

## Educational Area of Information Science

### Information technology

Year 3-4

1 hour per week, 35 hours per year

Proposed content	
<b>1.</b>	<p><b>Data. Information. Actions with information. Object. Object properties. Models. Creating, modifying and using information models.</b></p> <p>Information processes. Search for information and save search results. Conversion (conversion, encoding) of data and information for storage on various media. Types of media. Types of information by form of presentation (text, graphics, numbers, audio, video, etc.). Properties of information. True and false statements. Comparison of texts with true and false information. Search for false statements in texts (images, mathematical records, etc.). Fake information in texts, images, videos, etc. Simple criteria for assessing the reliability of Internet sites. Facts and judgments, ways to recognize them.</p> <p>Groups of objects by several common features. Components of objects. Object actions. Structuring items by category (including creating / filling a folder structure). Arrange different sequences to solve problems/problems, identify patterns and errors in sequences. Experimenting with ready-made and assembled models. Creating models with digital devices and applications. Stages of creating an information model in different software environments. Creation of textual information models, in particular in tabular form. Computer presentations, editing presentations. Mathematical models. Solve problems using mathematical modeling.</p>
<b>2.</b>	<p><b>Computer programs. Menus and tools. Digital creativity.</b></p> <p>Events, sequence of events. Linear, branched and cyclic algorithms. Creating programs in simple children's environments. Creating programs according to the provided algorithm. Designing. Simple and complex algorithms. Logical and algorithmic errors in the composed program. Programming environment. Teams and tools. Commands and performers, algorithms, ways of presenting the algorithm. Recording of linear algorithms. Creating images according to your own algorithms. Finding and correcting errors in algorithms. Algorithm execution environment. Algorithms with branching, compilation of algorithms with repetition. Creating programmable projects.</p>
<b>3.</b>	<p><b>Digital devices.</b></p> <p>Digital devices, their purpose and interaction. Use digital devices to solve established and creative tasks. Advantages, capabilities and limitations of digital devices of different types. Information search. Types of search. Search engines. History of devices for working with information. Information carriers. Information input and output devices. Modern media. The concept of hypertext, hyperlinks. Network navigation.</p>

## 4. Responsibility and security in the information society.

Ethics of communication in networks and its observance. Ethics and security of digital behavior, digital reputation and digital footprint. Data confidentiality, privacy of information. Model of adequate response in questionable situations. The concept of copyright protection.

### Compulsory learning outcomes of applicants for education (recording with the State standard of primary education).

#### Student:

- explains the main information processes in the near environment (home, school, street) on the basis of their own observations;
- finds information, stores data on digital media, converts information from one form to another using the templates, compares different ways of presenting information, analyzes and organizes sequences;
- classifies objects by their properties, compares the features of real and digital world models, analyzes the impact of events on the properties, explores objects using the created models;
- assesses the reliability of information obtained from digital sources, distinguishes between facts and judgments;
- develops algorithms (in particular, for own or group activities) from sequential actions, conditions, repetitions;
- creates simple software according to the plan or algorithm and debugs it; predicts and formulates the expected result of the created software;
- divides tasks into simple ones, performed according to separate instructions or sequence of instructions and vice versa (composes);
- creates information products by combining text, images, sound, etc. to present ideas and / or results of activity;
- manages own actions and explains own contribution to the overall result of the team's work, comments on successful and unsuccessful steps in the process;
- chooses a digital environment, devices, means to solve a life task/problem, explains their choice;
- configures the appropriate software environment for own needs; determines failures in the operation of the available digital devices with the help of the correct terminology, eliminates simple malfunctions;
- collaborates and communicates in a secure network community for exchange of views, implementation of joint tasks, finding information and learning;
- responsible use of technology for their own safety, regulates their own time with digital devices, discusses the different consequences of the use of information technology in school, at the street, at home etc;
- selects the necessary means to communicate with others, in particular with people with special needs directly and through the Internet, is aware of the responsibility for their activities on the Internet; recommends interesting and safe sites to friends;
- visits only useful and safe sites; complies with the rules of use of own and others' works.