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Nationaal Instituut voor Budgetvoorlichting

# Learning outcomes & competencies for school-age children

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# 1. Introduction

## 1.1 Preparing for independent lives

We bring our children up at home and at school to be independent members of society. We devote attention to norms, values, knowledge and skills that contribute to broad personal and social development.

### The importance of learning how to manage money

Teaching children to manage money is an important factor in preparing them to live independent lives. Practically every decision has financial implications, whether it is a long-term decision like buying a house, or a short-term decision like buying a birthday present or booking a holiday. As children grow up, they are given more financial responsibility and thus have to take more financial decisions. By teaching them to manage money from an early age, we prepare them step by step – by giving them the necessary decision-making skills – for a future in which they have responsibility for their own financial affairs. Studies show that financial education is an important factor in preventing people from getting into debt (Westhof & De Ruig, 2015). And adults who did not learn as children how to manage money are twice as likely to fall into payment arrears (Van der Schors & Stierman, 2016).

### Transition to independence

Every young person should be able to manage the step to financial independence without too much difficulty. Yet this is not always the case. A study conducted among students in secondary vocational education (MBO) in 2015 (Van der Schors, Van der Werf and Schonewille, 2015) showed that a substantial number (1 in 5) of students felt they were regularly short of money. As many as 15% of students considered that they had financial problems, while 21% reported that they had borrowed money from others, either formally or informally, or had taken out a student loan from the Education Executive Agency.

### Financial problems are an obstacle to social participation

Financial problems form an obstacle to actively participating in society. According to Dessart and Kuylen (1986), people with financial problems:

- are more vulnerable to social isolation;
- are more likely to feel excluded;
- have less financial scope to participate in society, so that it is difficult for them to stay connected.

Financial problems can also have a negative impact on an individual's physical and mental health, which in turn affects social participation. Financial stress may increase the risk of cardiovascular disease, poor personal care, chronic pain and depression (Carlsson et al., 2014; French & McKillop, 2017; Turunen, 2014). Financial education gives children the skills they need to avoid problems like these.

### Society is demanding, tempting and digital

Various social trends make it even more important that children learn to manage money from an early age.

#### *Responsibility*

More and more responsibility is shifting to individuals. For example, people have to apply for allowances themselves if they think that they are entitled to them. Entitlement to social security no longer applies automatically in every situation. Basic grants for students in higher education have been abolished, and replaced by interest-bearing loans from the Education Executive Agency.

#### *Temptation*

People are exposed to more and more temptation:

- With shops open longer and 24/7 online shopping, there is more temptation to buy things.

- There are more ways of paying. Many young people have their own bank account and pay with their debit card or mobile phone, even contactless.
- Marketing techniques are increasingly ingenious, making it difficult to recognise advertisements and other forms of hidden persuasion.
- In online games children are persuaded to purchase all kinds of 'indispensable' merchandise.
- Peer pressure is increasing. So there is considerable pressure to buy the same popular brands as your peers.

***Digitalisation***

Digitalisation is also ongoing, including in finance. Bank statements are rarely sent by post any more. Nowadays, people can only see their financial statements in their digital environments and can check their bank balance on their mobile banking app or through online banking. Money is becoming less tangible because we pay cash far less frequently. People who pay for their groceries using a debit or credit card tend to spend more, because they no longer feel the 'pain' of paying cash (Dijkman & Zadeh, 2011).

In conclusion, we can say that present-day society doesn't make it any easier to keep a grip on your money. More than ever before, people need to make an effort to keep track of their spending. Financial education makes children more resistant to temptation and contributes to financial resilience in their adult lives.

## 1.2 Aim and target group

This paper offers guidance on what knowledge and skills children should have in the area of money, and what they should be learning at different ages.

**Who is this paper for?**

1. Parents, who can use it as an aid in teaching their children how to manage money;
2. Schools, for use in lessons on financial education;
3. Social service providers and other professionals, since it is relevant for them to be informed of the learning outcomes and competencies in communicating with and counselling young people.
4. For developers of teaching materials and financial information projects for youngsters and parents.

Nibud (the National Institute for Family Finance Information) incorporates the learning outcomes in its own teaching materials for children aged 6 to 18 and in developing products for third parties.

## 1.3 Connecting with schools

Nibud believes that the various key elements of financial management should be a fixed part of the curriculum. We therefore sought to link the financial learning outcomes to the attainment targets in primary and secondary education, special education and secondary vocational education. For special education, we chose the attainment targets for children who, despite their physical disabilities, socioemotional disorders or mild learning difficulties possess the basic numeracy, literacy and digital skills appropriate for their age. These children pursue attainment targets for the further education and labour market activities pathways. We did not draw up learning outcomes for children with multiple disabilities or severe learning difficulties, who need intensive support and do not have the cognitive capacity to achieve mainstream attainment targets. Special education for pupils in this group prepares them for daily activities, and comprises more practical subjects, appropriate attainment targets and intensive support.

