.(both positive and negative numbers)	The activity contains additional sums as well as their jumbled up answers on the screen. The students need to figure out the answers of each of these sums separately, then, click first on the sum and then on its answer to make a match. When they are done with all the sums they can click on the green OK sign at the top left corner to submit and verify their answers.

Theme: Mental Arithmetic

Name of the game	Game path	Learning Outcome	Description
The series of correct operations that matches the answer	Gcompris\mathematics\calculation activities \the series of correct operations	learn different operations on one digit number	At the top of the board area , choose the number and arithmetic operations that give the specified result. you can drag the numbers to arrange them in order with the help of a mouse .
The series of correct	Gcompris\mathe	learn different operations on one	At the top of the board area , choose the number and arithmetic operations that give the specified result. you can drag the

operations that matches the answer	maths\calculations activities\the series of correct operations	digit number	numbers to arrange them in order with the help of a mouse .
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Theme: Measurement (Weight)

Name of the game	Game path	Learning Outcome	Description
balance the scale properly	Gcompris\maths\calculations activities\balance the scale properly	learn to balance the scale using weights	To balance the scales, move the masses to the left or the right side(on higher levels). They can be arranged in any order.
balance the scale properly	Gcompris\maths\calculations activities\balance the scale properly	learn to balance the scale using weights	To balance the scales, move the masses to the left or the right side(on higher levels). They can be arranged in any order.

Theme : Shapes

Name of the game	Game path	Learning Outcome	Description
Paint	Eduactiv8/Third Circle/Art and Colour/Paint	Creativity, Free hand drawing	The programme can be used to do free hand drawing. There is an undo and redo button, pencil, brush and thick brush option, tools to draw a line, rectangle, circle, eraser and fill tool. There is also an option to change the brush size from 0 to 98. There is an option to select a number of colours out of a collection which is given at the bottom. The interface can be changed

			from top bottom display to left right display option. by clicking at the bit arrows given the top right hand corner.
Tux paint	Educational Suite G.Compris, Go to amusement activities , Tux paint	Creativity, identification of shapes, colours,	The interface can be used to create pictures. There are a number of features such as tools, colours and brushes. It has a number of ready-made stamps which can be used to bring to live the creativity of the students. There are a number of pre-prepared colouring and drawing templates.
The tangram puzzle	Educational Suite G.Compris, Puzzles, The Tangram Puzzle game	Creativity, Identification of Shapes and Patterns, Problem Solving,	The game is the form given shape using the seven pieces given in the form of shapes. select the tangramt form. move a piece by dragging it. Right click on it to create a symmetrical Item. Select an image and drag around it to show the rotation you want. Once you have shown what shape you want , the computer will create it. If you need help , click on the shape button , and the border of the shape will be drawn.
Sudoku, Place unique Symbols in a Square	Educational Suite G.Compris, Puzzles, Sudoku, Place unique Symbols in a Square	Shape Identification, problem solving, pattern	The game is arranged shapes that are unique in a row and in a column. Complete the puzzle,, for these symbols must be unique in row , columns and each region. Select the symbol on the left and click on it's target position. For the higher levels click on an empty square to give it the keyboard focus . Then enter a possible letter or number .

Theme :Pattern

Name of the game	Game path	Learning Outcome	Description
Image Patterns (With mirrored images)	Open eduactiv8-second option-patterns -image pattern with mirrored	identify different image patterns and understand the concept of mirrored image	A series of images are given in two lines with a few of the images missing from the top line. You have to guess and then complete the pattern in the top line by dragging and dropping the required images from the bottom line, all the while keeping in mind the orientation of the images required to complete the pattern as the images provided are mirrored

	images		
Shape Patterns	Open eduactiv8-second option-patterns -shape pattern	identify what the pattern is and predict what should come next	A series of images are given in two lines with a few of the images missing from the top line. You have to guess and then complete the pattern in the top line by dragging and dropping the required images from the bottom line.
Color Patterns	Open eduactiv8-second option-patterns -color pattern	identify different colours and arrange them according to given pattern	A series of images of color splashes are given in two lines with a few of the images missing from the top line. You have to guess the next color and then complete the pattern in the top line by dragging and dropping the required splashes of color from the bottom line.
Image Patterns	Open eduactiv8-second option-patterns -image pattern	understand the concept of pattern based designs	A series of images are given in two lines with a few of the images missing from the top line. You have to guess and then complete the pattern in the top line by dragging and dropping the required images from the bottom line.
Letter Patterns	Open eduactiv8-second option-patterns -letter pattern	identify the letters patterns	A series of alphabet patterns are given in two lines with a few of the alphabets missing from the top line. You have to guess and then complete the pattern in the top line by dragging and dropping the required alphabet from the bottom line.
Miscellaneous Activities	Educational Suite G-Compris/go to discovery activity/got to miscellaneous activities/go to algorithm	get to know patterns	Find the next symbol in a list.
Number Patterns	Open eduactiv8-second option-patterns -number pattern	identify the number patterns and arrange accordingly	A series of number patterns are given in two lines with a few of the numbers missing from the top line. You have to guess and then complete the pattern in the top line by dragging and dropping the required number from the bottom line.
Fraction Patterns	Open eduactiv8-second option-patterns -fraction pattern	understand the concept of fraction along with pattern based designs	A series of fraction patterns are given in two lines with a few of the patterns missing from the top line. You have to guess and then complete the pattern in the top line by dragging and dropping the required pattern from the bottom line.

Connect 4	Educational Suite G.Compris, Strategy games. Connect 4	Making pattern, problem solving, Develops sportsman spirit	The game is to arrange four coins in a row. When the player clicks a green ball falls at the bottom of the grid and soon a red ball falls on its own. The challenge is to arrange four coins in a row and win the game.
Bar Game	Educational suite G.Comprise, Strategy games, bar game	Develop logical reasoning	Place balls in the holes. You win if the computer has to place the last ball. If you want Tux to begin, just click on him.
Connect 4 {2 Players}	Educational Suite G.Compris, Strategy games, Connect4 {2 players)	Making pattern, problem solving, Develops sportsman spirit	The game is to arrange four coins in a row. When the player clicks a green ball falls at the bottom of the grid and soon a red ball falls on its own. The challenge is to arrange four coins in a row and win the game.

Theme : Measurement (Money)

Name of the game	Game path	Learning Outcome	Description
Go to money activities	Gcompri s\mathe matics\n umeratio n\go to money activities /MONE Y	build concept of money	click on the coins or paper money at the bottom of the screen to pay the money for the given items.
Give tux his chance	Gcompri s\mathe matics\n umeratio n\give tux his chance	practice usage of money	Tux bought different items from you and showed his money. you have to give him back the change.for that, you can use coins and paper notes shown at the bottom of the screen. At the higher levels, several items are displayed, and you must calculate the total price.

Give tux his chance , including cents	Gcompris\mathematics\numeration\give tux his chance including cents	practice usage of money	" Tux bought different items from you and showed his money. you have to give him back the change. for that, you can use coins and paper notes including cents shown at the bottom of the screen. At the higher levels, several items are displayed, and you must calculate the total price. "
Money	Gcompris\mathematics\numeration\nmoney	practice money usage including cents	click on the coins or paper money at the bottom of the screen to pay the money for the given items.

Theme : Numbers (Ratio)

Name of the game	Game path	Learning Outcome	Description
Match ratios	eduActive\mathematics\ratio\match ratio	learn to relate between two numbers to show how much one bigger than other	The ratio of two numbers with different colours have shown on the screen, there are a number of balls in the same ratio all you need to do is to match the number with the correct picture showing that ratio.
Group ratio together	eduActive\mathematics\ratio\Group ratio together	learn to relate between the two shaded pictures and write them in ratio	There are few shaded pictures shown and a particular ratio is also given , all you need to do is to pick out the pictures which are showing the same given ratio and put them together.
Ratios	EduActiv8/1ogin/option2/ratios/experiment with ratios	get to know about the basics of how to relate between two numbers and apply them in their real life	look at the numbers given and the colored dots and change the numbers to see how the colored dots change as well and provide different relations every time
Ratios	EduActiv8/1ogin/option2/ratio	get to know how different ratios can be	look at the numbers and ratios shown on the screen and match the ratio with the correct image

	s/match ratios		
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Theme : Measurement (Time)

Name of the game	Game path	Learning Outcome	Description
How clock work?	open eduactiv 8-second option-ti me-cloc k-how clock works	identify the placement of Able to do multiplication and division of integers numerals and hands on an analog clock, able to know the concept of seconds, minutes and hours	The activity helps students explore the concept of time and clock, along with their english names (quarter to, quarter past etc). Students can turn the clock hands to see what happens. They can also use the increase and decrease options around the written time to see if there are any changes in the clock hands and learn what it's called in english.
Clock (Learn to set the clock)	open eduactiv 8-second option-ti me-cloc k-learn to set clock	experience in a digital way the value of the intervals of minutes and hours,learn to set the time by dragging the hands of clock	The activity helps students explore the concept of time and clock. You will be given a specific time and to pass the level you will move the clock hands to set the given time. Students can also use the increases and decrease options around the written time to set the given time.use the left click on mouse to hold the hands of clock and then start dragging
Clock (Time in text version only)	open eduactiv 8-second option-ti me-cloc k-clock(t ime in text version only)	learn the meanings of expressions such as half past, quarter past etc	The activity helps students explore the concept of time and clock. You will be given a specific time and to pass the level you will move the clock hands to set the given time. Time will not be given to you in numerical form.The text version of the time is mentioned on the screen , you need to read the time and show that time on the clocks by dragging the hands of the clock.
Clock (Learn to set the clock)	open eduactiv 8-second option-ti me-cloc k-learn to set clock	listen and comprehend the right time by setting the clock	The activity helps students explore the concept of time and clock. There is a speaker sign adjacent to the clock, click on that to hear what time you have to set then move the clock hands to set that time. When you are done click the green tick sign at the top left corner to submit and verify your result. Time will not be provided to you in either textual or numerical form, so listen to the time carefully.

