

## ITPS I Database Management

**Definition:** A database is a collection of information organized in such a way that a computer program can quickly select desired pieces of data. You can think of a database as an electronic filing system. Traditional databases are organized by fields, records, and files. A field is a single piece of information; a record is one complete set of fields; and a file is a collection of records. For example, a telephone book is analogous to a file. It contains a list of records, each of which consists of three fields: name, address, and telephone number.

To access information from a database, you need a database management system (DBMS), such as Microsoft Access, FileMaker Pro, or a free web-based database, such as the one found at the following website:

<http://server.com/siteapps/dbapp/>. This is a collection of programs that enables you to enter, organize, and select data in a database.

**Competency:** The teacher candidate will design, manipulate, and retrieve database information for an educational purpose.

**Authentic Task:** The teacher candidate will write a rationale for the database designed, explaining how the reported information would be used in an educational setting. The database will be designed to have multiple records and fields. At least two different field types from the following list must be included: numeric, alpha, date/time, and currency. A report will be developed using a query that supports the stated educational purpose. The nature of the query will be described. A reflection will be written explaining how the report supports the educational purpose and how he/she will use the information reported.

Evidence to be put in the student's electronic portfolio: The written rationale for the database, a database table (or snapshot of a large table), a description and/or snapshot of the query design, a report generated from that query, and a reflection.

The following is a list of how databases might be used for educational purposes:

- Maintaining student information to track meeting standards
- Keeping addresses for mailings to parents, etc.
- Maintaining classroom library records
- Keeping track of student readings
- Creating files of lesson plans linked to standards, topics, and units of study
- Having students keep learning journals
- Organizing collections of questions and answers
- Keeping information on items of study, such as information on the 50 states, information of inappropriate student behaviors, etc.

### ITPS I – Database Management Rubric

<b>Criteria</b>	<b>Standards</b>	<b>Does Not Meet</b>	<b>Target</b>	<b>Exemplary</b>
<b>Rationale</b>	IL-ISBE-TECH.1C IL-ISBE-TECH.1F IL-ISBE-TECH.2A IL-ISBE-TECH.2C IL-ISBE-TECH.2D IL-ISBE-TECH.3A IL-ISBE-TECH.3B	The rationale was poorly written or did not state an appropriate educational purpose.	The teacher candidate clearly explained an appropriate educational purpose for this database.	The rationale was well written and tied the purpose to an instructional, curricular, or administrative purpose.
<b>Record Design</b>	IL-ISBE-TECH.1A IL-ISBE-TECH.2C IL-ISBE-TECH.2D IL-ISBE-TECH.3A IL-ISBE-TECH.3B IL-ISBE-TECH.5B IL-ISBE-TECH.5C IL-ISBE-TECH.5D	The teacher candidate designed the database with fewer than five records.	The teacher candidate designed the database with a minimum of five records.	The teacher candidate designed the database with a minimum of 10 records.
<b>Field Design</b>	IL-ISBE-TECH.2A IL-ISBE-TECH.2D IL-ISBE-TECH.3A IL-ISBE-TECH.3B IL-ISBE-TECH.5D IL-ISBE-TECH.5E IL-ISBE-TECH.5H IL-ISBE-TECH.7A IL-ISBE-TECH.7E	The teacher candidate designed the database with fewer than five fields.	The teacher candidate designed the database with a minimum of five fields.	The teacher candidate designed the database with a minimum of 10 fields.
<b>Field Types</b>	IL-ISBE-TECH.1F IL-ISBE-TECH.2A IL-ISBE-TECH.2C IL-ISBE-TECH.2D IL-ISBE-TECH.3A IL-ISBE-TECH.3B IL-ISBE-TECH.5A IL-ISBE-TECH.5B IL-ISBE-TECH.5D IL-ISBE-TECH.5H IL-ISBE-TECH.7E IL-ISBE-TECH.7H IL-ISBE-TECH.8A IL-ISBE-TECH.8B	The teacher candidate only used one type of field in the database.	The teacher candidate used at least two different types of fields from the following list: numeric, alpha, date/time, and currency.	The teacher candidate used three or more field types, including a calculated field.

<b>Criteria</b>	<b>Standards</b>	<b>Does Not Meet</b>	<b>Target</b>	<b>Exemplary</b>
<b>Query</b>	IL-ISBE-TECH.1A IL-ISBE-TECH.2A IL-ISBE-TECH.2C IL-ISBE-TECH.2D IL-ISBE-TECH.3A IL-ISBE-TECH.3B IL-ISBE-TECH.5A IL-ISBE-TECH.5D IL-ISBE-TECH.7A IL-ISBE-TECH.7E IL-ISBE-TECH.8B	The teacher candidate did not describe the query, or the query described would not give the report results provided.	The teacher candidate clearly described the query statement or procedure that gave the results found in the report.	The teacher candidate clearly explained multiple criteria in the query that would produce the given report.
<b>Report</b>	IL-ISBE-TECH.1C IL-ISBE-TECH.1F IL-ISBE-TECH.2A IL-ISBE-TECH.2C IL-ISBE-TECH.2D IL-ISBE-TECH.3A IL-ISBE-TECH.3B IL-ISBE-TECH.5A IL-ISBE-TECH.5D IL-ISBE-TECH.5H IL-ISBE-TECH.7D IL-ISBE-TECH.7E IL-ISBE-TECH.7H IL-ISBE-TECH.7I	The teacher candidate's report did not present a subset of the database.	The teacher candidate developed a report that accurately presented a subset of the designed database based on the reported query.	The teacher candidate developed a report that demonstrated the use of additional options, such as sorting or grouping, to make the information more useful or easier to read.
<b>Reflection on Rationale</b>	IL-ISBE-TECH. 2A IL-ISBE-TECH.2C IL-ISBE-TECH.2D IL-ISBE-TECH.3A IL-ISBE-TECH.3B IL-ISBE-TECH.3C IL-ISBE-TECH.7A IL-ISBE-TECH.7E IL-ISBE-TECH.8A	The teacher candidate's reflection did not respond to the purpose stated in the rationale.	The teacher candidate wrote a reflection that explained how well the report met the educational purpose in the rationale.	The teacher candidate's reflection explained how the purpose of the given database could be expanded for additional educational purposes.
<b>Reflection of Educational Usefulness of the Report(s)</b>	IL-ISBE-TECH.1A IL-ISBE-TECH.1C IL-ISBE-TECH.1F IL-ISBE-TECH.2A IL-ISBE-TECH.2B IL-ISBE-TECH.2C IL-ISBE-TECH.2D IL-ISBE-TECH.3A IL-ISBE-TECH.3B IL-ISBE-TECH.8A IL-ISBE-TECH.8B	The teacher candidate's reflection unclearly described how the reported information is to be used for future educational activity.	The teacher candidate's reflection explained how the report could be used to improve instruction, curricular, or administrative tasks.	The teacher candidate's reflection described multiple uses of the database for future educational activity.

**Students must meet all requirements at the "Target" or above level to successfully pass the ITPS I Assessment requirement.**