In schools, learning outcomes are defined as precise, concrete attainment targets which can be centrally assessed, for instance during school-leaving examinations. Nibud's learning outcomes leave a little more scope for schools' own input and interpretation. The attainment targets listed below are relevant to the Nibud learning outcomes.

## Primary education

### Attainment targets for arithmetic/mathematics

- ATTAINMENT TARGET 29: pupils can apply different methods of addition, subtraction, multiplication and division, as required.
- ATTAINMENT TARGET 33: pupils can take measurements and can work with units and measures, including time, money, length, circumference, volume, weight, speed and temperature.

### Attainment targets for social and environmental studies

- ATTAINMENT 35: pupils are socially resilient, can behave safely in traffic and are smart consumers.

## Secondary education

**Lower years**

### Attainment targets for arithmetic/mathematics

- ATTAINMENT TARGET 22: pupils can understand the structure and relationship between positive and negative numbers, decimals, fractions, percentages and ratios and can work with them in useful, practical situations.
- ATTAINMENT TARGET 23: pupils can calculate and estimate figures and can reason mathematically, based on an understanding of the precision, scale and margins applicable in a given situation.

### Attainment targets for mankind and society

- ATTAINMENT TARGET 42: from their own experience and in their own environment, pupils can recognise the effects of decisions in the areas of work and care, living and recreation, consumption and budgeting, transport and the environment.
- ATTAINMENT TARGET 46: pupils know about the global distribution of wealth and poverty, and the environmental and demographic implications of this, and can relate this to their own lives in the Netherlands.

**Upper years**

Attainment targets for economics (upper years of pre-vocational secondary education (VMBO))

- ECONOMICS/ATTAINMENT TARGET 4A: pupils understand the theory of consumer behaviour, such as choices, needs, income, etc., and the uses of money, including borrowing and saving, and can apply this knowledge to a specific case.
- ECONOMICS/ATTAINMENT TARGET 6: pupils understand the social, economic and financial roles of government and can apply this knowledge to a specific case.

### Attainment targets for business economics, entrepreneurship and financial resilience (upper years of senior general secondary education (HAVO) and pre-university education (VWO))

*(as of 2018-2019 school year)*

- Domain B: from person to legal person: pupils can identify issues with personal financial consequences and make reasoned choices.

## Practical training

### Attainment targets for arithmetic/mathematics

- ATTAINMENT TARGET 11: pupils can add up, subtract, multiply and divide positive numbers in situations that are relevant to them.

- ATTAINMENT TARGET 13: pupils understand and can apply arithmetical and mathematical concepts such as more than and less than.
- ATTAINMENT TARGET 14: pupils can perform simple calculations using common units and measures of length, width, circumference, surface area, volume, time and money.

Attainment targets for vocational and practical orientation

- ATTAINMENT TARGET 26: pupils can safely and independently carry out practical tasks in the areas of work, recreation and life in general.
- ATTAINMENT TARGET 31: in carrying out practical tasks, pupils have experienced how they can care for themselves and others, and have developed social skills and the ability to shoulder responsibility.
- ATTAINMENT TARGET 32: pupils can make the connection between their own interests and work.

## Secondary vocational education (MBO)

### Generic qualification requirements for career and citizenship, Adult and Vocational Education Act

- Economic dimension of the Citizenship Domain: willingness and ability to participate adequately and responsibly as a consumer in society.

## Special primary education

### Attainment targets for arithmetic and mathematics

- ATTAINMENT TARGET 41: pupils can understand the general structure of and relationship between numbers, whole numbers, decimals, fractions, percentages and ratios and can make sums relating to practical situations.
- ATTAINMENT TARGET 48: pupils can take measurements and can work with units and measures, including time, money, length, circumference, volume, weight, speed and temperature.

### Attainment targets for social and environmental studies

- ATTAINMENT 35: pupils are socially resilient, can behave safely in traffic and are smart consumers.

## Special secondary education

**Further education pathway**

### Attainment targets for arithmetic/mathematics

- ATTAINMENT TARGET 22: pupils can understand the structure of and relationship between positive and negative numbers, decimals, fractions, percentages and ratios, and can work with them in useful, practical situations.
- ATTAINMENT TARGET 23: pupils can calculate and estimate figures and reason mathematically, based on an understanding of the precision, scale and margins applicable in a given situation.

### Attainment targets for mankind and society

- ATTAINMENT TARGET 42: from their own experience and in their own environment, pupils can recognise the effects of decisions in the areas of work and care, living and recreation, consumption and budgeting, transport and the environment.
  ATTAINMENT TARGET 46: pupils know about the global distribution of wealth and poverty, and the environmental and demographic implications of this, and can relate this to their own lives in the Netherlands.