Clock (Learn to read the time)	open eduactiv 8-second option-ti me-cloc k-learn to read the time	learn to tell the time using analog and digital clock	The activity helps students explore the concept of time and clock. The clock shows a specific time, students are required to read the clock and type the time in the boxes provided adjacent to the clock for hours and minutes. Students can also use the increases and decrease options above and below the boxes to set the required time.
Time Matching	open eduactiv 8-second option-ti me-cloc k-time matchin g	match the correct time with the given clock	The activity contains images of clocks showing different times as well as their jumbled up numeral versions on the screen. The students need to figure out which clock represents which time, then, click first on the clock and then on the time to make a match. When they are done with all the matches they will automatically move to the next level.
Time Matching	open eduactiv 8-second option-ti me-cloc k-time matchin g	able to read number names and match the time with clock accordingly	The activity contains images of clocks showing different times as well as their jumbled up text versions on the screen. The students need to read out which clock represents which time, then, click first on the clock and then on the time to make a match. When they are done with all the matches they will automatically move to the next level.
Experiment with elapsed time (Visualised on a clock dial)	open eduactiv 8-second option-ti me-calc ulating with time-exp eriment with elapsed time	define the elapsed time and understand the concept of used time(time gap)	The activity contains two clocks representing different times. The time represented by these two clocks are also written above the images with increase and decrease options above and below both units (hour and minutes). The next half of the screen represents the elapsed time or the time difference between the two clocks. Students can change time in both or either clock to see what happens to the elapsed time or how it changes.
Calculate elapsed time (Visualized on a clock dial)	open eduactiv 8-second option-ti me-calc ulating with	calculate the elapsed time by subtracting the time from given end point	The activity contains two clocks representing different times. The next half of the screen represents the elapsed time or the time difference between the two clocks. Below the two clocks are two boxes, one for the hour and the next for minutes. Students are required to observe the time difference or elapsed time from either the watches or the visual representation of elapsed time and type it in the boxes for hours and minutes,

	time-cal culate elapsed time		respectively. Then, click on the green OK sign to submit and verify your results.
Experiment with elapsed time 2 (Visualized on two number lines)	open eduactiv 8-second option-- calculati ng with time-exp eriment with elapsed time 2	define the elapsed time using number line	The activity contains two clocks representing different times. The time represented by these two clocks are also written above the images with increase and decrease options above and below both units (hour and minutes). At the bottom of the screen there are two number lines (for hour and minutes) which represents the elapsed time or the time difference between the two clocks. Students can change time in both or either clock to see what happens to the elapsed time or how it changes.
Calculate elapsed time (Visualized on two number lines)	open eduactiv 8-second option-ti me-calc ulating with time-cal culate elapsed time	calculate the elapsed time by using number line concept	The activity contains two clocks representing different times. At the bottom of the screen there are two number lines (for hour and minutes) which represents the elapsed time or the time difference between the two clocks. Adjacent to the two clocks are two boxes, one for the hour and the next for minutes. Students are required to observe the time difference or elapsed time from either the watches or the visual representation of elapsed time (the number line) and type it in the boxes for hours and minutes, respectively. Then, click on the green OK sign to submit and verify your results.
Calculate elapsed time (Visualized on two number lines)	open eduactiv 8-second option-ti me-calc ulating with time-cal culate elapsed time(dig ital clock)	differentiate between analog and digital clock , calculate the elapsed time by using both clocks	The activity contains two different times. At the bottom of the screen there are two number lines (for hour and minutes) which represents the elapsed time or the time difference between the above written times. Adjacent to the two given times are two boxes, one for the hour and the next for minutes. Students are required to observe the time difference or elapsed time from either the given times or the visual representation of elapsed time (the number line) and type it in the boxes for hours and minutes, respectively. Then, click on the green OK sign to submit and verify your results. As the level advances, you can encounter a mixture of written times and clocks.
Experiment with elapsed time (Visualized	open eduactiv 8-second option-ti	differentiate between hours and minutes, visualize the time elapsed with the help	The activity contains two clocks representing different times. The time represented by these two clocks are also written above the images with increase and decrease options above and below both units (hour and minutes). At the bottom of the

on a number line)	me-calculating with time-calculate elapsed time(option 6)	a number line	screen there is a number line which represents the elapsed time or the time difference between the two clocks. Students can change time in both or either clock to see what happens to the elapsed time or how it changes.
Calculate elapsed time (Visualized on a number line)	open eduactiv 8-second option-time-calculating with time-calculate elapsed time (option 7)	calculate the elapsed time by using number line concept	The activity contains two clocks representing different times. The time represented by these two clocks are also written above the images with increase and decrease options above and below both units (hour and minutes). At the bottom of the screen there is a number line which represents the elapsed time or the time difference between the two clocks. Students can change the elapsed time to see what changes occur in the clocks or time.
Calculate elapsed time (Visualized on a number line)	open eduactiv 8-second option-time-calculating with time-calculate elapsed time (option 8)	differentiate between analog and digital clock , calculate the elapsed time by using both clocks	The activity contains two different times. At the bottom of the screen there are two number lines (for hour and minutes) which represents the elapsed time or the time difference between the above written times. Adjacent to the two given times are two boxes, one for the hour and the next for minutes. Students are required to observe the time difference or elapsed time from either the given times or the visual representation of elapsed time (the number line) and type it in the boxes for hours and minutes, respectively. Then, click on the green OK sign to submit and verify your results. As the level advances, you can encounter a mixture of written times and clocks.
Calculate elapsed time (With no visualization)	open eduactiv 8-second option-time-calculating with time-calculate	write the elapsed time either using digital clock or analog clock or both of them	The activity contains two different times (either represented by a clock or in the form of numbers). Adjacent to the two given times are two boxes, one for the hour and the next for minutes. Students are required to observe the time difference or elapsed time from the given times and type it in the boxes for hours and minutes, respectively. Then, click on the green OK sign to submit and verify your results.

	elapsed time(option 9)		
Experiment with elapsed time 2 (Visualized on two number line)	open eduactiv 8-second option-time-calculating with time-experiment with elapsed time 2(option 10)	how to determine the time before or after an interval of hours	The activity contains two clocks representing different times. The time represented by these two clocks are also written below them with increase and decrease options above and below both units (hour and minutes). At the bottom of the screen, between the numerical form of time there are two number lines (for hour and minutes) which represents the elapsed time or the time difference between the two clocks. Students can change time in both or either clock to see what happens to the elapsed time or how it changes. At the same time they can also change the elapsed time to see what changes occur in the clock or the numerical form of the time.
Experiment with elapsed time 2 (Visualized on a number line)	open eduactiv 8-second option-time-calculating with time-experiment with elapsed time 2(option 11)	how to determine the time at the end of an interval of hours and minutes	The activity contains two clocks representing different times. The time represented by these two clocks are also written below them with increase and decrease options above and below both units (hour and minutes). At the bottom of the screen, between the numerical form of time there is a number line which represents the elapsed time or the time difference between the two clocks. Students can change time in both or either clock to see what happens to the elapsed time or how it changes. At the same time they can also change the elapsed time to see what changes occur in the clock or the numerical form of the time.
Find the start or the end time	open eduactiv 8-second option-time-calculating with time-find the start or the end time(option 9)	calculate the start time and end time using the given elapsed time	The activity contains two different times. At the bottom of the screen there is a number line which represents the elapsed time or the time difference between the above written times. Adjacent to the two given times are two boxes, one for the hour and the next for minutes. Students are required to observe the time difference or elapsed time from either the given times or the visual representation of elapsed time (the number line) and type it in the boxes for hours and minutes, respectively. Then, click on the green OK sign to submit and verify your results. As the level advances, you can encounter a mixture of written times and clocks.

	ion 12)		
Time (clock) first circle	eduactiv e8, second circle, time circle, clock circle, how clock works first circle	understanding how the clock works,learn to drag the mouse	There is a clock which can be manipulated by either moving the hour and the minute hand of the clock or by changing the digits on the right hand interface. When the pick coloured digits are changed the hour hand moves and when the blue coloured digits are changed the minute hand moves
Time (clock) second circle	eduactiv e8, second circle, time circle, clock circle, how clock works second circle	understanding how the clock works learn to drag the mouse	There is a clock which can be manipulated by either moving the hour and the minute hand of the clock or by changing the digits on the right hand interface. When the pick coloured digits are changed the hour hand moves and when the blue coloured digits are changed the minute hand moves
Time (clock) third circle	eduactiv e8, second circle, time circle, clock circle, how clock works third circle	understanding how the clock works,learn to drag the mouse	There is a clock which can be manipulated by either moving the hour and the minute hand of the clock or by changing the digits on the right hand interface. When the pick coloured digits are changed the hour hand moves and when the blue coloured digits are changed the minute hand moves
Miscellaneous Activities	Educational Suite G-Comp	get to know how to tell time,get to know about day and night	Set the clock to the time given, in the time-units shown (hours:minutes or hours:minutes:seconds). Click on the different arrows, and move the mouse, to make the numbers go

	ris/go to discover y activity/ go to miscella neous activities /go to learning clock		up or down.
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Theme: Spatial understanding

Name of the game	Game path	Learning Outcome	Description
Sheep maze	open eduactv8-third option- games and mazes - sheep maze	Spatial understanding. A sense of direction, better memorising power	There is a sheep at the top left corner of the screen and the rest of the herd at lower right of the screen. You have to guide sheep to reach the herd. You can use a mouse and keyboard to guide sheep. Once the sheep reaches the herd, the next level will come automatically.
Mouse maze	open eduactv8-third option- games and mazes - mouse maze	Spatial understanding. A sense of direction, better memorising power	There is a mouse at top left corner of the screen and cheese at lower right of the screen. You have to guide the rat to get cheese. You can use a mouse and keyboard to guide the mouse. Once the mouse reaches the cheese, the next level will come automatically.
Learn New Words: Nature	open eduactv8-first option-learn new words-nature	Classification and naming of objects and places related to nature.	The screen has a picture of a terrain or an object related to nature and its name at the bottom. There are also two buttons, one for moving to the next word, once you have learnt the name of the terrain or the object and one for going back if you want to visit the previous one.
Go To Discovery Activity	Educational Suite GCompris/go to discovery activity/go to maze activities/3-D maze	get to learn directions and problem solving skills	just press the up,down,right and left arrows to move to reach the exit door
Go To Discovery Activity	Educational suite G-compris/go to discovery activity/go tomaze	get to know sense of direction and problem solving	just press the up,down,right and left arrows to move to reach the exit door

	activities/go to maze with 3 stars	skills will enhance	
Go To Discovery Activity	Educational suite G-compris/go to discovery activity/go to maze with orange star	get to know the functions of the keyboard with sense of direction and enhancement of problem solving skills	just press the up,down,right and left arrows to move to reach the exit door
Miscellaneous Activities	Educational Suite G-Compris/go to discovery activity/go to miscellaneous activities/go to find your left hand and right hand	get to know directions	you can see a hand: is it a left hand or a right hand? Click on the left button, or the right button depending on the displayed hand.