**Labour market activities pathway**

### Attainment targets for arithmetic/mathematics

- ATTAINMENT TARGET 24: pupils can manage money and other means of payment.

### Attainment targets for mankind and society

- ATTAINMENT TARGET 35: pupils know about the role of consumers in Dutch society, how to make conscious, critical choices as consumers and how to cope with peer pressure.

## 1.4 PISA

Financial awareness and financial literacy are high on the international agenda. The 2015 OECD (Organisation for European Cooperation and Development) Programme for International Student Assessment (PISA) examined financial literacy in addition to literacy, numeracy and scientific literacy. PISA defines financial literacy as both knowledge and understanding of financial concepts, and the motivation and confidence to apply knowledge. PISA examines all these factors, as well as the ability to make effective decisions.

### Insufficient financial literacy

This was the first time that Dutch pupils took part in the financial literacy component of PISA, which is conducted every three years. The survey showed that nearly a fifth of all 15 year-olds in the Netherlands do not have adequate financial literacy. This means that as far as financial matters are concerned, their knowledge extends no further than recognising an invoice and making simple decisions while shopping (e.g. by comparing the prices of the same articles). They don't know what to do with phishing mails and they can't read a pay slip. The PISA survey also showed that pupils with unsatisfactory to poor financial literacy scores often come from disadvantaged socioeconomic backgrounds. They discuss money matters with their parents less frequently than their peers.

### Linking the learning outcomes to the PISA results

Given the importance politicians attach to the PISA results, we have linked our learning outcomes to the knowledge and skills measured in the PISA survey.

Within the PISA financial literacy framework, the OECD distinguishes four main themes, i.e.

1. money and transactions;
2. planning and managing finances;
3. risk and reward;
4. financial landscape.

We use these themes in the learning outcomes. PISA also distinguishes between cognitive processes and contexts. Our learning outcomes focus on the knowledge and skills school-age children should have, corresponding to their general development.

## 1.5 Rationale

The learning outcomes for money management are based on Dutch and international publications on this subject and on the studies Nibud carries out into the financial behaviour of school-age children. They are also based on the expertise Nibud has built in this area in the past 40 years. They were assessed by teachers, psychologists and education specialists.

## 1.6 How to read this paper

The next chapter gives a description of the aims and structure of the financial learning outcomes:

- how they are linked to the competencies for financial resilience for adults;
- the subjects covered;

- the age groups for which they are intended.

In chapter three the learning outcomes are described in detail by subject and age group. Appendix 2 gives a general description of children's development from the ages of five to eighteen. Children's level of development determines what you can and cannot expect of them with regard relation to managing money. The learning outcomes are in line with the development of children's literacy and numeracy skills.

# 2. Learning outcomes for managing money

Nibud has defined competencies for adults for managing money. They are defined as the knowledge and skills an individual needs for financial resilience.

*'An individual is financially resilient if their income and expenditure are in balance, now and in the future' (Nibud 2018).*

The learning outcomes for children equip them to become financially resilient adults capable of living independently.

### Learning outcomes versus competencies

Children are still developing, encountering new situations and learning new skills, including financial skills. In light of this, we use the term **learning outcomes** rather than competencies. **Competencies** are focused on results – the skills people should have. Learning outcomes, on the other hand, focus on the learning process and on developing and improving knowledge and skills (Wesdorp, Van Hooft, Duinkerken, & Van Geuns, 2010).

### Skills versus behaviour

A child may have certain skills, but that doesn't mean they will always behave accordingly. There is a difference between knowledge, capability and actual behaviour (Jungmann & Madern, 2016). Publications and policy are devoting increasing attention to this issue (Tiemeijer, 2016 & WRR [Scientific Council for Government Policy], 2017).

Whether children ultimately behave in line with their skills depends on all kinds of factors, including:

- motivation;
- self-efficacy (innate confidence in your own ability to carry out a certain task);
- personality and attitudes to the required behaviour;
- social norms and pressures.

A child's environment and circumstances also have an impact on their behaviour.

Nibud acknowledges that the above factors have a great influence on children's financial behaviour, and thus on the extent to which they are financially resilient for their age. In its extensive examination of financial literacy, PISA therefore rightly took account of the way attitude, motivation and confidence influence financial behaviour (see section 1.4). However, these subjects go beyond the scope of this paper, which focuses specifically on the knowledge and skills children need in order to be financially resilient.

## 2.1 Learning outcomes by age

Children go through various stages of development, and have different levels of basic knowledge and skills at different ages. They also live in very different worlds, depending on their age: a six-year-old's interests are very different from a 16-year-old's. Nonetheless, the aim of the learning outcomes, in particular those targeting youngsters aged 12 to 18, is for young people to display financially resilient behaviour. The attitude and behaviour specified in each learning outcome are also implied in the use of the verbs 'know' and 'can'. Knowledge and capability are two major pillars underpinning behaviour, but they are not outcomes in themselves. Ultimately, it is about learning financially resilient behaviour.