Theme : Symmetry

Name of the game	Game path	Learning Outcome	Description
Reflection Symmetry - draw with shapes	Open Eduactiv8/ Second circle (123 icon)/ Symmetry/ Reflection Symmetry draw with shapes	Explore ideas of angles and shapes, Identifies 2D shapes from the immediate environment, concept of reflect shapes, improvement of visualising skill	The activity contains a grid sheet in which you can draw different shapes (3-10 sided) and according to the symmetry type you have selected a portion of the sheet will reflect it's symmetric shape. There are a number of options which you can use to change the type and number of symmetrical figures (vertical, horizontal, diagonal etc.) that you want. You can also change the colour of shapes using the colour chart provided in the right most column.
Symmetrical shapes missing half	Open Eduactiv8/ Second circle (123 icon)/ Symmetry/ Symmetrical shapes missing half	Concept of reflection symmetry and shapes, improvement of visualising skill, concept of cartesian plane	In this activity, the students have to draw a shape that is a reflection of the one already displayed. The red line is the mirror line. Once you are done, you can click on the arrow displayed at the right side of the grid sheet to move to the next level. If you couldn't draw it right the first time, you can click on the redo sign to reset the page

Reflect shapes	Open Eduactiv8/ Second circle (123 icon)/ Symmetry/ Reflect shapes	Reflection symmetry and shapes, improvement of visualising skill, concept of cartesian plane	In this activity, the students have to draw a shape that is a reflection of the one already displayed. The red line is the mirror line. Once you are done, you can click on the arrow displayed at the right side of the grid sheet to move to the next level. If you couldn't draw it right the first time, you can click on the redo sign to reset the page.
Find lines of symmetry	Open Eduactiv8/ Second circle (123 icon)/ Symmetry/ Find lines of symmetry	Different lines of symmetry, identification of shapes, concept of mirror images	In this activity, the students are required to find and select all lines of symmetry for a displayed shape. Click on the arrows around the drawing area to select them. Then click on the green OK sign at the top left corner of the screen to submit and verify your results. Once you are done, the next shape will come automatically.

Theme : Mental maths

Name of the game	Game path	Learning Outcome	Description
Fifteen	Open Eduactiv 8/ Third circle (Puzzle icon)/ Games and Mazes/ Fifteen	Logical thinking, Mapping mind, arranging numbers in increasing order or sequencing	Rearrange the numbers so that they are in the right order. You can use a mouse to drag numbers. Number of grids increases as you move to the higher level.
Fifteen with a twist	Open Eduactiv 8/ Third circle (Puzzle icon)/ Games and Mazes/ Fifteen with a	Logical thinking, Mapping mind, arranging numbers in increasing order or sequencing	Rearrange the numbers so that they are in the right order. You can use a mouse to drag numbers. Number of grid increases as you move to the higher level

	twist		
Sliced Images numbers	Open Eduactiv 8/ Third circle (Puzzle icon)/ Games and Mazes/ Sliced Images numbers	Identification of numbers and mind mapping	A number has been given in the lower part of the game. Observe the given number and rearrange the sliced images of the same number in above part to give them the original image. Once you done,
Connect (Numbers)	open eduactiv 8-third option-g ames and mazes(o ption3)-connect numbers	Identify the same colour and join the numbers accordingly	There are numbers in different colored boxes. You have to drag the numbers (of same color) together. After putting the number in the right box, the colour of string will change from black to the colour of that number. You can move to another level when you successfully drag the numbers to the correct boxes.As you move to a higher level, the number of boxes increases.
Connect (Numbers)	open eduactiv 8-third option-g ames and mazes(o ption3)-connect numbers	Recognise the same color and drag the mouse and connect the same number	There are numbers in different colored boxes. You have to drag the numbers (of same color) together. After putting the number in the right box, the colour of string will change from black to the colour of that number. You can move to another level when you successfully drag the numbers to the correct boxes.As you move to a higher level, the number of boxes increases.
Connect (balloons with threads)	open eduactiv 8-third option-g ames and mazes-c onnect (BALL OONS	Identification of the same color thread and application in the real life situation	There are balloons of different colors. You have to drag the winch (of same color) in the box linked with the same color balloon. After putting the winch in the right box, the colour of string will change from black to the colour of balloon. You can move to other level when you successfully drag winch to the balloon. As you move to a higher level, the number of balloons and winches increases.

	WITH THREA D)		
addition and subtraction memory game	Gcompr s\mathe matics\c alculatio n activities \mathem atics memory activities \addition and subtracti on memory game	addition and subtraction of one digit number	In this game, these cards are hiding the two parts of an operation. You need to find the two parts of the operation, and bring them together again. click on a card to see what number it's hiding.
All operation memory game	Gcompr s\mathe matics\c alculatio n activities \mathem atics memory activities \all operatio n memory game	addition, subtraction , multiplication and division of one digit number	you can see some cards, but you can't see what's on the other side of them. Each card is hiding an operation, or the answer to the sum. Find operation until all cards are gone. when you do that both those cards disappear. when you've made them all disappear, found more than, Tux and you've won the game.
Division memory game	Gcompr s\mathe matics\c alculatio n activities \mathem atics memory	division of one digit number	In this game, these cards are hiding the two parts of an operation. You need to find the two parts of the operation, and bring them together again. click on a card to see what number it's hiding.

	activities \division memory game		
subtraction memory game	Gcompri s\mathe matics\c alculatio n activities \mathem atics memory activities \subtract ion memory game	subtraction of one digit number	In this game, these cards are hiding the two parts of an operation. You need to find the two parts of the operation, and bring them together again. click on a card to see what number it's hiding.
multiplication memory game	Gcompri s\mathe matics\c alculatio n activities \mathem atics memory activities \multipli cation memory game	multiplication of one digit number	In this game, these cards are hiding the two parts of an operation. You need to find the two parts of the operation, and bring them together again. click on a card to see what number it's hiding.
multiplication and division memory game	Gcompri s\mathe matics\c alculatio n activities \mathem atics memory activities \multipli	multiplication and division of one digit number	you can see some cards, but you can't see what's on the other side of them. Each card is hiding an operation, or the answer to the problem. Find the two parts of an operation until all cards are gone. when you do that both those cards disappear. when you've made them all disappear.

	<p>cation and division memory game</p>		
<p>All operation memory game against tux</p>	<p>Gcompris\mathematics\calculation activities\mathematics memory activities against tux\all operation memory game against tux</p>	<p>addition, subtraction, multiplication and division of one digit number</p>	<p>you can see some cards, but you can't see what's on the other side of them. Each card is hiding an operation, or the answer to the problem. Find the two parts of an operation until all cards are gone. when you do that both those cards disappear. when you've made them all disappear, found more than Tux and you've won the game.</p>
<p>Division game against tux</p>	<p>Gcompris\mathematics\calculation activities\mathematics memory activities against tux\division memory game against tux</p>	<p>division of one digit number</p>	<p>you can see some cards, but you can't see what's on the other side of them. Each card is hiding an operation, or the answer to the problem. Find the two parts of an operation until all cards are gone. when you do that both those cards disappear. when you've made them all disappear, found more than Tux and you've won the game.</p>
<p>Addition memory game against</p>	<p>Gcompris\mathematics\c</p>	<p>addition of one digit number</p>	<p>You can see some cards, but you can't see what's on the other side of them. Each card is hiding an adding-up sum, or the</p>

tux	alculatio n activities \mathem atics memory activities against tux\addit ion memory game against tux		answer to the sum.Add until all cards are gone.
addition and subtraction memory game against tux	Gcompri s\mathe matics\c alculatio n activities \mathem atics memory activities against tux\addit ion and subtracti on memory game against tux	addition and subtraction of one digit number	you can see some cards, but you can't see what's on the other side of them. Each card is hiding an operation, or the answer to the problem.Find the two parts of an operation until all cards are gone. when you do that both those cards disappear. when you've made them all disappear, found more than Tux and you've won the game.
subtraction memory game against tux	Gcompri s\mathe matics\c alculatio n activities \mathem atics memory activities against	subtraction of one digit number	In this game, these cards are hiding the two parts of an operation. You need to find the two parts of the operation, and bring them together again. click on a card to see what number it's hiding.

	tux\ subtracti on memory game against tux		
multiplication memory game against tux	Gcompri s\mathe matics\c alculatio n activities /mathem atics memory activities against tux\ multiplic ation memory game against tux	multiplication of one digit number	you can see some cards, but you can't see what's on the other side of them. Each card is hiding an operation, or the answer to the problem. Find the two parts of an operation until all cards are gone. when you do that both those cards disappear. when you've made them all disappear, found more than Tux and you've won the game.
multiplication and division memory game against tux	Gcompri s\mathe matics\c alculatio n activities \mathem atics memory activities against tux\ multiplic ation and division memory game against	division and multiplication of one digit number	you can see some cards, but you can't see what's on the other side of them. Each card is hiding an operation, or the answer to the problem. Find the two parts of an operation until all cards are gone. when you do that both those cards disappear. when you've made them all disappear, found more than Tux and you've won the game.

	tux		
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E.V.S

Theme : Shelter

Name of the game	Game path	Learning Outcome	Description
Learn new words	eduactiv8/first option/learn new word/construction	shows sensitivity for plants, animals, the elderly, differently abled and diverse family set ups in surroundings. (For the diversity in appearance, abilities, choices – likes/ dislikes, and access to basic needs such as food, shelter, etc.) Can identify and name objects in the given pictures. can use vocabulary in the day to day life, can associates words with picture, can guess the name of the types of construction they saw like street, school, door	The screen has a picture and its name at the bottom. There are also two buttons, one for moving to the next word, and one for going back if you want to visit the previous one.when we click on the word, the child can listen to the pronunciation of the given word.

Theme: Family and friends (Relationship)

Name of the game	Game path	Learning Outcome	Description
Discover the Braille System	Educational Suite GCompris/go to	the students will be able to tell who was Louis Braille and how he discovered the	Read the history of Louis Braille, his biography and discovery of the Braille system. Click on the previous and next buttons to move to the respective story page. At the end, arrange the sequence in chronological order by moving the boxes up and

	discover y activities /discover the Braille system/the history of Louis Braille	braille script even when he himself was blind	down and finally click the ok button.
Discover the Braille System	Educational Suite GCompris/go to discover y activities /discover the Braille system/discover the braille system	the students will be able to know how blind people can also write and read even without their senses and they be able to reproduce the braille characters	Click on the dots in Braille Cell to produce letters and the numbers and compare how they are similar.
Discover the Braille System	Educational Suite GCompris/go to discover y activity/ discover the braille system/braille fun	the students will be able to learn to write the braille words	Braille the falling letters. Enter the braille code in the tile for the corresponding falling letters. Check the braille chart by clicking on the toggle button for help.
Discover the Braille System	Educational Suite GCompris/go to	the students will be able to recognise the braille numbers and will be able to apply	Discover the Braille System for numbers. Each player must find if the proposed number is in their board. If the code is in the board, just click on it in order to validate it. The player who crosses all the Braille numbers correctly wins the game.

	discover y/discover the braille system/braille lotto	this in the game	Check the Braille table by clicking on the toggle button in the control bar.
Learn new words	eduactiv 8/first option/learn new word/people	identifies relationships with and among family members.describes roles of family members, family influences (traits/features /habits /practices), need for living together, through oral/ written/other ways. can guess what the person in picture is called, can associate word with pictures, can use new vocabulary in day to day life	The screen has a picture and its name at the bottom. There are also two buttons, one for moving to the next word, and one for going back if you want to visit the previous one.when we click on the word, the child can listen to the pronunciation of the given word.

Theme : family and friends (Animals)

Name of the game	Game path	Learning Outcome	Description
Go To Memory Activity	Educational Suite G-Compris/go to discovery activity/go to memory activities/go to memory game with	remember and recall all the animals behind the cards	Some cards are given with animals on all the cards.The contents of each card is hidden. Match the cards with the same animals on them.

	images		
Go to Sound Activities	Educational Suite G-Compris/go to discovery activity/go to sound activities/Explore farm activities	Exploring farm animals, their names, their sounds and their characteristics, Recalling the animal sounds and the related information about them.	Some farm animals are given. Click on each to know about their characteristics and sounds they make. Remember and recall to complete Level 2 and Level 3.
Move the mouse	Educational Suite GCompris, Discover Computer, Mouse manipulation activities, Move the mouse	Identification of the animals, Moving the mouse in a controlled manner.	The game is to erase the hindrance in front of a picture to reveal what is hidden behind it. The hindrances can be easily erased just by moving the mouse on it.
Click the mouse	Educational Suite GCompris, Discover Computer, Mouse manipulation activities, Click the mouse	Identification of the animals, Clicking the mouse at the desired place	As above here too the game is to erase the hindrance in front of a picture to reveal what is hidden behind it. The hindrances can be easily erased by putting the mouse on the object and by clicking on it.
Miscellaneous Activities	Educational Suite G-Compris/go to discovery activity/go to miscellaneous /go to explore world animals	get to know about animals around the world and where they can be found and locating them on a map	just click on the items shown on the screen and get to know about different types of animals
Match	educativ8/thi	identifies	A set of cards are given. Find and twin the cards that have the

animals	rd option/Memory/ Match Animals	simple observable features and matches the animals.	same animal hidden behind them. The number of cards increases as the level progresses.
Sliced images-animals	educativ8/third option/games and mazes/sliced images/animals	enhancing the problem solving skills. can observe, calculate/visualize and predicts the next step, acquire the understanding of puzzles	The sliced images of animals have to arranged correctly to give the original shape.that is shown below
Match animals-find all matching animals	educativ8/third option/games and mazes/match animals/Match animals-find all matching animals	can observe and identify the same pictures	can observe and identify the same pictures
Match animals to their shadows	educativ8/third option/games and mazes/match animals/match animals to their shadows	can observe and identify and guess the correct shadow of the animals according to animal's body structure	can observe and identify and guess the correct shadow of the animals according to animal's body structure
Match animals to their shadows	educativ8/third option/games and mazes/match animals/help me find my shadows	identifies different features (beaks/teeth, claws, ears, hair, nests/shelters, etc.) of birds and	The screen has a picture and its name at the bottom. There are also two buttons, one for moving to the next word, and one for going back if you want to visit the previous one. when we click on the word, child can listen pronunciation of the given word

		animals.cture	
Find all matching animals	educativ8/third option/games and mazes/match animals/Find all matching animals	can observe and identify the same pictures	The animal images have to be matched by clicking on them. if you are right both the images fade.
match animals to their shadows	educativ8/third option/games and mazes/match animals/match animals to their shadows	can observe and identify and guess the correct shadow of the animals according to animal's body structure	The animal images have to be matched with their shadows by clicking on them. if you are right both the images fade.
help me find my shadows	educativ8/third option/games and mazes/match animals/help me find my shadows	can observe and identify and match the animals shadows according to animal's body structure	The shadows of the animals at the top have to be matched with their images by dragging them.
sliced images-animals	educativ8/third option/games and mazes/sliced images/animals	identify the animal parts and arrange them in proper order.	The sliced images of animals have to be arranged correctly to give the original shape.
word builders (listening exercise)- animals	eduactiv8/first option/word builders (listening exercise)/ animals	can relate the audio with the words, can spell the words correctly, can generally use the words orally or in writing in their lives	There are words with some letters missing. the missing letters are given below it, these have to be dragged and placed correctly so as to make the correct word.

Animals- complete the word	eduactiv8/first option/word builders/anim als	can spell the names of different type of animals,where the live, if they re pet or wild animals, can use the information in daily life too	child have to drag the alphabets to the correct place to complete the names
Animals- matches animal to the word	eduactiv8/first option/word matchers/ani mals	can read and identify the correct spelling of animals name with their pictures, can read and use the vocabulary in daily life	The activity contains a picture and it's name at the bottom with a few letters missing from the word. Below the incomplete word, the letters required to complete it are given in a random arrangement. Instruct the students to identify the part and then complete the word by clicking and dragging the letters in the right order to the empty boxes to finish the incomplete name. As the level advances, more and more letters are missing from the word until you have to make the whole word by yourself.
Animal- match sound to the word	eduactiv8/first option/word matchers (listening exercise)/ani mal	can read, identify and associate the audio,spelling and pictures with each other, can spell the animals name correctly, can use vocabulary in daily life	child have to match the pronunciation audio of different animals name on the left side with differents animals name in words given on the right side, if the correct audio and name is matched the photo of animal appears which when press audio can still be heard

Theme : Family and friends (Work and play)

Name of the game	Game path	Learning Outcome	Description
Penalty Kick	Educatio nal Suite GCompr is, Discover Comput er,	Learns basic functions of mouse and coordinating left and right mouse buttons while working	The game is to double click the mouse on the football to score a goal. On the first click a bar starts moving in from the side. If the mouse is clicked a second time before the bar has reached its end the ball will move towards a side and if the mouse is clicked after the bar has reached its end the ball will land in the hands of the penguin. If the ball is in the hands of the penguin the ball has to be clicked to bring it back to the penalty point.

	Mouse manipulation activities, Penalty Kick		
Learning Chess	Educational Suite GCompris, strategy Games,- practice chess- Learning Chess	Learns to drag and drop using mouse, Develops sportsman spirit, takes initiative to learn a new game	A game of chess can be played with the computer. The student needs to have knowledge of chess to play the game
Learning Chess	Educational Suite GCompris, strategy Games,- practice chess- Learning Chess	Learns to drag and drop using mouse, Develops sportsman spirit, takes initiative to learn a new game with all its rules and play fair, Develops problem solving skills	A game of chess can be played with the computer. The students need to have advanced knowledge of chess to play the game
Learning Chess	Educational Suite GCompris, strategy Games,- practice chess- Learning Chess	Learns to drag and drop using mouse, Develops sportsman spirit, takes initiative to learn a new game with all its rules and play fair, Develops problem solving skills, Predict opponent's moves	A game of chess can be played with the computer. The students need to have advanced knowledge of chess to play the game
Learn New Words	educativ8/first option/learn new word/jobs	identifies objects, signs (vessels, stoves, transport, means of communication, transport, sign boards etc.); places (types of houses/shelters,	The screen has a picture and its name at the bottom. There are also two buttons, one for moving to the next word, and one for going back if you want to visit the previous one. When we click on the word, the child can listen to the pronunciation of the given word.

		bus stand, petrol pump etc.) activities (works people do, cooking processes, etc.) at home/school/ neighbourhood.can associate words with pictures , can recognise and name jobs they are familiar with, can understand the need of different professions around us.	
Body- learn new words	educative/first option/learn new word/body	Can identify and name body parts in the given pictures. can use new vocabulary in the day to day life, can associate words with picture, can guess the name of the body part	The screen has a picture and its name at the bottom. There are also two buttons, one for moving to the next word, and one for going back if you want to visit the previous one.when we click on the word, child can listen pronunciation of the given word
Sports- learn new words	educative/first option/learn new word/sports	can name the sports/games they have played or seen or are familiar with, can use new vocabulary in daily life, can say few things about their favourite games	The screen has a picture and its name at the bottom. There are also two buttons, one for moving to the next word, and one for going back if you want to visit the previous one.when we click on the word, child can listen pronunciation of the given word
Job- complete the word	educative/first option/word builders (listening exercise)/jobs	can relate the audio with the words, can spell the words correctly, can generally use the words orally or in writing in their lives	There are words with some letters missing. the missing letters are given below it, these have to be dragged and placed correctly so as to make the correct word.