### Levels

The learning outcomes are interrelated but differ by age group, in line with children's psychosocial development. They are also progressive: the learning outcomes for older children and young people build on those applicable to younger children.

### Age groups

We distinguish the following age groups:

- 6 to 8 year-olds: junior primary classes;
- 9 to 11 year-olds: senior primary classes;
- 12 to 14 year-olds: lower years of secondary education;
- 15 to 17 year-olds: upper years of secondary education/secondary vocational education (MBO).

This does not mean children in the same age group are at the exact same stage of development. Some children, for instance, are already attending secondary school at the age of 11, but there are also 13-year-olds in the last year of primary school. Each child is unique and develops at their own pace. Cognitive development differs: some children can carry out all kinds of tasks independently from a very early age, while others continue to need help until they are older. This impacts on their skills in relation to money matters. Age, combined with stage of education, is merely indicative. What's more, there will always be children who will struggle to master the skills described in the learning outcomes, or who cannot learn them at all.

The learning outcomes describe what children or young people should be capable of at a certain age. This does not mean they will necessarily follow through with the associated behaviour. There is a huge discrepancy, among teenagers in particular, between their capacity to learn and their behaviour, given the brain's cognitive and emotional development (Crone, 2008).

Nonetheless, the aim of the learning outcomes, in particular those targeting youngsters aged 12 to 18, is for young people to display financially resilient behaviour. The attitude and behaviour specified in each learning outcome are also implied in the use of the verbs 'know' and 'can'. Knowledge and capability are two major pillars underpinning behaviour, but they are not outcomes in themselves. Ultimately, it is about learning financially resilient behaviour.

The above division into age groups is related to children's development and situation, and the influence of these factors on the financial skills required. Appendix 2 gives a brief description of children's cognitive and situational development.

### From learning outcomes to objective

The learning outcomes lead towards the objective for each age group, i.e. what someone should know and be able to do when they reach the older end of this age group. Within each age group, children are engaged in a learning process towards the objective.

### Competencies for adults

The competencies for financial resilience for adults apply from the age of 18. They can be downloaded here. The learning outcomes are aligned with these competencies.

## 2.2 Learning outcomes by competency

For the sake of continuity, the learning outcomes for children and teenagers are divided into four main competencies, corresponding to the competencies for adults. Through the learning outcomes, children work towards the desired behaviour. The four main competencies are divided into various sub-themes. For each of these sub-themes, learning outcomes have been identified for each age group. They are presented in the chapters below.

### Main competencies, sub-themes and learning outcomes by subject

The four main competencies below specify the desired behaviour for a young person on reaching the age of 18.

### Competency 1: Acquire sufficient income

*The individual acquires sufficient income to provide for themselves, taking account of their rights, commitments and responsibilities.*

### Competency 2: Organise money matters

*The individual manages and monitors payments, keeps their accounts up to date, and keeps track of income and expenditure, making sure they stay in balance.*

Sub-themes:

- know the value of money;
- use secure and appropriate payment methods;
- keep their accounts in order;
- record and monitor income and expenditure.

### Competency 3: Spend money responsibly

*The individual spends their income in such a way that expenditure matches their personal preferences and budget, ensuring that income and expenditure are in balance in the short term.*

Sub-themes:

- make choices;
- resist temptation;
- act as critical consumers, comparing and assessing prices and products, asserting their rights and meeting their commitments;
- borrow money sensibly, if necessary.

### Competency 4: Be prepared for both the expected and the unexpected

*The individual takes account of the fact that both foreseen and unforeseen wishes and circumstances can affect their medium and long-term financial situation. They adapt current expenditure accordingly and choose financial products with care, to ensure that income and expenditure will be in balance in the future, too.*

Sub-themes:

- take account of future wishes and circumstances;
- anticipate unforeseen circumstances;
- choose financial products with care.

# 3. Learning outcomes for children aged 6 to 8 years (junior primary classes)

### Competency 1: Acquire sufficient income

- The children understand that people work in order to earn money.

### Competency 2: Organise money matters

**Know the value of money**
The children:
- understand what money is used for;
- understand why it is important to keep their money in a safe place;
- can identify the various denominations of the euro (coins and notes);
- can arrange the denominations of the euro in increasing order of value;
- know that the same amount can be paid using different combinations of coins and notes.

**Use secure and appropriate payment methods**
The children:
- can count money and add up and subtract amounts;
- can pay small amounts in cash;
- understand what change is, and can deal with it;
- know the various means of payment and the associated terms, like cash, cash withdrawal from an ATM and debit card;
- recognise symbols for money, like the € sign.