Sports- complete the word	eduacti v8/first option/ word builder s (listenin g exercis e)/sport s	learn the names related to the sports by listening to the word pronunciation.	There are words with some letters missing. the missing letters are given below it, these have to be dragged and placed correctly so as to make the correct word.
Job- complete the word	eduacti v8/first option/ word builder s/jobs	can spell the names of different type of jobs, can describe what they do, why we need them, can use the information in daily life too	child have to drag the alphabets to the correct place to complete the names
Sports- complete the word	eduacti v8/first option/ word builder s/ sports	can spell the names of different type of sports, can label them as indoor or outdoor, will know the different numbers of players to play a particular game, can use the information in daily life too	The activity contains a picture and it's name at the bottom with a few letters missing from the word. Below the incomplete word, the letters required to complete it are given in a random arrangement. Instruct the students to identify the part and then complete the word by clicking and dragging the letters in the right order to the empty boxes to finish the incomplete name. As the level advances, more and more letters are missing from the word until you have to make the whole word by yourself.
Jobs- match image to the word	eduacti v8/first option/ word matche rs/jobs	can read and identify the correct spelling of different jobs names with the given pictures, can read and use the vocabulary in daily life	The activity contains a picture and it's name at the bottom with a few letters missing from the word. Below the incomplete word, the letters required to complete it are given in a random arrangement. Instruct the students to identify the part and then complete the word by clicking and dragging the letters in the right order to the empty boxes to finish the incomplete name. As the level advances, more and more letters are missing from the word until you have to make the whole word by yourself.
Sports- Match image to the	eduacti v8/first option/	can read and identify the correct spelling of different sports	you have to match the words on right with the images on left .If you are right u get a green tick with image fading.

word	word matches/sports	name with their pictures, can read and use the vocabulary in daily life	
Job- match sounds with words	educative/first option/word matches (listening exercise)/job	can read , identify and associate the audio, spelling and pictures with each other, can spell the jobs name correctly, can use vocabulary in daily life	child have to match the pronunciation audio of different jobs name on the left side with different types jobs name in words given on the right side, if the correct audio and name is matched the photo of jobs appears which when press audio can still be heard
Sports- match sounds with words	educative/first option/word matches (listening exercise)/sports	can read, identify and associate the audio, spelling and pictures with each other, can use the vocabulary in daily life, can spell the name of sports correctly	child have to match the pronunciation audio of different sports name on the left side with sports name in words given on the right side, if the correct audio and name is matched the photo of sports appears which when press audio can still be heard

Theme: Travel

Name of the game	Game path	Learning Outcome	Description
Go To Memory Activity	Educational Suite G-Comp ris/go to discover y activity/go to memory activities /go to	enhancing constructivism, development of motor skills, sequence and order of things	look at the train on the screen carefully, then click on the train and select the correct item based on the structure of the train shown at the beginning or deselect it by clicking on it.

	railway		
Learn about an electrical system based on renewable energy	Educational Suite GCompris/go to experiential activities/learn about an electrical system based on renewable energy	Can guess renewable sources, process of electricity generation, can explain the use of different technology, predict next steps, explain phenomena as evaporation, suggest ways for saving the resources, identifies different places like Dam, windmill, establish relation between cause and effect (evaporation), can use information day to day life, can create posters, models.	children have to click on elements to start the electricity generation cycle by renewable sources. There are three levels which tell about the three different kinds of renewable energy sources. child have to click on sun to make water vapours, than on water vapours to make a cloud, than on cloud to rain, than on dam to generate electricity, than on transformer UP to send the electricity to various places, than click on transformer DOWN to send the electricity to houses, this is how tux will have supply of electricity to light his lamp The process of how water cycle work, can guess properties of renewable energy, how we use different technology for different purposes like electricity generation.
Lights Off	Educational Suite GCompris, Puzzles, Sudoku, Lights Off	Patterns, social value to save electricity	The game is to identify a pattern to switch off the lights. The aim of this game is to switch off all the lights. press on the bulbs showing on the screen the effect of pressing the button is to toggle the state of that button, and of its immediate vertical and horizontal neighbours. The sun and the colour of the sky is dependent on the number of clicks needed to solve the puzzle. if you click on the Tux, the solution is shown.
Miscellaneous Activities	Educational Suite G-Compris/go to discover activity/go to miscellaneous activities/go to chrono	get to know how things come to life in a chronological order and when the things around us were discovered	pick from the pictures on the left and put them on the red dots

Miscellaneous Activities	Educational Suite G-Compris/go to discover y activity/ go to miscellaneous activities /go to find the details	get to know about some famous paintings of van gogh,get to know how to appreciate art	Complete the puzzle by dragging each piece from the set of pieces on the left, to the matching space in the puzzle.
Miscellaneous Activities	Educational Suite G-Compris/go to discover y activity/ go to miscellaneous/go to locate the region	get to know about maps of different countries and the names of the places	just drag and drop the colored shapes in the right places to make a meaningful match
Miscellaneous Activities	Educational Suite G-Compris/go to discover y activity/ go to miscellaneous/go to locate the countries	get to know about world map and continents and oceans	just drag and drop the colored shapes in the right places to make a meaningful match

	s		
Follow the arrows	Eduacti v8/second circle/follow the arrow	identifies directions, location of objects/ places in simple maps (of home/ classroom/ school) using signs/symbols/verbally	Help the owl to remember and recall the directions for which the arrow blinks. Click on the arrows following the same order they were blinked before. The speed increases as the level progresses.
Transport-learn new words	eduacti v8/first option/learn new word/transport	identifies objects, signs (vessels, stoves, transport, means of communication, transport, sign boards etc.); places (types of houses/shelters, bus stand, petrol pump etc.) activities (works people do, cooking processes, etc.) at home/school/ neighbourhood.can identify and name the types of transportation they have seen /used or are familiar with, can differentiate between the different types of transportation like air /land/water, can tell/guess properties of transport like land transport needs tyre, air transport needs wings.	The screen has a picture and its name at the bottom. There are also two buttons, one for moving to the next word, and one for going back if you want to visit the previous one. when we click on the word, child can listen pronunciation of the given word
Transport-complete the word	eduacti v8/first option/	can relate the audio with the words, can spell the words	There are words with some letters missing. the missing letters are given below it, these have to be dragged and placed correctly so as to make the correct word. the child will also

	word builder s (listening exercise)/transport	correctly, can generally use the words orally or in writing in their lives	listen to the audio.
Transport-match image to word	eduacti v8/first option/ word matchers (listening exercise)/transport	can read, identify and associate the audio spelling and pictures with each other, can spell the modes of transport correctly , can use the vocabulary in day to day life	child have to match the pronunciation audio of different mode of transport name on the left side with differents modes of transport name in words given on the right side, if the correct audio and name is matched the photo of mode of transport appears which when press audio can still be heard
Transport-complete the word	eduacti v8/first option/ word builder s/transport	can spell the names of different modes and type of transport, can use the information in daily life too	child have to drag the alphabets to the correct place to complete the names
Transport-match image to the word	eduacti v8/first option/ word matchers/transport	can read and identify the correct spelling of different mode of transport name with their pictures, can read and use the vocabulary in daily life	you have to match the words on right with the images on left .If you are right you get a green tick with image fading.
Transport-make sound to the word	eduacti v8/first option/ word matchers	can read, identify and associate the audio spelling and pictures with each other, can spell the modes of transport	child have to match the pronunciation audio of different mode of transport name on the left side with differents modes of transport name in words given on the right side, if the correct audio and name is matched the photo of mode of transport appears which when press audio can still be heard

	(listening exercise)/transport	correctly , can use the vocabulary in day to day life	
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Theme : Food

Name of the game	Game path	Learning Outcome	Description
Match Fruits	educativ8/third option/Memory/ Match Fruits	identifies simple observable features and match the fruits	A set of cards are given. Find and twin the cards that have the same fruit hidden behind them. The number of cards increases as the level progresses.
Match vegetables	educativ8/third option/Memory/ Match Vegetables	identifies simple observable features and match the vegetables	A set of cards are given. Find and twin the cards that have the same vegetable hidden behind them. The number of cards increases as the level progresses.
Sliced images -fruits	educativ8/third option/games and mazes/ sliced images /fruits	enhancing the problem solving skills. can observe, calculate/visualize and predicts the next step, acquires the understanding of puzzles	The sliced images of fruits have to arranged correctly to give the original shape.that is shown below
Learn a new word	eduactiv8/first option/learn	describes need of food for people of different age groups; animals	The screen has a picture and its name at the bottom. There are also two buttons, one for moving to the next word, and one for going back if you want to visit the previous one.when we click on the word, child can listen pronunciation of the given

	new word/fruits and vegetables	and birds, availability of food and water and use of water at home and surroundings.can identify and name the different kind of fruits and vegetables they have seen , can associates the given word with picture, can be curious or will try to find about the origin of these fruits and vegetables, can pronounce the words correctly , understand the concept of local and international fruits and vegetables	word
Food- learn new word	educative/first option/learn new word/food	Describes need of food for people of different age groups; animals and birds, availability of food and water and use of water at home and surroundings.	The screen has a picture and its name at the bottom. There are also two buttons, one for moving to the next word, and one for going back if you want to visit the previous one.when we click on the word, child can listen pronunciation of the given word when we click on the word, child can listen pronunciation of the given word
Fruits and vegetables- complete the word	educative/first option/word builders (listening exercise)/fruits	can relate the audio with the words, can spell the words correctly, can generally use the words orally or in writing in their lives	There are words with some letters missing. the missing letters are given below it, these have to be dragged and placed correctly so as to make the correct word. child will listen the audio