**Keep their accounts in order**
Not applicable.

**Record and monitor income and expenditure**
- The children know how much money they have.

### Competency 3: Spend money responsibly

**Make choices**
The children:
- know that things cost money and that you can't buy everything;
- understand that you have to make choices with the money you spend;
- choose for themselves how to spend their pocket money;
- understand that you can spend your money once only.

**Resist temptation**
The children:
- know that there are various forms of advertising;
- know that in advertisements things sometimes look better than they really are.

**Act as critical consumers**
The children:
- know things don't all cost the same;
- understand that one product is worth more than another.

**Borrow responsibly**
Not applicable.

### Competency 4: Be prepared for both the expected and the unexpected

**Take account of future wishes and circumstances** (saving and planning)
The children:
- know what saving means and can say what the advantages are;
- can save money for a tangible short-term goal.

**Anticipate unforeseen circumstances**
Not applicable.

**Choose financial products with care**
Not applicable.

# 4. Learning outcomes for children aged 9 to11 years (senior primary classes)

### Competency 1: Acquire sufficient income

The children:

- understand that people don't all have the same income;
- know that you can do jobs for money.

### Competency 2: Organise money matters

#### Understand the value of money

The children:

- know the role money plays (status, norms and values);
- can estimate the value of money and products;
- can pay the same amount using different combinations of coins and notes.

#### Use secure and appropriate payment methods

The children:

- can pay for their purchases (in cash or using a debit card);
- can work out how much change they will get;
- know the various means of payment;
- know how to pay securely (in a shop);
- can keep their PIN to themselves;
- know what internet and mobile banking are;
- know what the role of a bank is;
- understand the difference between a current account and a savings account.

#### Keep their accounts in order

The children:

- know what documents (paper and digital) are important, like certificates, bank statements, identity documents etc.;
- know that they must keep passwords and login data to themselves.

#### Record and monitor income and expenditure

The children:

- know how to keep track of their spending;
- can read and check their bank statements.

### Competency 3: Spend money responsibly

#### Make choices

The children:

- know that you can't spend more money than you have;
- can adapt their wishes to their budget;
- understand that different preferences and priorities lead to different choices.

#### Resist temptation

The children:

- know what advertising is and what it is for;
- can identify various forms of advertising;

- can explain why companies advertise;
- realise that companies offering ‘free’ gifts will ultimately want or have to earn money;
- know that ‘free’ offers can also have financial consequences;
- understand that in buying designer goods they are also paying for the brand.

**Act as a critical consumer**
The children:
- can arrange products in order from cheap to expensive;
- know that there are often cheaper and more expensive versions (different brands) of the same product;
- can compare prices before making a purchase;
- can compare the prices of products on the basis of the same amounts/units;
- realise that in purchasing a product, you sometimes have to buy more items before you can use it;
- understand that a product’s features can determine or contribute to their choosing that product.

**Borrow responsibly**
The children:
- understand what borrowing money means;
- know what it means if you borrow money from someone else;
- know what borrowing from the bank means;
- know what interest means.

## Competency 4: Be prepared for both the expected and the unexpected

**Take account of future wishes and circumstances (saving and planning)**
The children:
- can save for a tangible, longer-term goal;
- can work out how long they will need to save for their goal.

**Anticipate unforeseen circumstances**
The children know that there are risks (breakages, theft or fire) and that these can have financial consequences.

**Choose financial products with care**
Not applicable.

# 5. Learning outcomes for children aged 12 to 14 years (lower years of secondary education)

## Competency 1: Acquire sufficient income

The children:
- can read their pay slips, if they have a job;
- know what taxes are and why you have to pay them;
- know that you can claim a tax rebate if you work;
- know that there are rules about work that they and their employer must stick to;
- know that there is such a thing as a youth minimum wage;
- know what formal and undeclared work is.

## Competency 2: Organise money matters

### Use secure and appropriate payment methods
The children:
- can make their payments on time;
- can pay securely (using their PIN or contact-free debit card);
- can use internet and mobile banking securely;
- know how to check whether a website and/or email address is reliable and secure;
- are aware of the possible risk of phishing, skimming or bank account theft when making payments.

### Keep accounts in order
The children:
- can store important documents (paper or digital), like contracts, guarantees, bank statements, pay slips and so on neatly so that they can easily be retrieved;
- know how to apply for a DigiD (digital identity);
- can keep login data and passwords to themselves;
- know that you should keep receipts because of the guarantee on products or to exchange them.

### Record and monitor income and expenditure
The children:
- can make an overview of income and expenditure;
- can check their expenditure through online or mobile banking;
- can see how much they spend each month and on what.

## Competency 3: Spend money responsibly

### Make choices
The children:
- know when they have more or less to spend (‘expensive and less expensive months’) and more or less income (‘rich and poor months’);
- understand the positive and negative consequences of their spending decisions;
- know the difference between essential and less essential expenditure;
- know which expenditure they can’t avoid;
- can see whether their budget allows for the purchase of a product before they buy it;
- don’t spend more money than they have.

### Resist temptation

The children:

- recognise advertising, commercialism and social pressure;
- recognise the influence of advertising on their spending;
- recognise the influence of their social environment on their spending;
- know how to keep themselves in check if they tend to spend money freely or impulsively;
- make their choices on the basis of what they need/were planning to buy and not in response to a special offer;
- can find out what financial consequences are attached to a 'free' gift.

### Act as a critical consumer

The children:

- can assess whether an offer is really to their advantage;
- can estimate the price of a product;
- understand that the price of a product is the sum total of various costs;
- can compare the price and quality of various models or makes before deciding which product to buy;
- know whether a certain product is expensive or inexpensive compared to other, similar products;
- can calculate a product's total actual cost, comprising the purchase price, the price of accessories and other costs.

### Borrow sensibly

The children:

- know what a debt is;
- know the difference between a loan and a debt;
- know that there are various ways of borrowing money;
- know that there are risks if you lend money;
- know that there are risks if you borrow money;
- can pay back money they have borrowed;
- understand the consequences if they don't pay back money they have borrowed.

## Competency 4: Be prepared for both the expected and the unexpected

### Take account of future wishes and circumstances (saving and planning)

The children:

- can make an annual plan, with larger, expected expenditure;
- can adapt their current spending pattern to expected larger expenditure and savings goals;
- understand that it can take some time before they have reached their savings goal;
- know why it is sensible to have some money put aside;
- can save over a longer period.

### Anticipate unforeseen circumstances

The children:

- understand that losing things (like a mobile phone) has financial consequences;
- know that over time you won't be able to buy the same things for the same amount of money.

### Choose financial products with care

The children know what insurance is, and what it is for.

# 6. Learning outcomes for children aged 15 to 17 years (upper years of secondary education)

### Competency 1: Acquire sufficient income

The children can:
- check whether they are being paid at least the youth minimum wage, if they have a job;
- getinformation about the law on permitted working hours and tasks for their age, if they have a job;
- get information about applicable conditions of employment (if they have a job) and using this knowledge if the situation requires;
- claim a tax rebate if they have worked;
- identify the differences between being in paid employment and being self-employed;
- make a realistic estimate of their future income.

The children know:
- what factors influence the size of a salary;
- what financial measures you need to take if you are self-employed;
- what allowances there are and where you can apply for them on turning 18;
- that there are benefits for people who are not capable of doing paid work;
- what regulations (on allowances, benefits and insurance) will apply to them when they turn 18;
- where, when and how to apply for student finance;
- why further education after secondary school is useful and necessary.

### Competency 2: Organise money matters

**Use secure and appropriate payment methods**
The children can:
- manage their own bank accounts;
- pay their bills on time;
- check whether the webshops they use are reliable and secure.

**Keep their accounts in order**
The children can:
- open and deal with financial correspondence (letters and emails);
- file important documents (paper or digital) in a neat, well-ordered way, without the help of others and entirely on their own initiative;
- use information from their files, for example to apply for an allowance, fill in their tax returns, or make a payment;
- take account of notice periods for contracts and subscriptions;
- use a DigiD (digital identification) securely;
- log in to their online personal environments securely.

**Record and monitor income and expenditure**
The children can:
- monitor their bank balance;
- check income, expenditure and bills for errors;
- make an overview of their assets and debts;
- work out how much money they can spend over a given period.

## Competency 3: Spend money responsibly

### Make choices

The children can:

- meet their financial commitments;
- set priorities in their spending;
- determine whether they can afford to make a given purchase;
- take account of their other financial commitments when making a purchase;
- take account of the periods when they have more or less to spend ('expensive and inexpensive months') and more or less income ('rich and poor months') when planning expenditure;
- reach a well-considered decision on how they will pay any extra, unforeseen costs;
- reach a well-considered decision on how they will use any extra income;
- adapt their spending to their budget;
- identify what fixed costs they will have to pay when they live independently.

### Resist temptation

The children can:

- resist the persuasive influence of advertising, social pressure and other temptation;
- assess special offers critically.

### Act as critical consumers

The children can:

- take account of fixed, variable and extra costs in comparing products and subscriptions;
- calculate fixed, variable and extra costs (e.g. delivery and processing) in choosing a product or subscription;
- take account not only of the price but also of the conditions and their own personal situation and wishes in choosing a product or subscription;
- evaluate, reconsider, change or stop auto-renewal subscriptions;
- know that in taking out an insurance or opening a savings or investment account they need to consider not only the costs and returns but also the risks, duration and other conditions;
- use agencies or organisations that can provide assistance in financial matters;
- identify the financial responsibilities and commitments they will have on reaching the age of 18.