	and vegetables		
Food-complete the word	educative/first option/word builders (listening exercise)/food	can relate the audio with the words, can spell the words correctly, can generally use the words orally or in writing in their lives	There are words with some letters missing. the missing letters are given below it, these have to be dragged and placed correctly so as to make the correct word. child will listen the audio
Fruits and Vegetables-complete the word	educative/first option/word builders/fruits and vegetables	can spell the names of different type of vegetables and fruits, can tell when they get this in market particular season, can use the information in daily life too	The activity contains a picture and it's name at the bottom with a few letters missing from the word. Below the incomplete word, the letters required to complete it are given in a random arrangement. Instruct the students to identify the part and then complete the word by clicking and dragging the letters in the right order to the empty boxes to finish the incomplete name. As the level advances, more and more letters are missing from the word until you have to make the whole word by yourself.
Food-complete the word	educative/first option/word builders/food	can spell the names of different type of food, can guess the ingredients, can use the information in daily life too	The activity contains a picture and it's name at the bottom with a few letters missing from the word. Below the incomplete word, the letters required to complete it are given in a random arrangement. Instruct the students to identify the part and then complete the word by clicking and dragging the letters in the right order to the empty boxes to finish the incomplete name. As the level advances, more and more letters are missing from the word until you have to make the whole word by yourself.
Fruits and vegetables-match image to the word	educative/first option/word matchers/fruits and vegetables	can read and identify the correct spelling of different fruits and vegetables name with their pictures, can read and use the vocabulary in daily life	you have to match the words on right with the images on left .If you are right you get a green tick with image fading.
Food- match image to the	educative/first option/w	can read and identify the correct spelling of different type of food	you have to match the words on right with the images on left .If you are right you get a green tick with image fading.

word	word matchers /food	name with their pictures, can read and use the vocabulary in daily life	
fruits and vegetables-match sounds to the image	educative 8/first option/word matchers (listening exercise) /fruits and vegetables	can read, identify and associate the audio, spelling and pictures with each other, can spell the fruits and vegetables correctly, can use the vocabulary in day to day life	child have to match the pronunciation audio of different fruits and vegetables name on the left side with different fruit and vegetables name in words given on the right side, if the correct audio and name is matched the photo of fruits and vegetables appears which when press audio can still be heard
Food- match sounds to the image	educative 8/first option/word matchers (listening exercise) /food	can read, identify and associate the audio, spelling and pictures with each other, can spell the name of food, can use the vocabulary in day to day life	child have to match the pronunciation audio of different food name on the left side with different food name in words given on the right side, if the correct audio and name is matched the photo of food appears which when press audio can still be heard

Theme: water

Name of the game	Game path	Learning Outcome	Description
Learn about water cycle	Educational Suite GCompris/go to experiential activities /learn about the water cycle	Can predict steps, can describe phenomena like evaporation, can make a model or poster, can find relation between different elements like water, sun, cloud, etc. Can explain the use of a water cleanup station, water pump station etc.	child will go on elements stepwise like first click on sun, that will make sun rise, then clicking on water vapors that will make cloud, then click on cloud to rain, after that click on water pump system that will make water go to the elevated water storage container, then click on water cleanup system, then click on tux's shower switch. it will complete the cycle, when the water cycle is complete tux will have water in his shower, can simply understand the relation between the different elements.

Theme : Observation and practice

Name of the game	Game path	Learning Outcome	Description
Go TO Color Activities	Educational Suite GCompris/go to discovery activity/go to color activities/colors	the students will be able to identify different types of colors and discover what type animal is a duck and will be able to tell where they can see and find them	discover which color duck is asked and click it and then click ok
Go TO Color Activities	Educational Suite GCompris/go to discovery activity/go to color activities/mixing colors of light/	the students will be able to mix and match colors in the game as well as in real life and can make their own colors as well	check out the color given in the box above and try to mix up the colors by increasing or decreasing the amount of colors given in the colored torches
Go TO Color Activities	Educational Suite GCompris/go to discovery activity/go to color activities/rebuild the mosaic	this will enhance the memory of the students	click the color which you see below and click the empty boxes on the right and make a similar pattern given on the left side
Go TO Color Activities	Educational Suite GCompris/go to discovery activity/go to color activities/mixing color of paint	the students will be able to mix and match colors in the game as well as in real life and can make their own colors as well	check out the color given in the box above and try to mix up the colors by increasing or decreasing the amount of colors given in the colored tubes

Go to Color Activities	Educational Suite GCompris/go to discovery activities/go to color activities	get to know about advanced colors	click the 'i am ready box', read the line given above the box of butterflies and click on the colored butterfly and then click the ok icon
The football game	Educational suite GCompris, go to amusement activities, the football game	Mouse manipulation, problem solving skill and Enhancement of Motor skills	The game is to put a football into a hole. There is a need to click on the ball at the right place to put the ball in the hole.
hexagon	Educational Suite GCompris, Go to amusement activities, Hexagon	Clicking the mouse at the desired place	The game is to find strawberries under the blue fields by clicking on them. The fields become redder as we get closer to the strawberry. When the strawberry is found the game is over and then we move on to the next level.
Create a Drawing or an Animation	Educational Suite GCompris, Go to amusement activities, Create a Drawing or an Animation	Creativity, Eye hand coordination	The programme can be used for drawing and for creating animations. It has a number of options for making shapes such as rectangles, circles and lines. It has the option to put texts too. It has a number of inbuilt images which can be used as objects for creating animations and drawings. You can also fill colours in the shapes. At the bottom there are 43 frames which are there as steps for each next while creating an animation.

Theme : computer based skills

Name of the game	Game path	Learning Outcome	Description
Control the hose pipe	Educational Suite GCompris, Discover Computer, Mouse manipulation	Moving the mouse in the desired direction and at a controlled pace to achieve the goal.	The game is to remove the hindrance in a hose pipe so that it can be used to water the flowers. The hindrance can be removed by just moving the mouse over the hose pipe. as the hindrance is removed water can be seen falling on the flowers. Initially the hose pipe is straight but as the level changes the curves in the hose pipe increases.

	activities , Control the hose pipe		
Mining for Gold	Educational Suite GCompris, Discover Computer, Mouse manipulation activities , Mining for Gold	Usage of Mousewheel to Zoom In and Zoom Out, Learns to multitask using Mouse.	In the game, gold needs to be found. In the interface something shining is seen and the area that is shining has to be zoomed in using the mousewheel. As the area is zoomed in gold nuggets are revealed. These need to be clicked to move on to the next level.
Click and draw	Educational Suite GCompris, Discover Computer, Mouse manipulation activities , Click and draw	Increases imagination, Mouse control, Color identification	In the game, initially one blue point and several green points are seen. As we click on the blue dot , another blue dot appears. The aim is to click on each subsequent blue dot to make a picture.
Double Click the mouse	Educational Suite GCompris, Discover Computer, Mouse manipulation activities , Double	Identification of the animals, double clicking the mouse at the desired place and pace, Explore different functions of the mouse.	The game is to erase the hindrance in front of a picture to reveal what is hidden behind it. The hindrances can be easily erased by putting the mouse on the object and by double-clicking on it.

	click the mouse		
Chat and Draw with your Friends	Educational Suite GCompris, Go to amusement activities , Chat and Draw with your Friends	Creativity, collaboration, sharing	The programme can be used to create, collaborate and share things.
Click on me	Educational Suite GCompris, Discover Computer, Mouse manipulation activities , Click on me	Visual Discrimination, functions of mouse(Left click) and hand eye coordination	The game is to click on the fish to delete it. Initially the fish gets deleted on one click but as we move on to the next level, the mouse needs to be clicked twice to delete the fish.

Theme : Logical thinking

Name of the game	Game path	Learning Outcome	Description
assemble the puzzle	Educational Suite GCompris, Puzzles, Assemble the Puzzle	Problem solving, arrangement of the pieces	Drag and drop the items to rebuild the original painting. Drag the image parts from the board given at the left side of the screen to create the painting on the main board.

Build the same model	Educational Suite GCompris, Puzzles, Build the same model	Matching, sense of directions like left , right, up , down	The game is to identify a picture and match it in the given format. Move the items in the bottom left frame to copy their position in the top right model. Below the crane itself, you will find your arrows that let you move items To select the item you move , just click on it. if you prefer you can use the arrow keys and the space or the tab key instead. logical thinking
Simplified Tower of Hanoi	Educational Suite GCompris, Puzzles, Simplified Tower of Hanoi	Identification and matching, eye hand coordination	The game is to reproduce a given tower by identifying the required shape and then removing the others to reproduce a given tower. Build the same tower in the empty area as the one you see on the right hand side. for this, drag and drop one piece at a time , from one peg to another , to reproduce the tower on the right in the empty space on the left.
Photo Hunter	Educational Suite GCompris, Puzzles, Photo Hunter	Visual discrimination	The game is to identify the missing part in two similar pictures. The game is about finding the differences between two pictures. observe the two pictures carefully . There are some slight differences. when you find the difference you must click on it.
Super Brain	Educational Suite GCompris, Puzzles, Super Brain	Problem solving	Flip the colours given in the circle to make the correct pattern, if the correct pattern is identified, the corresponding circle will have a black outer covering. Tux has hidden several items. Find them again in the correct order. click on the items until you find what you think is the correct answer. Then click on the OK button in the control bar . In the lower levels, Tux gives you the indication if you found the hiding place by marking the item with a black box. you can use the right mouse button to flip the colours in the opposite order.
A sliding block puzzle game	Educational Suite GCompris, Puzzles, A sliding block puzzle game	Problem Solving, know the concept of spacing out., logical thinking	The game is to get a red block out through a space given in the right. Remove the red car through the parking gate on the right side of the screen. Each car can move either vertically or horizontally. you must make some room in order to let the red car move through the gate on the right.

The Tower of Hanoi	Educational Suite GCompris, Puzzles, The Tower of Hanoi	Problem solving,, understand the arranging the things in systematic order	The game is to reproduce the tower on the right side by following the rules.you need to reproduce the tower given at the left to the right side of the screen . Drag and drop the top pieces only from one peg to another, to reproduce the tower on the right empty space on the left.
Miscellaneous Activities	Educational Suite G-Compris/go to discover y activity/ got to miscellaneous activities /go to matching items	Relate the words with their pictures, learn about functions of mouse	drag the items given on the left side and drop them below the related items given in the middle
Miscellaneous Activities	Educational Suite G-Compris/discover y activity/ go to miscellaneous activities /go to complete the puzzle	get to know how things can be same but looks different but does the same work,can relate to the real life things around them	Complete the puzzle by dragging each piece from the set of pieces on the left, to the matching space in the puzzle.

Integrated activity

Name of the game	Game path	Learning Outcome	Description	Theme
Learn New Words:	open eduactv8-f	Classification and	The screen has a picture of a terrain or an object related to nature and its name at the bottom. There are also two	English/ VOCAB

Nature	first option-learn new words-nature	naming of objects and places related to nature.	buttons, one for moving to the next word, once you have learnt the name of the terrain or the object and one for going back if you want to visit the previous one.	ULARY
English Alphabet 2	open eduactiv8-first option-discover letters-english alphabet2	recognises alphabet with pictures(a-z)	Learn Letters with Flashcards. Alphabets from A to Z (both upper and lower case) are written in the left half of the screen. The right half shows a flashcard of a word starting with whatever alphabet is highlighted on the left side. You can click on any letter from the left half and hear how it is read as well as learn a word starting from that letter with the help of the picture displayed on the flashcard.	Listening / Reading
Word Builders (Complete the words): Nature	open eduactiv8-first option-word builders-nature	Identification of a picture and write the correct spelling, words are repeating which helps the students to memorise the spellings	The activity contains a picture of a terrain or an object/organism related to nature and it's name at the bottom with a few letters missing from the word. Below the incomplete word, the letters required to complete it are given in a random arrangement. Instruct the students to identify the terrain or an object/organism and then complete the word by clicking and dragging the letters in the right order to the empty boxes to finish the incomplete name. As the level advances, more and more letters are missing from the word until you have to make the whole word by yourself.	Writing / Spelling
Learn to Write	open eduactiv8-first option-discover letters-learn to write	learn to trace alphabets in upper and lower case in cursive and numbers 1-12, command on mouse dragging	Trace Letters and Numbers. Click on the Letter or Number you want to trace. The numbers and letters to be traced are in a Cursive font.	Writing / Numbers (Basic)
Learn new words ; Fruits and Vegetables	Open Eduactiv8/First circle (book	Identification of fruits and vegetables,	The screen has a picture of a fruit or a vegetable and its name at the bottom. There are also two buttons, one for moving to the next word, once you have learnt the name of that fruit or vegetable and one for going back if you want to	Writing/VOCABULARY

	icon)/ Learn new words/ fruits and vegetables	associating words with their pictures, vocabulary building, colours of different fruits and vegetables, concept of small and big size, categorize fruits and vegetables.	visit the previous one.	
Word Builders (Complete the words): Fruits and Vegetables	Open Eduactiv8/ First circle (book icon)/ word builders/ fruits and vegetables	Identification of fruits and vegetables, vocabulary building, associate words with pictures, try to speak the word by connecting letters	The activity contains a picture of a fruit or a vegetable and it's name at the bottom with a few letters missing from the word. Below the incomplete word, the letters required to complete are given in a random arrangement. Instruct the students to identify the fruit or the vegetable and then complete the word by clicking and dragging the letters in the right order to the empty boxes to finish the incomplete name. As the level advances, more and more letters are missing from the word until you have to make the whole word by yourself.	Writing / Spelling
Word Matchers (Listening Exercises): Body	Open eduactiv8- first option-word matchers(listening exercise)- body	listening and responding orally	Match sounds to words. Click on any one of the speaker signs, hear the word carefully, then click on the corresponding written word to make a match.	listening / speaking
Word Matchers (Listening Exercises): Clothes and	Open eduactiv8- first option-word	listening and responding orally	Match sounds to words. Click on any one of the speaker signs, hear the word carefully, then click on the corresponding written word to make a match.	listening/ speaking

Accessories	matchers(listening exercise)-clothes and accessories			
Word Builders (Listening Exercises): Body	Open Eduactiv8-first option-word builders(listening exercise)-body	listen and write the correct spelling	Hear the word and fill in the missing letters to complete the written version of that word by dragging and dropping the missing letters from the alphabets provided at the bottom of the screen.	listening/writing
Word Builders (Listening Exercises): Clothes and Accessories	Open Eduactiv8-first option-word builders(listening exercise)-body	listen and write the correct spelling	Hear the word and fill in the missing letters to complete the written version of that word by dragging and dropping the missing letters from the alphabets provided at the bottom of the screen.	listening/writing
Addition and subtraction review	Tux maths	Able to addition and subtraction	This game is a time based game. Use a keyboard to type the Addition/Subtraction of numbers you see in falling asteroids.As you type the correct number the asteroid gets destroyed. As level increases,The number of asteroids and speed of falling asteroids also increases.	Numbers(ADDITION/SUBTRACTION)
Word Matchers: Fruits and Vegetables	Open Eduactiv8/First circle (book icon)/word matchers/fruits and vegetables	Able to associate words with their pictures, identification of fruits and vegetables, will come to know the colours of different fruits and	Match images to words. Click on any one of the images given in the left half of the screen then click on the name corresponding to that image, provided in the right half of the screen, to make a match.	Writing/VOCABULARY

		vegetables, shapes and sizes of different fruits and vegetables.		
Word Builder	Open Eduactiv8/ First circle (book icon)/ word builders/ sports	Able to associate words with their pictures, identification of different types of sports and equipments used in different sports, developing interest in different types of sports, comprehend the necessity of sports, vocabulary building	There are a jumble of Lowercase and Uppercase letters given at the bottom of the screen and a word along with empty boxes on the upper side. Instruct students to click and drag the letters towards the empty boxes to make the meaningful word as per the given pictures i.e. they have to identify the pictures of different sports, equipment and actions that we do in our daily life and complete their spellings. If spelling goes wrong then it will show the errors by reflecting the symbols 'right' 'wrong' in the boxes. After that, you can correct the word by dragging the wrong alphabets to their right positions.	Writing / Spelling
Word Builder	Open Eduactiv8/ First circle (book icon)/ word builders/ Actions	Able to associate words with their pictures, identification of different actions, vocabulary building	Just look at the picture given on the screen and guess the name of the action/activity and then make the word by dragging the letters given below to make the correct word. If spelling goes wrong then it will show the errors by reflecting the symbols 'right' 'wrong' in the boxes. After that, you can correct the word by dragging the wrong alphabets to their right positions.	Writing / Spelling
Learn New	open	Associate	The screen has a picture of an action (people performing	Writing/V

Words: Action	eduactiv8-first option-learn new words-action	words with pictures and enhancement of vocabulary related to action words	that action) and its name at the bottom. There are two buttons, one for moving to the next word, once you have learnt the name of that action and one for going back if you want to visit the previous one.	OCABULARY
Word Builders (Complete the words): Action	open eduactiv8-first option-word builders-action	Enhancement of vocabulary related to action words	The activity contains a picture of an action and its name at the bottom with a few letters missing from the word. Below the incomplete word, the letters required to complete it are given in a random arrangement. Instruct the students to identify the action and then complete the word by clicking and dragging the letters in the right order to the empty boxes to finish the incomplete name. As the level advances, more and more letters are missing from the word until you have to make the whole word by yourself	Writing/VOCABULARY
Word Matchers: Action	open eduactiv8-first option-word matchers-action	Enhancement of vocabulary, matching the correct action word with picture	Match images to words. Click on any one of the images given in the left half of the screen then click on the name corresponding to that image, provided in the right half of the screen, to make a match. On every correct answer, the symbol of right will come on the box.	Writing/VOCABULARY
Multiplication and Division Review	Tux maths	Able to multiply and divide numbers	This game is a time based game. Use a keyboard to type the multiplication or division of numbers you see in falling asteroids. As you type the correct number the asteroid gets destroyed. As level increases, The number of asteroids and speed of falling asteroids also increases.	Numbers(Multiplication/Division)
Colour matching	Eduactiv8/Third Circle/Art and Colour/Colour matching label the colours	Colour recognition, matching	Here five colors are displayed with their name given displayed in jumbled order. The challenge is to identify the colour and its name in word and match the same. The matching is to be done by dragging the name to the colour splash. There are ten levels in this programme with four parts each. initially the names are in the colour of the are in the corresponding colour, but later the names are displayed in black only.	Drawing and painting
Colour matching	Eduactiv8/Third Circle/Art and	Colour recognition, matching	Here there is a grid in which colour splashes and their names are given. The challenge is to match the colours with their names by first clicking on the colour and then on its name or vice versa. Initially the name of the colour is in the	Drawing and painting