### Borrow sensibly

The children can:

- refrain from borrowing except when they know they can pay off the loan and the interest within the agreed period;
- consider alternatives to a loan (like saving up) before deciding to borrow money;
- identify the financial and other consequences of hire purchase, loans, overdrafts and using a credit card;
- identify various types of debt;
- identify the various ways of borrowing money, and what the differences and similarities are;
- identify the opportunities provided by and consequences of taking out a student loan with the Education Executive Agency (DUO).

## Competency 4: Be prepared for both the expected and the unexpected

### Take account of future wishes and circumstances (saving and planning)

The children can:

- make an annual budget;

- set goals in the short, medium and long term, and take account of them in their spending;
- take account of future expenditure in their current spending;
- save money for larger purchases later;
- identify life events that can influence their financial situation (e.g. going to university, renting or buying a house, becoming a parent, retiring);
- determine how they will cope with an expected drop in income or rise in expenditure should their circumstances change;
- determining whether they will be able to continue meeting all their financial commitments if their income drops or expenditure rises due to changing circumstances.

**Anticipate unforeseen circumstances**
The children can:
- recognise that unforeseen events in the course of their lives may influence their financial situation (e.g. a divorce, a drop in income, unemployment or a work disability);
- adapt their income and expenditure to unplanned changes to their circumstances;
- determine how they will deal with an unexpected drop in income should there be an unforeseen change in their circumstances;
- determine how they will deal with an unexpected rise in expenditure should there be an unforeseen change in their circumstances;
- save or take out insurance for unplanned expenditure;
- explain what inflation is and what it implies.

**Choose financial products with care**
The children can:
- identify the various types of insurance and their pros and cons;
- decide whether, in their situation, certain types of insurance are obligatory, necessary, advisable or optional;
- decide whether, on the basis of their personal situation and preferences, they should take out an optional insurance;
- explain the differences between saving, investing, and taking out insurance or a loan, and explain when having the various types of financial product might be advisable or necessary;
- explain the return on and risks associated with various types of financial product;
- choose between saving, taking out insurance or borrowing money, taking account of their own personal financial situation and preferences.

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# Appendix 1 PISA

PISA (Programme for International Student Assessment) is an international survey of the knowledge and skills of 15-year-olds, conducted every three years by the OECD (Organisation for European Co-operation and Development). The survey covers literacy and numeracy and scientific and financial literacy.

PISA assesses these skills because they are fundamental to pupils' education. PISA also collects valuable information on attitudes and motivation, and evaluates skills such as capacity to solve problems.

Within PISA literacy is regarded as pupils' ability to apply their knowledge and skills in a number of key areas in a wide range of situations where they encounter problems. The main point is not to see whether pupils have mastered the subject matter, but whether they can apply it in real-life situations. PISA therefore does not assess whether 15-year-olds have mastered the subject matter taught at school.

### PISA 2015

The aim of PISA 2015 was to assess the scientific knowledge and skills considered by experts in the participating countries to be the most essential for pupils' future success in a world increasingly shaped by science.

71 countries took part in PISA 2015, including the Netherlands. The Netherlands is a keen participant because PISA enables the knowledge and skills of Dutch pupils to be compared with those of their peers in a wide range of countries. The results enable policymakers to make informed decisions on education.

The OECD defines financial literacy as 'knowledge and understanding of financial concepts and risks, and the skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life.'

Given the importance attached by politicians to the PISA results, we have linked our teaching objectives to the knowledge and skills measured in the PISA survey. Within the PISA financial literacy framework, the OECD distinguishes four main headings, i.e.

1. money and transactions;
2. planning and managing finances;
3. risk and reward;
4. financial landscape.

For more information on the background to and measurement of financial literacy within PISA, go to http://www.oecd.org/pisa/.

# Appendix 2 Children's general development

The factors in children's general development taken into account in formulating the learning outcomes for each age group are outlined below.

### Junior primary classes, start of children's financial career

Children in the junior classes of primary school are at the start of their financial career. These are the years in which they start to learn arithmetic. In year three (aged six) they can count to 100 and do sums with numbers up to 20. In year four they are introduced to multiplication within a context. In year five they begin to do sums with numbers up to 1,000 and by the end of this year they can work with numbers up to around 10,000. In year five they also start division, in relation to multiplication.

### Understanding values

Children in the junior primary classes (years three, four and five) have no real sense of the value of money. But there are certain things that they do know. They can arrange coins in order of value, and they know that five cents are worth less than five euros. But if they find a five cent coin and a one euro coin, they make no distinction between them. They have forgotten that they are not worth the same, and think that both are worth a lot. So they don't yet have any real notion of the value of money.

### Virtual money

Depending on the bank and their parents' choices, children may be introduced to virtual money in these years. Some banks allow children to use a debit card and/or online or mobile banking (under certain conditions). Some also provide apps to help children learn to use virtual money.

### Doing sums with money in the junior primary classes

(Source: Malmberg publishers, 2017)

In **year three** children learn to recognise some coins and notes. They can count out an amount of money, paying with the exact change, and say what each coin and note is worth.

They learn, for example:

- to recognise every coin and the five and ten euro notes;
- to count out amounts of money, and say what each coin and note is worth;
- to pay with the exact change.

In **year four** children learn to recognise every coin and bank note. They can pay with the exact change, and also give the right change. They also learn to compare amounts of money.

They learn, for example:

- to recognise every coin and note up to 100 euros;
- to pay with the exact change, and also give the right change;
- to compare amounts of money.

In **year five** children learn to do sums with money (paying and giving change) in various situations. Attention is specifically devoted to the decimal point in amounts of money.

They learn, for example:
- to pay with the exact change, and give the right change, with amounts up to 100 euros;
- to understand the meaning of the decimal point in amounts of money (2 euros + 5 cents = € ....... and €0.35 = ... euros and ... cents);
- to do sums with money in various situations.

### Senior primary classes

In the senior primary classes (years six, seven and eight) children are more capable of abstract thinking. They have sufficient knowledge and understanding to put a message in a context. Children of this age acquire the basics to form and express opinions and attitudes and behave accordingly. Efforts to control and influence awareness-raising processes are very effective in this target group.

Up to the age of 12 or 13, children are, however, unable to oversee longer periods of time, so there is no point trying to get children to save money or plan their spending over several months. It is better to give primary school children their pocket money each week.
In the senior classes, children begin to understand the role of money. They start doing jobs around the house in return for money.

### Doing sums with money in the senior primary classes

(Source: Malmberg publishers)

Fractions and decimals are introduced in **year six.** The children learn to add up, subtract, multiply and divide amounts of money. They also learn to estimate sums.

Examples of what the children do in this year include:
- multiplying amounts of money (4 × € 2.35 = ??? and 10 × € 3.50 = ???);
- adding up amounts of money (€ 14.10 + € 6.40 + € 12.45 + € 1.75 = ???);
- doing sums with money in various situations.

In **year seven,** children learn to work with percentages. They learn to calculate the price of a marked down product.

Examples of subjects dealt with in this year include:
- giving the right change;
- various money matters (e.g comparing special offers);
- estimating sums of money (Is € 50,- enough?);
- multiplying amounts of money (4 × € 2.95; 200 × € 0.25; ??? × € 3.50 = € 7.00 and ??? × € 5.50 = € 33,-);
- rounding up amounts of money (€ 3.37 is rounded up to ???).

In **year eight,** the children learn not only to pay with the exact change, give the right change and do sums with money, but also how to get a round amount in change. New in year eight are sums involving different units of measurement, e.g. €/kg.

Examples of what the children learn include:
- relationship between weight and price (if bananas cost € 2.40 per kilo, what do 750 grams cost?);
- how amounts of money are rounded up or down (€ 3.48 is rounded up to ???);

- how to top up a payment to get a round amount in change;

### Around the age of twelve: more independent

Children aged around 12 undergo many changes. They start secondary school, so that they become more independent and their parents have less control over them. More children at that age start to use a bank card and online or mobile banking. Many young people in the lower forms of secondary school start earning money, for example with a summer job. Young people from the age of 13 may officially be employed, and are subject to regulations on working hours and type of work.
From the age of 12 or 13, children are more capable of abstract thinking. They can save money over a longer period and receive 'invisible' money (i.e. through their bank account).

From the age of 14, every person in the Netherlands has an account on the government website *MijnOverheid*. To gain access to it, children need to know how to apply for a DigiD (digital identity). Government organisations and organisations with a public task often use the DigD in providing services.

### Puberty

Around the age of 12, children also enter puberty. The brains of youngsters in the 11 to 16 age group develop fast. The emotion centre develops first, and is a particularly sensitive area of the adolescent brain. The cognitive centre controlling impulses, decision-making and planning tend to be less dominant (Eveline Crone, 2008). This part of the brain is much more flexible in young people than in adults. It needs to be rewarding for young people to use it. Social environment also plays an important role, determining to a considerable degree whether the cognitive centre will be used. The opinion of a young person's peers is very important at that age. The development of the brain explains why adolescents take far more risks and cannot oversee the long-term consequences of their actions (Eveline Crone, 2012).

### More income

There is a statutory minimum wage for young people from the age of 15. Working and earning money play a more significant role in their lives, and their income grows. They have more money to spend, become more independent and start to lead separate lives from their parents. They start to pay for more things themselves.

### 18 years of age: financially responsible

From the age of 18, young people are financially responsible. Parents are no longer liable for their children's payment arrears, fines or debts. Young people can sign their own contracts, e.g. for a telephone. The same applies to insurances; from the age of 18, young people are obliged to take out healthcare insurance. They can also have an overdraft.