	Colour/ Colour matching		colour of the splash but later all the names are displayed in a single colour. The number of colours also increases as the level increases.	
Mixing colours for painting	Eduactiv8/ Third Circle/Art and Colour/mi xing colours for painting	Outcome of mixing of colours in different proportions	Here there is an option to mix red, yellow, blue, black and white in various proportions to know what is the outcome of the mixing of different colours in different proportions. The mixing is to be done by dragging the glass on each colour. The outcome of the colour can be seen in a rectangular shaped display on the right of the screen.	Drawing and painting
Subtractive Colour Mixing	Eduactiv8/ Third Circle/Art and Colour/Su btractive Colour Mixing	Outcome of mixing two or three colours in different proportions	Here there is an option to mix cyan, magenta and yellow in various proportions to know what is the outcome of the mixing of different colours in different proportions. The mixing is to be done by dragging the brush up on each colour. The outcome of the colour can be seen as concentric circles which are displayed on the right of the screen. The display shows the outcome of the mixing of two colours and all the colours.	Drawing and painting
Find the colour of the circle in the middle	Eduactiv8/ Third Circle/Art and Colour/Fin d the colour of the circle in the middle	Outcome of mixing of colours in different proportions	Here the challenge is to adjust the amount of cyan, magenta and yellow paint to find the colour of the circle in the middle. There is a circle in the middle whose colour does not change. The colour and its intensity can be changed by manipulating the brush made on each colour.	Drawing and painting
Additive Colour Mixing-Light	Eduactiv8/ Third Circle/Art and Colour/Ad ditive Colour Mixing-Li ght	Outcome of mixing of colours in light	Here the concept of mixing of colours in light is shown. Here there is an option to mix red, green and blue colours in light in various proportions to know what is the outcome of the mixing of different colours in different proportions in light. The mixing is to be done by dragging the bulb on each colour. The outcome of the colour can be seen in the form of concentric circles displayed on the right of the screen.	Drawing and painting
Find the colour of the circle in the middle	Eduactiv8/ Third Circle/Art and Colour/Fin	Outcome of mixing of colours in light with different	Here again the concept of mixing of colours in light is shown. Here there is an option to mix red, green and blue colours in light in various proportions to find the colour of the circle given in the middle. The mixing is to be done by dragging the bulb on each colour. The outcome of the colour	Drawing and painting

	d the colour of the circle in the middle	intensity	can be seen in the form of concentric circles displayed on the right of the screen.	
Word Number Memory Game	Education al Suite GCompris /Go to reading activities/ Word Number Memory Game	Integration of language and mathematical aspect, Remember and recall the cards seen and matching them accordingly .	Some cards are given with letters and some with numbers on others. The contents of each card is hidden. Match the numbers with the words.	English / Maths
Shapes	Open Eduactiv8/ Numbers/ Shapes and solids/Sha pes	Acquires understanding about shapes around her/him. Explores the area and perimeter of simple geometrical shapes .	The activity contains details of a number of shapes. Students can explore each one with the help of flashcards. The flashcard shows the shape, and the formula to measure the shape's area and perimeter as soon as you click on the figure.	Shapes and spatial understanding
Solids	Open Eduactiv8/ Numbers/ Shapes and solids/SO LIDS	Identifies various (3-D) objects like sphere, cube, cuboid, cylinder, cone . Explore the surface area and volume	The activity contains details about a number of solids. Students can explore each one with the help of flashcards. The flashcard shows the 3D shape, and the formula to measure the shape's surface area and volume as soon as you click on the figure.	Shapes and spatial understanding

		of a solid body.		
Match shapes to their names	Open Eduactiv8/ Numbers/ Shapes and solids/Match shapes to their names	Match shapes with their names on the basis of their sides/ angles.	The activity contains images of different shapes as well as their jumbled up names on the screen. The students need to figure out which name represents which shape, then, click first on the shape and then on the name to make a match. When they are done with all the shapes they will automatically move to the next level.	Shapes and spatial understanding
Shape maker	Open Eduactiv8/ Numbers/ Shapes and solids/Shape Maker	Draws different shapes and learn their names. Identifies the centre, radius and diameter of the circle. Classifies angles into right angle, acute angle, obtuse angle and represents the same by drawing and tracing.	There are three options in the leftmost column of the screen for drawing rectangular (4 sided), triangular (3 sided) and circular shapes. click on any one of them and try to make different four sided, three sided and circular figure (according to whatever option you have chosen) on the graphical sheet provided for this purpose./ There are three options in the leftmost column of the screen for drawing rectangular (4 sided), triangular (3 sided) and circular shapes. click on any one of them and try to make different four sided, three sided and circular figures (according to whatever option you have chosen) on the graphical sheet provided for this purpose. In this version of the game, as soon as you have drawn a shape the page will reflect some information regarding it, including its name, the length of its sides etc. You are also given tasks which if you can complete you can move to the next level.	Shapes and spatial understanding
Falling words	Education al Suite GCompris, Discover Computer, Keyboard manipulation boards,Fal	Learns positioning of different letters on the keyboard, Improve speed of typing,	The game is to type all the letters in a word before the word falls on the ground. Initially two or three letter words fall but as we cross the levets the words become bigger with more letters in the word and the difficulty level increases	Reading/ Writing

	ling Words	Check and improve vocabulary		
Nature- complete the word	eduactiv8/ first option/wor d builders (listening exercise)/n ature	can relate the audio with the words, can spell the words correctly, can generally use the words orally or in writing in their lives	There are words with some letters missing. the missing letters are given below it, these have to be dragged and placed correctly so as to make the correct word.	Family and friends 1.3 animals /1.4 plants
Nature- Complete the word	eduactiv8/ first option/wor d builders/n ature	observe the images related to nature and learn their names.	The activity contains a picture and it's name at the bottom with a few letters missing from the word. Below the incomplete word, the letters required to complete it are given in a random arrangement. Instruct the students to identify the part and then complete the word by clicking and dragging the letters in the right order to the empty boxes to finish the incomplete name. As the level advances, more and more letters are missing from the word until you have to make the whole word by yourself.	Family and friends 1.3 animals / 1.4 plants
Nature- Match image to the word	eduactiv8/ first option/wor d matchers/n ature	can read and identify the correct spelling of different natural place's names with their pictures, can read and use the vocabulary in daily life	you have to match the words on right with the images on left .If you are right you get a green tick with image fading.	Family and friends 1.3 animals / 1.4 plants
Nature- Match sound to the word	eduactiv8/ first option/wor	can read, identify and associate	child have to match the pronunciation audio of different natural places name on the left side with differents natural places name in words given on the right side, if the correct	Family and friends

	d matchers (listening exercise)/nature	the audio, spelling and pictures with each other, can spell the name of natural places , can use the vocabulary in day to day life	audio and name is matched the photo of natural places appears which when press audio can still be heard	1.3 animals / 1.4 plants
Nature-learn new words	eduactiv8/first option/learn new word/nature	can identify and name the different types of natural places like hill, lake. can use the new vocabulary in daily life, can recognise and name the places they are familiar with. EVS :- will be curious to know/understand the formation of different kind of natural places, will understand the	The screen has a picture and its name at the bottom. There are also two buttons, one for moving to the next word, and one for going back if you want to visit the previous one.	Family and friends 1.3 animals/ 1.4 plants

		different kind of properties they have like sea have salty water, can differentiate between terms like pond and lake /hill and mountain etc		
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Theme : Music

Name of the game	Game path	Learning Outcome	Description
Go to Sound Activities	Educational Suite G-Comp ris/go to discover y activity/ go to sound activities /Melody	Coordination of Eye-Ear and Hand Movements, Enhances creativity, Speed and responsiveness.	Listen to the sounds carefully and repeat the same melody by pressing the same elements. Speed increases as the level progresses.
Go to Sound Activities	Educational Suite G-Comp ris/go to discover y activity/ go to sound activities /Play Piano	Improves coordination among different body parts, Learns to use keyboard effectively, Integration of Music, Arts, Learn about Piano, Musical Notes, Treble clef and the Bass clef.	Play "Piano Composition" first to understand this activity. Click the piano keys that match the written Musical notes. the level of the sounds increases as you move through the levels.

Go to Sound Activities	Educational Suite G-Comp ris/go to discover y activity/ go to sound activities /Play rhythm	Know about the basic working of a drum and how the rhythm is produced, Coordination enhancement, Using keyboard for carrying out functions.	Listen to the rhythm and repeat it by tapping the drum to perform the identical rhythm. Click only when the line is in the middle of the notes.
Go to Sound Activities	Educational Suite G-Comp ris/go to discover y activity/ go to sound activities /Explore World Music	Know about the music from around the world, Memorising skills	Click on the suitcases given and read about the music of different places while listening to that in the background. Use this info to complete Level 2 and Level 3.
Go to Sound Activities	Educational Suite G-Comp ris/go to discover y activity/ go to sound activities /Music Instruments	Know about different Musical instruments and the sounds produced through them.	Click on the musical instrument being asked and identify using the sounds produced.
Go to Sound Activities	Educational Suite G-Comp ris/go to discover	Learn about Musical notes and the pitch names, Improves coordination, Learn about piano basics.	Identify the name of the notes where Pitch names are color-coded and in the later stages, there's no color coding used.

	y activity/ go to sound activities /Name that Note		
Go to Sound Activities	Educatio nal Suite G-Comp ris/go to discover y activity/ go to sound activities /Piano Composi tion	Learn about Musical notes and the pitch names, Improves coordination, Learn about piano basics.	by clicking on the colored keys of the piano given on the left side of the screen and make your own music notes and then you can listen to it by clicking on the play button in the box given at the right lower side of the screen and you can delete the note one by one or all of tem at the same time by the other two .

Conclusion:

At this final stage, collate some of the key points drawn from the previous parts and reflect on the current state of digital games. It overall highlights key areas of information along with that involves some of the challenges for learning with digital games.

Most importantly, the guide embeds the examples from educators of what the use and significance of games and their design looks like in the classroom. This pairing of the pedagogical and practical theory underpin the use of digital games in learning that makes the guide especially useful. There is a link between certain types of games (digital games)and constructivist learning theory. Document highlights the development of higher level skills such as evaluation, critical thinking, synthesis and analysis – that games have the most potential in

higher education. Digital games found beneficial for students and teachers. Learning becomes easy, attractive, interesting, challenging, flexible, effective, enjoyable, Also helps in developing ICT skills and helps in developing skills such as problem-solving, high order thinking, Individual learning, collaborative learning and systematic thinking. Classroom environment also changes with a remarkable difference, students work individually and with peers in collaborative works, and also help in reformulating new strategies to solve problems. Digital games are effective as they contain different challenges, reward systems, competition, role-play, have a fun element, better representation of abstract or complex concepts. Teachers also reformulate strategies, approaches and content to teach students through digital games and create an effective environment for learners, Assessment becomes easy and flexible. Also decreases the load of the teacher as well as students.

There are also applications in expansion of digital games that clearly have a role to play. Free open software's were identified by the internal team after that three main software GCompris, Tux math and eduActive8 classified. 103 activities from GCompris, 192 activities from eduCative and 58 activities from tux maths mapped with description and learning outcome with keep in view syllabus and NCERT textbooks.

Guide explored the meaning of digital game for learning, defined by many researchers. In the arena of higher education in particular the acceptability of digital game-based learning is a key.

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